PROCEEDING BOOK

THE 3rd INTERNATIONAL CONFERENCE ON HEALTH SCIENCE 2016

"Optimizing the Mental Health under SDGs"

INNA GARUDA HOTEL YOGYAKARTA, INDONESIA
November 6st, 2016

HEALTH POLYTECHNIC OF HEALTH MINISTRY YOGYAKARTA
Jl. Tata Bumi No.3, Banyuraden, Gamping, Sleman, Yogyakarta, Indonesia 55293
Phone/Fax.62-274-617601, Email : ichs@poltekkesjogja.ac.id

PROCEEDING BOOK

THE 3rd INTERNATIONAL CONFERENCE ON HEALTH SCIENCE 2016

"Optimizing theMental Health under SDGs"

INNA GARUDA HOTEL YOGYAKARTA, INDONESIA
November 6st, 2016

ISBN : 978-602-72715-1-7

Published by
Health Polytechnic of Ministry of Health in Yogyakarta
2016

Proceeding of
The 3rd International Conference on Health Science 2016
“Optimizing theMental Health under SDGs”

Printed in Yogyakarta
Nov 2016

Table of Contents

Address from the Chairman of the Conference

Dear honorary guests and participants,

It is our great pleasure to invite you in The International Conference on Health Science Named "Optimizing the Mental Health under Sustainable Development Goals (SDGs)". This event is held annually to improve the quality of Yogyakarta Health Polytechnic as a referral institution.

The third aim from SDGs's seventeen aim is to ensure our life healthy and to improve welfare to all people in all ages. That aim has 13 targets of national health system, one of them is in 2030 can decrease one over three of premature death because of Non-communicable diseases and cares, and to improve health also mental health. Mental health is important same as physics health and we have to keep them. Mental health from one person is different from the other, they can change because environmental changes and we have to pass life phase. We hope that we can keep it to have a good mental health, and we hope this conference can give contribution to develop the role of institution supporting Sustainable Development Goals (SDGs).

In this meeting we present great qualification scientists to share knowledge and experiences in health sciences such as midwifery, nursing, dental health, environmental health, health analyst, nutrition, and health of community. Health practitioners, students and lecturer are also welcome to the conference. They can share and improve their knowledge in harmonic science atmosphere to get another view of health science.

We hope this conference can be one of tools to communicate and interact between those who related to health science. We hope you all enjoy this conference and we would like welcome you in Yogyakarta.

Sincerely,

Sari Hastuti, S.SiT, MPH
Chairman of the Conference

Address from the Director of Health Polytechnic of Health Ministry Yogyakarta

Dear honorary guests and participants,

Welcome to the International Conference which is heald annualy in our institution Yogyakarta Health Polytechnic. This is our second event of International Conference and of course there will be the third, the fourth and so on. We hope this event can be our place to share knowledge from many field study realted to health science.

In accordance with our vision as a referral institution, it is a great pleasure to invite you in The International Conference on Health Sciences Named "*Optimizing Mental Health Under Sustainable Development Goals* (*SDGs)".* We have missions to improve education, research and community service. This conference is one of the way to achieve our vision and mission. Yogyakarta Health Polytechnic should play significant role in the development of health science.

We have a great expectation that this conference can be our good enviroment to develop knowledge, to share experience, to have interaction between us and of course to give contribution for our health world. We do hope the succes of the conference and we hope you all enjoy it.

Sincerely,

Abidillah Mursyid, SKM, MS

The Director of Health Polytechnic of Health Ministry Yogyakarta

The 3rd International Conference on Health Science 2016 Committee

A. **Steering Committee**

Advisory Committee	:	*1.drg. Usman Sumantri, M.Sc* *The Head of Committee on Development and Empowerment of Health Human Resources of Health Ministry of Indonesia* *2. dr. Kirana Pritasari, MQIH* *The Head of Health Practitioners Training and Education Center of The Committee on Development and Empowerment of Health Human Resources of Health Ministry of Indonesia* *3. Dr. Robert Priharjo, M.Sc, BSN PGCE RN* *Lecturer Anglia Ruskin University, United Kingdom*

B. **Organising Committe**

Person in charge	:	Abidillah Mursyid, SKM, MS
Chairman I	:	Sari Hastuti, S.SiT, MPH
Chairman II	:	Joko Susilo, SKM, M.Kes
Chairman III	:	Sri Arini Winarti Rinawati, SKM, M.Kep
Secretary	:	Yani Widyastuti, SSiT, M.Keb
Treasurer	:	Suwandi, SE Tanto Yuono, SE Ns Harmilah, M.Kep, Sp.MB

Members

1. Secretariat	:	1. Dasilah 2. Efriyani, Amd 3. Ayu Triani, S.T. 4. Desi Rochmawati, SS.,M.Hum 5. Andika Trisurini, SPd 6. Astuti Dwi E, Amd 7. Eva Yunita, AMd.Kg
2. Scientific committee (keynote speaker+materials)	:	1. Dr. Yuni Kusmiyati, SST.,MPH 2. Achmad Husein, SKM, MPd 3. Ns.Nurun Laasara, S.Kep 4. Almira Sitasari, S.Gz, MPH 5. Hesty Widyasih, SSiT, M.Keb 6. Siti Nuryani, Ssi, MSc
3. Proceeding commitee	:	1. Sabar Santosa, SPd, APP, M.Kes 2. Dr. drg. Wiworo Haryani, M.Kes. 3. Budi Setyawan, SKM. M.Sc 4. Dr. Ir. I Made Alit Gunawan, M.Si. 5. Niken Meilani, SSiT,SPd, M.Kes 6. Ns.Sutejo, M.Kep.Sp.Kep.J 7. Dr. Iswanto, SPd, M.Kes

4. Shortcourse committee	:	1.	Handoko Riwidigdo, SKp
		2.	Dwiana Estiwidani, SST, MPH
		3.	Ardika Noviyawan
		4.	Felly Febriani
		5.	Saifullah Anwar
3. Table Clinic Committee	:	1	Aryani, SSiT, M.PH
		2	Dewi Risnawati, SsiT
4. Program Committee	:	1.	Drs. Harya Kunjana
		2.	Tri Prabowo, S.Kp.,M.Sc
		3.	Yanuar Amin, SST, SH
		4.	Abdul Majid, S.Kep. Ns.M.Kep.
		5.	Sarka Ade, SIP, S.Kep. MA
		6.	Dra. Elza Ismail, M.Kes
		7.	Rybob Khomes, S.Kom
		8.	Evicka Sekar A.A
		9.	Fauzan Anditya H
		10.	Siti Syarashinta C
		11.	Eko Suryani, S.Pd.,S.Kep.,MA
5. Promotion, Publication and Bussiness Committee	:	1.	Narto, BE, STP, MP
		2.	Uki Wulanggita, SST
		3.	Nugraheni Tri Lestari, SKM, MPH
		4.	Agus Sarwo Prayogi, APP.,S.Kep.,Ns.,M.H.K
		5.	Suharjono, SSiT,SPd,M.Kes
		6.	Haryono, SKM.,M.Kes
		7	Trubus Basuki, AMd
		8.	Bekti Rianto
6. Registration	:	1.	Siti Sulastri, SSiT, SPd, M.Kes
		2.	Nuriana Kartika Sari, SsiT

7. Logistics	:	1.	Setyowati, SKM, M.Kes
		2.	Puti Sudarwati, S.Si
8. Decoration , Place	:	1.	Suharyana, SKM
		2	Purwanto
		3.	Kasiman
9. Documentation	:	1.	Heri Purwanto, SE
		2.	Harsono, AMd.
10. Transportation	:	1.	Tri Widodo, Amd
		2	Agus Pamuji
		3.	Giyanto

TIME TABLE
THE 3RD INTERNATIONAL CONFERENCE ON HEALTH SCIENCE 2016
"Optimizing the Mental Health under SDGs"
Inna Garuda Hotel, November 6, 2016

No	Time	Event	People in charge
1	07.00 – 07.45 WIB	Registration	Committee
2	07.45 – 08.30 WIB	Opening Ceremony 1. Dance performance 2. Performing : Indonesia Raya, The Hymn of Poltekkes Kemenkes Yogyakarta, The march of Poltekkes Kemenkes Yogyakarta 3. Opening speech : a. The Chairman of The Conference b. The Director of Health Polytechnic of Ministry of Health in Yogyakarta	Event Coordinator + MC
3	08.30 09.15 WIB	Keynote Speaker : "Health Ministry's Policy in Improving Mental Health in The Era of SDGs" by The Committee on Development and Empowerment of Health Human Resources of Health Ministry of Indonesia	Scientific committee
4	09.15 – 09.30 WIB	Coffee Break	Logistics committee
5	1.30 – 11.00 WIB	1. *"Supporting Women's Mental Health Throughout Childbirth"* by D.R Khadizah Haji Abdul Mumin (University of Brunei Darussalam) 2. *"Update Dental and Oral Health in Elementary School Children to Prevent Caries Dental"* by Dr. Robert Achilles Quiambao (Chairman of Philiphine Continuing Dental Education)	Scientific committee
6	11.00 – 11.10 WIB	Presentation by Sponsor exhibitor	
7	11.10 – 12.30 WIB	1. *"Nutrition in Patients with Autism Spectrum Disorder"* by Prof. DR. Dr. Elizabeth Siti Herini, Sp.A (K) (Academic Hospital of Gadjah Mada University). 2. *"Laboratory Testing on Drug Abuse"* by Muji Rahayu, S.SI.,Apt.,M. Sc (Health Polytechnic of Ministry of Health in Yogyakarta)	Scientific committee

8	12.30 – 13.30 WIB	1. *"Bullying and Suicide Risk"* by Prof. Dr. Budi Anna Keliat, S.Kp.,M.App.Sc (University of Indonesia) 2. "Provision of Enviromental Health and Safety for People with Mental Disorder" by Dr. Iswanto, S.Pd.,M.Kes (Department of Environmental Health, Health Polytechnic of Ministry of Health in Yogyakarta)	Scientific committee
9	13.30 – 14.00 WIB	*Lunch break*	
10	14.00 – 17.00 WIB	Room 1 a. Table Clinic by drg. Yuniar and Cecep Setiadi, SE GC Corporation : Atraumatic Restorative Treatment b. Oral Presentation : Dental Nursing	Table Clinic Committee
		Room 2-5 : Oral Presentation (Health Analyst, Nutrition, Midwefery, Nursing, Dental Nursing, Environmental Health	Proceeding committee
11	17.00 WIB	Closing	Event Coordinator + MC

ORAL PRESENTATION SCHEDULE ON THE 3rd INTERNATIONAL CONFERENCE ON HEALTH SCIENCE 2016
November 6st, 2016

TIME	ROOM I : SAMBISARI Main Moderator : Niken Meilani, S.Si.T., M.Kes	
	AUTHOR	***TITLE***
14.00-14.45	1. Yani Widyastuti	Relationship Of Attitude About Premarital Pregnancy And The Incidence Of Premarital Pregnancies In Kulon Progo In 2015
	2. Isroni Astuti	Immunization And Autism Of Children 3 To 16 Years Old In *Rumah Autis Bekasi*
	3. Risma Fitria Dianasari	Health Belief Model Of Reproductive Women Interests To *Pap Smear*
14.45-15.30	1. Yetti Anggraini	Quality Of Life: Tuberculosis In Pregnancy; The Metro City, Indonesia
	2. Ana Kurniati	The Effect Of Piper Betle Linn Leaf Infusa In Perineal Wound Healing In Privately Practicing Midwives
	3. Heni Puji Wahyuningsih	Correlation Between Characteristics And Pregnancyrisk Using Poedji Rochjati's Scoring Card
15.30-16.15	1. Tri Maryani	Effect of Warm Compress and Aromatherapy Inhaled Peppermint to Decrease the Intensity of Pain Menstruation (Dysmenorrhea)
	2. Yuni Kusmiyati	The Effect of Asphyxia on the Development of Children
	3. Sri Lestariningsih	Effect of Turmeric Tamarind Drinks to A Decrease in Primary Dysmenorrhea on Students in Metro Midwefery Studies Program
TIME	**ROOM II : PRAMBANAN** **Main Moderator : Desi Rochmawati, SS.,M.Hum**	
	AUTHOR	***TITLE***
14.00-14.45	1. Sri Puji Ganefati	Analysis of CL2 gas obtained from salt water electrolysisas disinfectan in the disinfection of care rooms in hospitals (A controlling Effort for nosocomial infectioins)
	2. Siti Hani Istiqomah	The formulation model of lime peel extract and pandan as an antimicrobial to decrease the number or air bacteria at bedroom
	3. Heru Subaris Kasjono	Strengthening Social Capital on Mosquito Eradication of Dengue Hemorrhagic Fever in Bantul Distric

14.45-15.30	1. Bambang Suwerda	Use Of Learning Media Campus Wall Mural (MUDIK) Toward Achievement At Waste Management Subject Of Students DIII Environmental Health Departement Of Health Polytechnic Of Health Ministry In Yogyakarta 2016
	2. Siti Zainatun W, S.Si, M.Sc	Detection of Transovarial Transmition on Dengue Virus in Aedesaegypti Mosquitoe with SBPC Imunohistokimia Technique
	3. Budi Setiawan, M.Sc	*Periodicity Of Microfilariae Malayi At Central Borneo Province*
TIME	**ROOM III :KALASAN** **Main Moderator : Tri Pabowo, SKp., M.Sc**	
	AUTHOR	***TITLE***
14.00-14.45	1. Wahyu Rochdiat	Stressors Analysis in UNRIYO Students as A Basic to Develop Mental Health System in University
	2. Ice Yulia Wardani	Depression Among Adolescent In Bogor
	3. Sri Utami	Effect Of Warm The Influence Of The Safe Community Of Pregnancy Training Toward The Knowledge And Attitude Of Health Volunteers Of Community Health Center In The Primary Health Care Center Of Langsat Pekanbaru Riau Indonesia
14.45-15.30	1. Siti Rahmalia	The Relationship between Grade of Dyspnea with Quality of Life Patients With Tuberculosis
	2. Cecep Tri Wibowo	The Correlation Of Handover Implementation and Nurse Performance
	3. Atik Badiah	Stimulation Model Of Growth And Development Of Fine Motor Skills And Sensory Integration Of Children Autism In Health Promotion
15.30-16.15	1. Dodoh Khodijah	Age Relationship With Severe Pre Eclampsia Prevalence In Sundari Hospital Medan
	2. Yulina Dwi Hastuty	Comparation of Cholesterol Levels in Obesity And Non Obesity at Polytechnic Health Ministry of Medan

Model : Panel discussion PPT : English Time : Oral presentation 10 mnt/presenter (English/Indonesia

List of Keynote Speakers

NO.	SPEAKER	TITLE
I-1	Dr. dr. Fidiansjah, Sp.KJ., MPH (Director of Prevention and Control of Mental Health Problems)	Health Ministry's Policy in Improving Mental Health in the Era of "SDGs
I-2	D.R Khadizah Haji Abdul Mumin (University of Brunei Darussalam)	Supporting Women's Mental Health Throughout Childbirth
I-3	Ryan T. de Guzman, D.M.D. (Founder of Cavite Pediatric Dentistry Center)	Update Dental and Oral Health in Elementary School Children to Prevent Caries
I-4	Prof. DR. Dr. Elizabeth Siti Herini, Sp.A (K) (Academic Hospital of Gadjah Mada University)	Nutrition in Patients with Autism Spectrum Disorder
I-5	Muji Rahayu, S.SI.,Apt.,M.Sc (Health Polytechnic of Ministry of Health in Yogyakarta)	Laboratory Testing on Drug Abuse
I-6	Prof. Dr. Budi Anna Keliat, S.Kp.,M.App.Sc (University of Indonesia)	Bullying and Suicide Risk
I-7	Dr. Iswanto, S.Pd.,M.Kes (Department of Environmental Health, Health Polytechnic of Ministry of Health in Yogyakarta)	Provision of Enviromental Health and Safety for People with Mental Disorders

List of Oral Presentation

NO.	AUTHOR	TITLE
O-01	Yani Widyastuti	Relationship of Attitude about Premarital Pregnancy and the Incidence of Premarital Pregnancies in Kulon Progo in 2015
O-02	Isroni Astuti	Immunization and Autism of Children 3 to 16 Years Old in *Rumah Autis Bekasi*
O-03	Risma Fitria Dianasari	Health Belief Model of Reproductive Women Interests to *Pap Smear*
O-04	Yetti Anggraini	Quality of Life: Tuberculosis in Pregnancy; The Metro City, Indonesia
O-05	Ana Kurniati	The Effect Of Piper Betle Linn Leaf Infusa In Perineal Wound Healing In Privately Practicing Midwives
O-06	Heni Puji Wahyuningsih	Correlation between Characteristics and Pregnancyrisk Using Poedji Rochjati's Scoring Card
O-07	Tri Maryani	Effect of Warm Compress and Aromatherapy Inhaled Peppermint to Decrease the Intensity of Pain Menstruation (Dysmenorrhea)
O-08	Yuni Kusmiyati	The Effect of Asphyxia on the Development of Children
O-09	Sri Lestariningsih	Effect of Turmeric Tamarind Drinks to Decrease Primary Dysmenorrhea
O-10	Sri Puji Ganefati	Analysis of CL2 gas obtained from salt water electrolysisas disinfectan in the disinfection of care rooms in hospitals (A controlling Effort for nosocomial infectioins)
O-11	Siti Hani Istiqomah	The formulation model of lime peel extract and pandan as an antimicrobial to decrease the number or air bacteria at bedroom
O-12	Heru Subaris Kasjono	Strengthening Social Capital on Mosquito Eradication of Dengue Hemorrhagic Fever in Bantul Distric
O-13	Bambang Suwerda	Use of Learning Media Campus Wall Mural (Mudik) Toward Achievement at Waste Management Subject of Students DIII Environmental Health Departement of Health Polytechnic of Health Ministry in Yogyakarta 2016
O-14	Siti Zainatun Wasilah	Detection of Transovarial Transmition on Dengue Virus in Aedesaegypti Mosquitoe with SBPC Imunohistokimia Technique
O-15	Budi Setiawan	Periodicity Of Microfilariae Malayi At Central Borneo Province
O-16	Wahyu Rochdiat	Stressors Analysis in UNRIYO Students as A Basic to Develop Mental Health System in University
O-17	Ice Yulia Wardani	Depression Among Adolescent In Bogor

O-18	Sri Utami	The Influence Of The Safe Community Of Pregnancy Training Toward The Knowledge And Attitude Of Health Volunteers Of Community Health Center In The Primary Health Care Center Of Langsat Pekanbaru Riau Indonesia
O-19	Siti Rahmalia	The Relationship between Grade of Dyspnea with Quality of Life Patients With Tuberculosis
O-20	Atik Ba'diah	Stimulation Model Of Growth And Development Of Fine Motor Skills And Sensory Integration Of Children Autism In Health Promotion
O-21	Dodoh Khodijah	Age Relationship With Severe Pre Eclampsia Prevalence In Sundari Hospital Medan
O-22	Yulina Dwi Hastuty	Comparison of Cholesterol Levels in Obesity And Non Obesity at Poltekkes Medan
O-23	Cecep Tri Wibowo	The Correlation Of Handover Implementation and Nurse Performance

List of Poster Presentation

NO.	AUTHOR	TITLE
P-01	Nurul Islejar Estiyanti	The Description Of Characteristics Of Abortion Cases At The Sleman Regional Public Hospital IN 2014
P-02	Indhun Dyah Susanti	Knowledge And Attitudes about Early Detection Of Cervical Cancer
P-03	Mutiara Rachmawati S	Determinants Of Unmet Need For Family Planning among Woman in West Lombok
P-04	Mira Susanti	Knowledge Of Mothers With Nutritional Status Of Children Aged 1-5 Years
P-05	Waryana	Study of Mothers Characteristics and Behavior in Family Nutrition Awareness in Ambarketawang, Gamping, Sleman
P-06	Fery Lusviana Widiany	The Development Of Cadre's Performance With The Training Of Nutritional Assessment On Children In Posyandu
P-07	Julian Pakpahan	The Impact Of Psychological Trauma On Victims Of Traffic Accidents
P-08	Wira Daramatasia	Knowledge Characteristic Concerning Lactation With Breastfeeding Technique Among Posyandu Cadre
P-09	Muhammad Raftaz Kayani	Importance of Assistance to Children With Cancer
P-10	Eni Kurniati	The Benefits of Gembili (Dioscorea esculenta) Flour Probiotic on The Amount of Lactobacillus casei Probiotic Bacteria by In Vitro
P-11	Wiworo Haryani	The Usage of Tooth Paste in Decreasing Plaque Score in Elementary Students Massal Tooth Brushing
P-12	Siti Sulastri	The Effect of Orange Flavoured Soft Drinks Against The Level of Acidity Salivary in Elementary School Students
P-13	Destianti Indah Mayasari	Effectiveness Family Psycho Education Therapy In Patients Mental Disorders
P-14	Adelheid Riswanti Herminsih	Between The Effectiveness of Pharmacological and Non-Pharmacological Therapy In Effort Smoking Cessation
P-15	Harmilah	Meditation-Dzikir Effect on Anxiety in Patients' Family Who Will Get Percutaneus Transluminasi Coronary Artery
P-16	Syafrudin L. Ahmad	Strategies To Increase Survival Rate of Hemorrhagic Stroke Patients: A Systematic Review
P-17	Claudia Wuri Prihandini	The Impact of Workplace Bullying in Nursing
P-18	Cesaltina Pinto Soares	Risk Factor Analysis Of Filariasis Lymphatic In Viqueque Sub District Of Timor Leste

P-19	Etty Yuniarly	The Relations of Gingivitis Severity Levels with Teeth Sensitivity on Women Aged 30-45
P-20	Sari Hastuti	Behaviour of Parents and Response of Children Living with HIV AIDS (CLWA)
P-21	Pujiyati	The Provision of Clean Water, Contamination Risk and Environment Perception Of Water User Groups (Pokmair) in Watumalang District, Wonosobo Regency, Central Java

Abstract of Keynote Speakers

I-01

HEALTH MINISTRY'S POLICY IN IMPROVING MENTAL HEALTH IN THE ERA OF SDGs

Dr. dr. Fidiansjah, Sp.KJ., MPH

(Director of Prevention and Control of Mental Health Problems)

Teknologi keluarga berencana adalah teknologi yang harus digunakan sebagaimana mestinya. Indonesia darurat narkoba. Kondisi saat ini jauh menjadi dekat, dekat menjadi jauh. Hal ini karena pemanfaatan teknologi negatif. Bunuh diri menempati urutan ke-2. Depresi angkanya 1 dari 5 orang. Revolusi mental tidak bisa lepas dari nilai-nilai social budaya. UU No 18 tahun 2015 memperhatikan pada masalah gangguan kejiwaan. Tujuan pilar yaitu keluarga sehat. Inti keluarga sehat yaitu jiwa yang sehat. Pasangan usia subur sebagai latar dari terbentuknya keluarga sehat. 1000 hari pertama, orang tua harus siap jadi orang tua. Baby blues sebagai kondisi ibu yang belum siap dengan anaknya karena tidak ada dukungan dari keluarga. Banyak yang belum faham bagaimana memanusiakan kakek nenek sehingga masalah gangguan jiwa ada. Cerdik yaitu cek kesehatan secara berkala, Enyahka zat yang berbahaya, rajin beraktivitas, gizi seimbang. Cerdik dan Cerdas bisa menjdikan generasi sehat secara fisik, mental, spiritual,emosional.

I-02

SUPPORTING WOMEN'S MENTAL HEALTH THROUGHOUT CHILDBIRTH

Khadizah Haji Abdul Mumin, RN, RM, PhD

Universiti Brunei Darussalam
Pengiran Anak Puteri Rashidah Sa'adatul Bolkiah Institute of Health Sciences
Brunei Darussalam

ABSTRACT

The eight international Millennium Development Goals (MDGs) is a blueprint agreed to by all the world's countries whereby improving maternal health is highlighted as number five (5) of the MDGs. MDG 5 targetted to reduce maternal mortality by 75% and achieving universal access to reproductive health by 2015. The World Health Organization (WHO) indicated that by the end of 2015 until the current state, the target has not been fully met as yet. One of the aspect of maternal health that commonly received limited attention is the mental health throughout childbirth, thus, pose a major global health challenge. The WHO stated that about 10% of antenatal and 13% early postpartum women experienced at least a mental disorder condition, primarily being depression. Analysis of the existing literature, and auto ethnographic research into mental health throughout childbirth was conducted. The study explicated that metal health condition of the women affects two lives: not only the woman but also her fetus (that may extends to early childhood and beyond). This study has implications for designing multidisciplinary health interventions, the major roles focus on midwifery.

.

I-03

UPDATE DENTAL AND ORAL HEALTH IN ELEMENTARY SCHOOL CHILDREN TO PREVENT CARIES

Ryan T. de Guzman, D.M.D.

(Philippine Dental Association)

ABSTRACT

The Philippines continues to be one of the countries with very high prevalence of dental caries in children. Decreased quality of life and missed school days due to dental pain have been common in schools and day care centers. Currently there are several dental care programs for school children to address these problems. Government and non-government dentists conducts oral examination, dental education and even professional fluoride application. However, statistics still show a small to almost no decline in the prevalence of dental caries. A pilot program has been conducted in several day care centers in the provinces of Philippines, focusing on “community empowerment” of teachers and parents for them to create a “supportive environment” for the school children. The aim of the “supportive environment” is to integrate dental health with general health care and to create an environment which will support daily hygiene practices for these children. Hopefully the said program can lead to increase dental care awareness among the school community and therefore decrease dental caries prevalence in the Philippines.

I-04

Nutrition in Patients with Autism Spectrum Disorder

Elisabeth S. Herini

Department of Child Health, Faculty of Medicine, Universitas Gadjah Mada /Dr. Sardjito Hospital/ UGM Hospital, Yogyakarta 55281, email: herini_es@ugm.ac.id

ABSTRACT

Autism spectrum disorder (ASD) is a neurodevelopmental disorder defined in DSM-5 by persisting deficits in social communication and social interaction across multiple contexts, alongside restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two prototypically inflexible behaviors.

Many study showed that the prevalence of ASD is increasing and is currently estimated to affect 1 in 150 children (4.5 to 1, male to female).

In DSM-IV there are five categories: autistic disorder, Asperger's disorder, PDD-Nos, Childhood disintegrative disorder and Rett disorder, whereas DSM-V is only one category, namely ASD.

Two domains of DSM-5 Criteria for ASD as follow:

A.	Category 1: Impaired **social communication** (must have all 3 items)	Deficits in social-emotional reciprocity Deficits in nonverbal communicative behaviour used for social interaction Deficits in developing and maintaning relationships appropriate to developmental level
B.	Category 2 : **Restricted, repetitive, stereotyped pattern** of behaviour and activities (≥ 2 items)	Stereotyped or repetitives speech, motor movement, or use of objects Excessive adherence to routines, ritualized patterns of verbal or nonverbal behaviour, or excessive resistance to change Highly restricted, fixated interest abnormal in intensity or focus Hiper-or hyporeactivity to sensory input or unusual interest in sensory aspect of environment (e.g. indiference to pain/heat/cold, excessive smelling/touching objects, adverese response to specific sounds/textures, fascination with lights/spinning objects)
C.	Onset	Symptoms must be present in early childhood but may not become fully manifest until social demands exceed limited capacity
D.	Impairment	Symptoms together limit and impair everyday functioning
Severe level		Level 1 : Requiring support Level 2 : Requiring substantial support Level 3 : Requiring very substantial support

The nutritional treatment of children with ASD is a great challenge. Food selectivity is more commonly reported in children with developmental disabilities, particularly in children with ASD, compared with typically developing children. However, the relationship of food selectivity to nutritional adequacy is unknown.

Several studies have reported that dietary intervention, particularly foods gluten-free and casein-free (GFCF) show ASD behavioral changes in children. Evidence suggestive of differing responses to the use of a GFCF diet, defined as best- and non-response, has combined with some progress on determining the underlying genetic and biological correlates potentially related to such dietary elements. On the other hand, Pusponegoro HD et al. conduct research

by providing dietary gluten and casein in ASD children for one week yield the results that the diet did not increase maladaptive behaviour, gastrointestinal symptom severity or urinary I-FABP Meguid et al. have found that children with autism had significantly lower 25 (OH) vitamin D (VD) and calcium levels, and has detected a significant positive correlation between the levels of VD and calcium in children; However, the underlying mechanisms have not been clarified. Therefore, it is still necessary to evaluate the nutritional status of individuals in certain populations.
Another research by Shrinivasan et al. have conclusion that restriction diet in children with autism as GFCF diet is required. However the ASD chidren also get other medications which can have adverse effects on bone. Prospective studies are needed to examine the effects of the GFCF diet on bone health and incidence of fractures in individuals with ASD and the impact of supplementation on these endpoints
It can be concluded that nutritional support for ASD children requires further study, a reduction or add both macronutrient and micronutrients. Dietary for ASD children usually needed look a case-by-case

Keywords: Autism spectrum disorder, DSM-V, nutrient intake, a gluten-free and casein-free

I-05

LABORATORY TESTING ON DRUG ABUSE

Muji Rahayu, S.SI.,Apt.,M.Sc

(Health Polytechnic of Ministry of Health in Yogyakarta)

ABSTRACT

Drugs abuse in Indonesia in recent years shows an increase in cases as reported by the National Narcotics Agency, there are around 35 640 new cases in 2013. While the world there are 246 million drug abusers (World Drugs Report, 2015). In addition, also found new cases of production, distribution and smuggling of narcotics. To be able to diagnose drug abusers and identification of suspected require laboratory examination. It is therefore necessary laboratory examination methods are quick and valid.

Investigation of narcotics, psychotropic and addictive substances in laboratory covers two areas, is the examination of suspected material and the examination of biological material from drug users. Substances suspected to be in the form of tablets, powder, crystal, or plant, while the biological material can be a specimen of urine, blood, hair or organ in which the victim had died. Drugs compound types are very much, so that the necessary strategies in order to get laboratory test results are fast, efficient and valid. In the implementation of a screening test is done first and then the positive results followed by a confirmation test. The method is usually selected for the screening test is ICT for urine samples, and a color test for material in powder form, crystalline or plants. While the methods used for confirmatory testing may have TLC, or GC-MS.

Keyword : drug abuse, laboratory test

I-06

BULLYING AND SUICIDE RISK

Prof. Dr. Budi Anna Keliat, S.Kp.,M.App.Sc

(University of Indonesia)

ABSTRACT

Background: School bullying is an aggressive behavior which tend to harm another in school environment. The incidents of bullying among adolescents happened in yunior high school was 66.1%. Generally adolescents who could not developed their assertiveness, will tend to be aggressive. Methods: A Quasi experimental pre-post test with control group was conducted among the adolescents the total subjects studied was 80. Data were analyzed by using SPSS (version 19). Results & Conclusion: the sample were randomized, resulting in a sample of 80 adolescents aged between 12 years to 14 years. There is a high significant with assertive knowledge and assertive behavior in pretest - posttest and a low significant association between abuse history with the assertiveness. Recommendations: 1- A longitudinal study can be carried out to prevent bullying. 2- The assertive training for adolescents should become a part of health school program with teacher and parents support.

Keywords: bullying, assertive training, adolescents, quasi experimental study

I-07

PROVISION OF ENVIRONMENTAL HEALTH AND SAFETY FOR PEOPLE WITH MENTAL DISORDERS

Iswanto

Department of Environmental Health
The Polytechnic of Health, Yogyakarta
Email: Iswanto.3r@gmail.com

Abstract

According to the Act of Republic of Indonesia No. 18 of 2014 about Mental Health, people with mental disorder are those who have disturbances in thought, behavior, and feeling that manifested by a group of symptoms and/or significant behavior changes, and can cause suffering and obstacles in their function as human beings. Data from the Health Department of Yogyakarta Special Region in 2015 showed that the number of visits for mental disorders in health services (community health centers and hospitals) was 72,558 or increase by 56.77 %, compared with that in 2014, i.e. 46,284.

Mental disorder is more often studied and attributed to socioeconomic factors rather than to environmental factors that consist of physical, chemical and biological aspects. Biomedical model tends to see mental disorder as a type that the decrease of mental functioning is caused by physical disease or medical condition, instead of a psychiatric disease. Furthermore, mental disorder is frequently associated with brain injury.

Physical or mechanical crash on head such as accident, fall, punch, and physical violence can lead to head injuries and brain trauma that may trigger mental disorders. A study that conducted by Orlowska, et al. (2014) in Denmark between 1987 and 2010 on 38,270 people with mental disorders, found that 1,304 (12%) of total people with schizophrenia (10,607) had previous head injury; meanwhile among people with depression (24,605), bipolar disorder (1,859), and organic mental disorder (1,199), the number of cases and percentages with previous head injury were 2,812 (11%), 191 (10%), and 322 (27%), respectively. The data shows the correlation between brain injury and mental disorder is significantly stronger.

Chemical pollutants, especially lead and mercury, that enter human body through inhalation, skin, oral and placenta can interfere brain development in fetuses, infants, children, adolescents, adults and elderly people. The toxic metals will be distributed and accumulated in some human organs including the brain. The presence of heavy metals in brain will disrupt the function of nerves and brain. The main sources of lead pollution are paint, fluorescent bulbs, lead acid batteries, electronic waste and metal smelting. Survey that had been conducted in Sleman Regency in 2013 come to results that concentration of lead in used batteries is 12:45 µg/g; in Tube Luminance (TL) fluorescent lamps is 191.69 µg/g; and in Compact Fluorescent Lamp (CFL) is 2,392.54 µg/g.

A research conducted by Blacksmith Institute in 2015 at Pesarean Village of Tegal Regency showed that lead level in the soil around the smelters of used lead acid battery and hazardous waste disposal sites were above the regulated threshold. The subsequent inspection of Blood Lead Levels (BLS) for adults in Pesarean showed that the majority (97.8%) of all respondents who are tested showed the levels exceeding the safe limit of BLLs (> 15 µg/g). Based on interviews with Pesarean Village's officers, it was revealed that as many as 16 people have mental retardation (Down Syndrome) and aged between 2.5 – 30 years old. The study surprisingly found one family that four out of their six children were suffering with physical and mental disorders.

Toxoplasma gondii and *Plasmodium falciparum* are parasites that can infect brain and cause cerebral toxoplasmosis and cerebral malaria. The ability of *Toxoplasma* to infect brain is thus consistent with this aspect of schizophrenia pathogenesis. Torrey and Yolken in 2003 wrote the results of their research that links between *Toxoplasma gondii* and bipolar disorder and

schizophrenia are existed. They have reported two studies that adults who have schizophrenia or bipolar disorder had greater exposure to cats in childhood. In the first study that employed matched control design, the result showed 84 (51%) of the 165 people with mental disorder had owned a house cat in their childhood, meanwhile in the control group they were 65 (38%) out of 165. In the second study, with same study design, the results were 136 (52%) of the 262 affected versus 219 (42%) of the 522 matched controls owned a cat between birth and age of 13.

In this context, the provision of environmental health and safety is needed to prevent and reduce risk factors of brain and mental disorders. Targets of the environmental health efforts are everyone, either healthy people or people at risk or people with mental disorders. Healthy people should be provided with safe and healthy environment in order to avoid and to protect them from the risk factors. In addition, people who are at risk of mental disorders are very sensitive and have high potential to be mentally disturbed. Therefore, the provision of more specific and more sufficient environmental health and safety aspects are essential for prevent the unwanted conditions. For affected people, it is important also that environmental health conditions that could accelerate the healing process and prevent the severity have to be provided. Meanwhile, environmental safety is important to protect the safety of sufferers as well as of the other people.

Keywords: environmental health, environmental safety, mental disorder

O-01

RELATIONSHIP OF ATTITUDE ABOUT PREMARITAL PREGNANCY AND THE INCIDENCE OF PREMARITAL PREGNANCIES IN KULON PROGO IN 2015

Yani Widyastuti

Midwifery Department of Health Polytechnic of Yogyakarta, Jl Mangkuyudan MJIII/304 Yogyakarta 55143, HP 081802784728 email yaniwidyastuti.yk@gmail.com

Abstract

Based on Kulon Progo Health Department report in 2012, there were 25% of brides were positively pregnant. In 2013, around 44% of brides were already pregnant. Pre-marital preganancy is influenced by internal and external factors, one of them is attitude about pre-marital pregnancy. This research aims to determine the relationship between attitude about pre-marital pregnancy and pre-marital pregnancy incidence in Kulon Progo. This research is observational research with cross sectional design. The population is brides in Kulon Progo in 2015. The sampel was obtained by simple random sampling, 120 respondents from 1 Community Health Center in every district with inclusive criteria of graduate from elementary school and exclusive criteria of health workers. The independent variable was attitude about pre-marital pregnancy. The dependent variable was pre-marital pregnancy. The instruments were questionairre and data collecting format. The data were analyzed using correlation analysis chi-square with significant level of 5% (p=0,05). This study showed that most of the brides in Kulon Progo were in the age of 20-30 years old, midly educated, and employed. Pre-marital marriage in brides in Kulon Progo was 15 people (12,5). Most of the brides in Kulon Progo had positive attitude about pre-marital marriage. The Conclusion is there is a significant relationship between attitude about pre-marital marriage and pre-marital pregnancy incidence.

Keywords: pre-marital pregnancy, incidence of pre-marital pregnancy

Background

Adolescence is a transitition period from childhood to maturity and some changes happen including physical, physiologic and psychosocial. Physical growth is a sign of the beginning of sexual maturity process. Sexual maturity is accompanied with desire that comes from sexual arousal.[1]

Curiosity in teenagers and some stimulus that create sexual arousal cause the increasing of intention on sexuality problems so that teenagers eagerly find out about sexuality information by experiment, exploration, lack of responsibility and do not think for long term risk so that it can create some problems. There are few teenagers that get the information from family. They get information from friends, books about seks, mass media, or internet which encourage teenagers to try sexual intercourse.[2]

Indonesian Health and Demographic Survey (SDKI) 2012 stated that Age Specific Fertility Rate (ASFR) in age group of 15-19 years old reached 48 from 1000 pregnancies. The average score is higher than SDKI finding in 2007 that was 35 from 1000 preganancies.[3] Kusumaningtyas from Pengadilan Agama (PA) Tanjungpinang in 2013 gave dispensation to get married for 43 children under age. Most of the reasons in getting early married were because of pregnancy. The data from PA Mojokerto stated that in the last three years (2011-2013) there were 471 teenage couples that had marriage dispensation application because of pre-marital pregnancy. While the total number of marriage dispensation released by PA

Wonogiri in 2010 was 52 cases, 76 cases in 2011, 72 cases in 2012 and 25 cases in 2013. In 2013, PA Kediri got 37 cases of marriage dispensation application.

Based on Annual Report of Kulon Progo Regency in 2012, there were 25% of brides that were already pregnant. Based on Health Department Report in 2013, there were approximately 44% of brides had been identified being pregnant.5 Based on the preliminary test at Girimulyo Community Health Center in Kulon Progo Regency in November 2014, among 10 pregnant women that had anemia, there were 30% of women with premarital pregnancy.

Attitude is readiness to react towards an object with certain way. What is meant by readiness is potential tendencies to react by certain way if an individual is faced to a demanding stimulus.[6] Spontan conception and the most vulnerable delivery process towards the increasing of mother's age that heads to delivery with treatment, complication incidence and high health care are found less in higher age.[7]

The impacts of premarital pregnancy are abortion, premature birth and baby with low birth weight.[8] Premarital pregnancy is an unplanned pregnancy so that it can create patogical cases in midwifery. One of the factors that gives influence is attitude on premarital preganancy. The purpose of the research is to determine the relationship of attitude about sexuality and pregnancy and premarital pregnancy in Kulon Progo Regency

Method

This research is an observational research with cross sectional design. The research was conducted in August-October 2015 at one Community Health Center in every district in Kulon Progo Regency, Yogyakarta that were taken randomly. The population of the research was all brides in Community Health Center in Kulon Progo. The subject was brides that visited Community Health Center in Kulon Progo, Yogyakarta in August-October 2015.

The sampling collection was used simple random sampling. To determine the amount of sample was obtaines 120 people as a total sample, so 10 people was taken from each Community Health Service. The inclusion criterion was a graduate from elementary school and the exclusive criterion was health worker. The research variables included dependent variable and independent variable. The independent variable was the attitude about sexuality and pregnancy and the dependent variable was premarital pregnancy. The instruments used in this research were filling form and questionnaire of attitude on premarital pregnancy. Questionnaire trial in Gamping Community Health Center on 30 respondents showed that the result of questionnaire was >0,05 significancy in number 1 for knowledge questionnaire and in number 6, 16, and 20 for attitude questionnaire so that those number should be eliminated when the questionnaires were distributed to respondents. The result of reliability test using alpha cronbach for knowledge questionnaire was 0,986>0,05 which meant that it was reliable and 0,750>0,05 for attitude questionnaire which showed that the attitude questionnaire was reliable. The data collected were primary data.

The researcher had a discussion to get the same perception with enumerator midwife and reproduction health midwives. The brides that had been checked using PP Test were given questionnaire and filling form. The data were analyzed using chi-square correlation and logistic regretion with significancy level (α=0,05) and Confidence Interval (CI)=95%. The researcher gave explanation to brides, and then informed consents were given. Ethical Clearance had been obtained form Tim Komite Etik Poltekkes Kemenkes Yogyakarta number LB.01.01/KE/IV/064/2015.

Results and Discussion

Tabel .1 Characteristics of Brides in Kulon Progo Regency in 2015

Characteristics	Category	Total Number	%
Age	>/= 17	2	1,7
	17- 20	21	17,5
	20-35	84	74,2
	More than 35	8	6,7
	Total	120	100
Education	elementary	19	15.8
	Middle school	84	70.0
	university	17	14.2
	Total	120	100
Employment status	Working	91	75.8
	Unemployed	29	24.2
	Total	120	100

Table 1 showed that most of the brides in Kulon Progo were at the age of 20-30 years old (17%), having middle-school education (70%), and employed (75,8).

Tabel. 2 Premarital preganancy on Brides in Kulon Progo in 2015

Premarital Preganancy	Total Number	%
Yes	15	12,5
No	105	87,5
Total	120	100

Table 2 showed that premarital pregnancy on brides in Kulonprogo was 15 people (12,5). Premarital pregnancy prevalence in teenagers in Sumedang was high (40,55)9 with the average age of the respondents of 17,38 years old.[9] Most of unmarried women in China induced abortion for unintended pregnancy (approximately 86% to 96%).[10]

Tabel 3. The relation between attitude on premarital pregnancy and premarital pregnancy incidence

attitude on premarital pregnancy	Total number	%
Negative	44	12,5
Positif	79	87,5
Total	120	100

Tabel 3 showed most of the brides in Kulon Progo that had positive attitude towards premarital pregnancy were 79 people (87,5%). Some factors that influence risky premarital sexual behavior toward unwanted pregnancy were religiousity, attitude toward sex, information media access and contact, the aatitude of close friends and close friends' sexual behavior.[11] Knowledge is a factor that influenced premarital sexual behavior.[12]

Tabel 4. . The relation of attitude on premarital pregnancy and premarital pregnancy incidence.

Attitude	Pregnant						X^2	P value
	Yes		No		Total number	%		
	Total	%	Total	%				
Negatif	9	7,5	35	29,2	44	36,7	4,0	0,045
Positif	6	5,0	70	58,3	79	63,3		
Total	15	12,5	105	87,5	120	100,0		

Table 4 showed that the brides in Kulon Progo that were on negative attitude and having premarital pregnancy were 9 people, while on positive attitude and having premarital pregnancy were 6 people with P value 0.045<0.05. It means that there is a significant relation between attitude on premarital pregnancy and premarital pregnancy incidence.

There are various problems because of premarital sexual behavior, such as having sexual intercourse before married, premarital pregnancy, unplanned pregnancy, sexual transmitted diseases risk, and having sex with different partners. The factors that influence sexual problem in teenagers are (1) hormonal changes that increase teenager sexual desire. It causes they need to transfer into certain behavior; (2) Postponing the marital age as an implication of law and social norm that require high marital condition such as education, job, etc. (3) Religious norms that are implemented in which forbid premarital intercourse. (4) Parents that do not give information about sexual openly to children, consider it as taboo, so that this condition creates stimulus for children to get information from unreliable source. (5) Free tendency between man and woman as an implication of the development of women role and education.[13]

If in adolescence children do not get guidance and right information, this condition can bring teenager to destructive behaviours such as free sex and premarital pregnancy that can lead to abortion and Sexual Transmitted Diseases.[14] Pregnancy planning becomes an important issue in promoting preconception health. Pregnancy planning is defined as the adoption of an attitude centered on conception, including sexual behaviors (proceptive or contraceptive) and timing. Pregnancy planning is defined as the adoption of an attitude centered on conception, including sexual behaviors (proceptive or contraceptive) and timing.[15]

CONCLUSION

1. Most of the brides in Kulon Progo are at the age of 20-30 years old, having middle-school education, and employed.
2. Premarital pregnancy on brides in Kulon Progo are 15 people (12.5%)
3. Most of the brides in Kulon Progo have positive attitude towards premarital pregnancy
4. There is a significant relation between attitude on premarital pregnancy and premarital pregnancy incidence.

SUGESTION

Midwives that manage Child and Mother Health in public health center (Puskesmas) can put into consideration in taking policy of helath promotion program in preconception/teenager reproduction health service to prevent premarital incidence

REFERENCES

1. Suryadi, C. Pratomo, H. Handajani, Y.S. Bahan kuliah I kesehatan reproduksi. Jakarta: Jaringan Epidemiologi Nasional Badan Litbangkes Depkes RI. 2001
2. DepKes, RI. Yang perlu petugas kesehatan ketahui tentang kesehatan reproduksi. Jakarta: Depkes RI. 2001.
3. Badan Pusat stasistik, BKKBN, Depkes, Macro International Calverton Maryland USA. 2012. Survey Demografi Kesehatan Indonesia. Jakarta: Badan Pusat stasistik, BKKBN, Depkes, Macro International Calverton Maryland USA
4. Kusumaningtyas , Maraknya Kehamilan Remaja: Salah Siapa ? : http://www.rahima.or.id/ind acces on Agustus 12, 2015.
5. Dinas Kesehatan Provinsi DIY. Laporan Tahunan. Propinsi Daerah Yogyakarta.2012
6. Ajzen I. Attitudes, personality and behavior(2ed). Berkshire,UK:Open University Press-McGraw Hill Education.2005
7. Tromp, Ravelli, Reitsma, Mol. (2011). Increasing maternal age at first pregnancy planning: health outcomes and associated costs, J Epidemiol Community Health, Dec 2011; 65: 1083 – 1090 Diunduh dari: http://highwire.stanford.edu
8. Cunningham FG, MacDonald PC, Grant NF, Leveno KJ, Gilstrap LV. 2010. Williams obstetrics. 20th ed. Norwalk, Conn: Appleton and Lange.
9. Sri Dwi Omarsari dan Ratna Djuwita. Kehamilan remaja di Sumedang.Jurnal Kesehatan Masyarakat, 2008; volume 3 nomor.2 hal 57-64
10. Xu Qian, Shenglan Tang and Paul Garner, Open Access Research article Unintended pregnancy and induced abortion among unmarried women in China: a systematic review BMC Health Services Research, BMC Health Services Research, 2004; http://www.biomedcentral.com/1472-6963/4/1
11. Azinar, M. Perilaku Seksual Pranikah Berisiko Terhadap Kehamilan Tidak Diinginkan, Jurnal Kesehatan Masyarakat, KEMAS 2013; 8 (2) 153-160 http://journal.unnes.ac.id/nju/index.php/kemas
12. Putri, M. A. Hubungan Antara Pengetahuan Seksualitas Dengan Intensi Perilaku Seksual Pranikah Pada Mahasiswi,2007; http://etd.library.ums.ac.id/go.php acces on Agustus19, 2015.
13. Sarwono WS. Psikologi Remaja. Jakarta: Raja Grafindo Persada. 2011
14. Soetjiningsih. Buku Ajar: Tumbuh Kembang Remaja dan Permasalahannya. Jakarta : Sagung Seto.2006
15. Morin P, Tribble D, Wals de P, Payette H, Concept Analysis of Pregnancy Planning Drawn from Women of Childbearing Age. http://hpp.sagepub.com/content/2/3/212.abstract acces on July 12, 2015

O-02

Immunization and Autism of Children 3 to 16 Years Old in *Rumah Autis Bekasi*

Isroni Astuti, Asmijati, Mumun Munigar

Health Polytehnic Ministry of Health Jakarta I
isronie_astutie@yahoo.com

Autism is defined as neurology disorder affecting brain functionalities so that resulting communication, social interaction, behavior difficulties and the symptom appears before age 3. This study is aimed at understanding the factors related to autism cases in Rumah Autis Bekasi. Methods: There variables in this study namely, independent variable was immunization and dependent variable was autism and confounding variable were genetic, parents' age, maternal health history during pregnancy, and medication during pregnancy. Primary data collected through questionaire and interview to the families of autism. This is a case study on 60 samples divided into 30 samples of autism in Rumah Autis and 30 samples of normal people living nearby with the proportion 1:1. The data were analyzed using univariate, bivariate using chi square test, and multivariate statistical analysis using regresi logistic. The results show that there is no correlation between immunization history and the autism with p-value 0.774>0.05. There is a correlation between the father's age and the autism with p-value 0.038<0.05 and OR 0.333,there is a significant relationship between maternal health history and autism with p-value 0.038<0.05 and OR 3.763 and multivariate analysis shows that the most dominant variable is maternal health history with p-value 0.019 and OR 13.496. This study suggests that the pregnant women should check up their condition if there are some health problems and taking medication without doctor's prescription.

Keyword: Immunization, Autism, Children 3 to 16 years old

Introduction

Every parent wants to have healthy children physically and mentally. This hope is related to the growth and development which optimize the physical, emotional, mentality and social aspects of children. This is not easy to fulfil if children have pervasive disorder such as autism and its spectrum is called autism. Children with autism leads to inability to have social interactivities and living in the world of their own. Autistic disorder occurs 2 up to 5 cases in 10000 children under 12 years old. If heavy mental retardation is included, the number increases to 20 cases in 10000 children. Autistic disorder is commonly found in male children than female once, with 4:1 proportion. However, female children have more severe autistic disorder than male. [1]The number of autism children increases years to years worldwide. In 1987, autism prevalence is 1 child in 10000 births. Ten years later, the autism increases to 1 case in 500 births. And in 2000, it became 1 child in 25 births. In Indonesia, in 2013 it is estimated that more than 112000 children have autism in year range 5-19. Meanwhile, the autism prevalence in the world, based on UNESCO in 2011, is 6 in 1000 people with autism.[2]

The children with autism in Indonesia increased dramatically. Research in 1987 showed that people with autism 1: 5000. Then in 1997 patients with autism of 1: 500.Reseach In 2000 patients with autism 1: 150. Recently in 2001 showed autism 1: 100.[3]

Autisms causes is not yet fully discovered until now. The problems are that the research on human to look for the cause and effect relationship. For sure, the problem is complex and

multifactorial causing autism. Some theories state that the cause is the genetic disorder, malapportioned digestion disorder, and prenatal, natal, and post-natal events. Autism cases increase if there are problems during prenatal, natal, and post-natal which may cause toxoplasmosis, antenatal bleeding, hyperemesis gravidarum, under weight babies, traumatic, asfixianenatorum, paralyzed, and MMR vaccination, so that it influences the development of brain cells leading to undeveloped parts. From the pathophysiology, races or ethnicities toward serotonin metabolism has big impact on autism risk. It is possible to have different factors.[4]

Method

This is an observational study which uses control case. In the control case, we collected independent variables Immunization History, Confounding variable is Genetic, Father age,s, Mother age's Maternal Health history during pregnancy, Medication History during pregnancy, and the dependent variable is autism. Data collection techniques using non-probability sampling technique by using accidental sampling. Sample in this study is 30 autism patient in Rumah Autis Bekasi and 30 sample of normal children living nearby with propotion 1; 1. The questionnaire is constructed with the consultation of the experts.The data were analyzed using univariate, bivariate using chi square test, and multivariate statistical analysis using regresi logistic.

Results

1. Univariate Analysis

Table 1 Distribution of respondents based genetic factor, Immunization History, Father Age's, Mother Age's, Maternal Health History dan Medication History.

Variable	n	%
Genetic factor		
Yes	1	1.7%
No	59	98.3%
Immunization history		
MMR	7	11.7%
No MMR	53	88.3%
Father's Age		
≤ 30 years	28	46.7%
>30 years	32	53.3%
Mother's Age		
≤ 30 years	43	71.7%
> 30 years	17	28.3%
Maternal Health History		
Yes	15	25.0%
No	45	75.0%
Medication history		
Yes	7	11.7%
No	53	88.3%

From table 1, we can see that the number of respondent who have autism in the family is only 1 (1.7%), meanwhile who have not is 59 persons (98.3%). The respondent who received MMR immunization is 7 persons (11.7%), menwhile who did not receive it is 53 persons (88.3%). The number of father's age ≤30 years (when the babies are in the womb) is 28 persons (46.7%) meanwhile whose age >30 is 32 persons (53.3%). The number of mother's age ≤30 is 43 persons (71.7%), meanwhile whose hose age >30is 17 persons (28.3%). The number of mothers who suffered illness during pregnancy is 15 persons (25.0%), meanwhile who did not is 45 persons (75.0%). The number of mothers who took medication during pregnancy is 53 persons or (83.3%).

2. Bivariate Analysis

Table 2 Bivariat analysis

No	Independent Variable	case (Autis)		control (normal)		p-*value*	Odds Ratio	95% CI
		n	%	n	%			
1	Immunization History							
	MMR	5	16.7%	2	6.7%	0.228	2.800	0.498 – 15.73
	Tidak MMR	25	83.3%	28	93.3%			
2	Genetic Faktor							
	Yes	1	3.3%	0	0.0%	0.313	0	0
	No	29	96.7%	30	100.0%			
3	Father's age							
	≤ 30 years old	10	33.3%	18	60.0%	0.038	0.333	0.116 – 0.956
	31 – 40 year old	20	66.7%	12	40.0%			
4	Mother's age							
	≤ 30 years old	22	73.3%	21	70.0%	0.774	1.179	0.383 – 3.629
	31 – 40 years old	8	26.7%	9	30.0%			
5	Maternal Health History							
	Yes	11	36.7%	4	13.3%	0.037	3.763	1.038 – 13.65
	No	19	63.3%	26	86.7%			
6	Medication History							
	Yes	2	6.70%	5	16.7%	0.228	0.357	0.064 – 2.007
	No	28	93.3%	25	83.3%			

From the table 2, it can be seen that only 1 respondent who has autism in the family, and he/ she has autism (100%). Meanwhile, 59 respondents who have no autism in their families, 29 respondents (49.2%) have autism and 30 respondents (50.8%) have no autism. Chi-square analysis shows that sig.value (p-value) 0.313 > 0.05 meaning that no relationship

between genetic and autism cases.

Based on the immunization history, 7 respondents received MMR and 5 respondents (71.4%) have autism and 2 respondents (28.6%) have no autism. Meanwhile 63 persons who did not received MMR, 25 respondents (47.2%) have autism and 28 others (52.8%) has no autism. The chi-square tests shows that there is no relationship between the immunization history and autism with p-value 0.228>0.05.

Chi-square test shows that there is arelationship between father's age and autism with p-value 0.038<0.05. From the Risk estimate column, the Odds Ratio (OR) is 0.333 (1/3). It means that respondents how have father's age is >30 years olds have tendency to have autism three times higher compared to those who have father's age is <30 years old. Surprisingly, there is no relationship between mother's age and autism based on the chi-square test with the p-value 0.774 >0.05.

From the chi-square test, the p-value is 0.037<0.05 which indicates that there is relationship between the maternal heath history and autism. From the OR value is 3.763 means that mothers who have helath problem during pregnancy have a tendency to have 3.7 times to have babies with autism than who have not. There is no relationship between the medication history and the autism (p-value 0.228>0.05)

3. Multivariate Analysis

Table 3 Model of Multivariate Analysis

VarIndependen	Koefisien	S.E	p-*value*	OR
Imunization History	0.620	1.027	0.546	1.858
Father's Age	-1.222	0.597	0.041	0.295
Maternal Health History	2.500	1.122	0.026	12.197
Medication History	-2.965	1.383	0.032	0.052
Constanta	1.847	2.733	0.499	

-2 Log likelihood = 67.727, G = 15.450

Table 4 Final Model of Multivariate Analysis

Independent Var	Coefficient	S.E	p-*value*	OR
Father's Age	-1.208	0.594	0.042	0.299
Maternal Health History	2.602	1.110	0.019	13.496
Medication History	-2.970	1.366	0.030	0.051
Constant	2.827	2.166	0.192	

-2 Log likelihood = 68.097, G = 15.080

From table 4, it can seen that p-value in all independent variables are less than 0.05. The most influential factor is maternal health history with the smallest p-value (0.019) and its Odds ratio is the biggest (13.49).

Discussion

Immunization History toward Autism

The result show the analysis of Chi-Square Tests can be seen that the score Sig.

(p-value) less than 0.228> 0.05. It means that there is no relation between history's immunization towards autism. This matter different with the result Brent Taylor who did the analysis of epidemiologic with the scores 498 children toward autism. The conclusion is the patient of autism increasing in 1979, however the increasing of cases autism decreased in 1988 when MMR begin. The conclusion is a group of children who did not get MMR is increasing with the cases of autism which got the immunization MMR .[7]

Genetic Factor toward Autism

From the result of this study, there is no relationship between the Genetic Factor and Autism. This is relevant to Bernier et.al that genetic factor plays important role in autism however not all autism is caused by gen of the family.[5] Research on autism on two identical twins who have autism is 60 out of 95 percent meanwhile for both to have autism is just 2.5 to 8.5 percent.6 it is interpreted as big role of gen of cause of autism becuse identical twins having 100% same gen and his/her brothers or sisters only have 50%.

Father's Age toward Autism

The result shows that the analysis of Chi-Square Tests can be seen that the score of Sig. (p-value) less than 0.038< 0.05. It means that there is no relation between father's age toward autism. Then the table Risk Estimate shows that the value of Odds Ratio (OR) less than 0.333 (1/3). It means that respondents who have a father aged > 30 years have a tendency 3 times larger to suffered from autism than respondents who have a father aged ≤ 30 years. This analysis is matches with Dolores that more higher the age of father so the risk of autism is bigger. To be father soon, every 5 years the risk is up to 4 percent. Dolores Maldespina's analysis which show the influence of father's age to the risk of autism child. The older of father, the birth child will be growed in autism condition. To men old, gen mutation is always happen than the youth of the men. The older of father is increasing autism. The older the age of men, the gens is increasing to gone. Each years, two gens is mutation. And the age of the men more than 40 years, gens which mutation is up to 65. Since 1980, the number of men who became a father when the age of 40 years is increasing to 30 percent. The figure is followed by the number of children with autism. the last six years, autism rates increased from 1 to 88 births. Then, this study explains that 15-30 percent autism cases due to the age of father. Moreover, the findings indicate autism can appear without the needed for history to members previous family, since the cause is in a man's sperm elderly

The result of the study concluded that if the father agedover 45 years, the chances of children suffering from autism is greater, furthermore,the child's psychiatric is easily distracted. Researchers warn that if the time became parents in old age, pose a greater health risk. In the study also mentioned that the increase in children with autism is influenced by the age of the parents, which is already quite advanced for have children.Researchers have used several methods in his research and in conclusion said that 3.5 percent of autism affected paternal age older than 45 years.[8]

A study from Iceland obtains the latest discovery. Children with autism is suspected to obtain genetic mutations of paternal age. The older the father, the sperm they produce are increased risk of schizophrenia and autism in children. The older a person becomes a father,process of gene mutations to children is most likely. The more often a gene mutation is done, the greater the losses. Mutations of genes or the DNA Disorders entirely from men and is increasing at the same age of the expectant father. This rare disorder will last a long

time and affect other conditions for the child's development. This study also proved that not only memory and elasticity of the skin is decreased as the age, but also DNA in sperm, while men produce sperm throughout his life. This is very different from the woman who was born with a limited number of egg cells. Every 16 days, the cells are in the testicles of men are divided by the DNA that is the result of DNA copy others. Each cell is the result of coffee used to produce sperm. Although the DNA copying process is very accurate, errors can still occur. Some sperm may carry DNA copying mistakes known as mutations genetik.when it seems getting old, the copying process more inaccurate and less efficient.

As a result, more mutations are formed in the DNA of sperm DNA mutated .If was instrumental in the formation of the fetus, the risks affecting the development process of the child grows. The findings of this study shifts the presumption that assess autism genes derived from the mother. Getting older maternal age was blamed for the birth of children with autism. Furthermore In the study, found a gene mutation from the father is greater. Each year, two mutated genes. When the boys reach the age of over 40 years, the mutated gene numbering over 65. Meanwhile, gene mutations in women lasts stable. Although the paternal age effect on the incidence of Autism, but there is another possibility that the relationship is causal. There is a possibility that older parents treat children differently.[9] The analysis that men olds not to be worried because of this invention. There are three million DNA codes to the human and the number of mutation which detect is more dozens.[10]

Mother's age toward Autism

The analysis Chi-Square Tests can be seen that Sig. (p-value) less than 0.774> 0.05. It means that there is no relationship between age mother with Autism events. The results differ from studies conducted by researchers from the Harvard School of Public Health, most studies regarding austime mention the age of mothers affect the incidence of autism. Although the researchers realized the link with autism and the condition of pregnancy has no proof that less powerful, but 9 out of 13 studies mention the age of the expectant mother during pregnancy affects. This is consistent with the demographics of mothers in the past three decades is that the average pregnant at the age of 30 years and over. Pregnant women aged 30-34 years are at risk of 27 percent for children with autism. This risk is increased in pregnant women over the age of 40 years. In biology it is unclear why it happened. But experts suspect this is due to factors chromosomes were abnormal in middle-aged woman's egg and sperm cell mutations in men. The older age of parents when a child, the higher the risk of the child suffering from autism. Women aged 40 years have a 50 percent risk of having a child with autism compared to women aged 20-29 years. Relations parental age and autism is suspected because of a gene mutation factor. Women who have had a baby in the no longer young age further increase the risk of children with Autistic. This conclusion is based on after analyzing the findings of more than 5 million births. Women aged over 40 years have a 50 percent risk of getting a child with autism than those who give birth in their 20s. Ripe old mother is known to have an increased risk for having children with genetic disorders, and genes expected to play a role in autism.[11]

Maternal Health Story's Mother toward Autism

The results showed the Chi-Square Tests can be seen that the Sig. (P-value) amounted to 0.037> 0.05. This means that there is a relationship / influence between the mother disease

history with Autism events. Furthermore, from the Risk Estimate table above can be seen the value Odds Ratio (OR) of 3763. This means that respondents who have a mother with a history of disease has a tendency to 3.7 times more likely to suffer from autism compared with respondents who have a mother with no history of disease.

Complications such as bleeding in the first trimester is the fetus accompanied amniotic fluid mixed with feces and medications taken during pregnancy. Autism is the caused by pregnant such as: abnormal brain anatomy, pollutants heavy metals (Pb, Hg, Cd, Al), infection (toxoplasma, rubella, candida), additives (preservatives, colorings, MSG), hiperemisis (vomiting weight), heavy bleeding, and severe allergic.[9]

The caused of autism is the matternal disease during pregnancy. The first factor is during pregnant in 0-4 months babies in the womb, can be caused by heavy metal pollutants, infection, addictive substances, Hyperemesis, heavy bleeding, severe Allergy.[12]

The maternal's story during the pregnancy can be caused autism. this case suffered by the mother during pregnancy can caused autism.[13] High incidence of perinatal complications in children with autism. during gestation, maternal bleeding after first trimester and meconium in the amniotic fluid has been reported to be more common in children with autism than the general population. In the newborn period, children with autism have a high incidence of respiratory distress syndrome of and neonatal anemia.[1]

Medication History's Mother

The result shows that the score Sig. (p-value) less than 0.228> 0.05. It means that there is no relation/ influence between medication history's mother toward autism. The result is ther was the influence of using drug mother towards autism. however, this result did not match that the baby which got the special drugs will get a high risk to be autism. Those drugs consists of valproic and thalidomide. Thalidomide is the old drug who can be used to prevent nausea and vomiting during pregnant, worried, and insomnia. Too much drink medication without receipt during mother's pregnant, poisoning when pregnancy. such a way the fetus is suffering from brain, the causes of mental disability in the prenatal period can also be selected for broadcasting irradiated with X-rays and atomic radiation.[13]

CONCLUSION

The result from the immunization analysis and toward autism through the support of another variable at Rumah Autis Bekasi, such as:there is no correlation between immunization history and the autism, acorrelation between father's age with autism at Rumah Autis Bekasi. The most Influence factors toward autism at Rumah Autis Bekasi based on multivariate analysis is medication history's mother during pregnancy.

RECOMMENDATION

1. Health Care Service
   To check integrated antenatal of mother's pregnant in order to know the maternal illness during pregnancy can be detected and get immediate treatment.
2. Patient
   To do the test pregnancy in order to know the problem and get the immediately treatmen

References

1. Kaplan & Sadock, 1997, *Sinopsis Psikiatri, (terj.)* Widjaja Kusuma Jakarta: Binarupa Aksara, 713
2. Anonim, *Penyebab Autis*, www.penyebabautis.com disitasi Tanggal 14 Agustus 2014
3. Andarini Sri, 2006, *Hubungan Motivasi Orang Tua Untuk Mencapai Kesembuhan Anak Dengan Tingkat Pengetahuan Tentang Penanganan Anak Penyandang Autisme Dan Spektrumnya*, Jurnal Kedokteran Brawijaya, Vol XXII No.2 Agustus 2006
4. Muhartomo Hexanto, 2004, *Faktor-Faktor Risiko Yang Berpengaruh Terhadap Kejadian Autisme*, Program Magister Ilmu Biomedik Program pasca Sarjana Universitas Diponegoro, Tesis
5. Bernier, Raphael; Gerdts, Jennifer (2006). *Autism Spectrum Disorders, A Reference Handbook*. Greenwood Publishing Group, London
6. Kompas, 2011, *Lima Penyebab Faktor Autisme*, www.health.kompas.com,disitasitanggal 14 agustus 2014
7. Brent Taylor, 1999, *MMR Vaccination Not Linked in Autism*, United Kingdom
8. Bahar Gholipour , 2001, *Dads' Age Linked with Kids' Mental Health, Problems*, Journal of the American Medical Association
9. Christopher Sunu, 2012, *Unlocking Autism*, Jakarta: Griya Taman Asri, Jakarta
10. Darren Griffin, 2012, *Older Fathers Linked to Kids' Autism and Schizophrenia Risk*. University of Ken
11. Anna KL, 2011, *Lima faktor Penyebab Autisme*, Kompas Tanggal 11 Januari 2011.
12. Andri Priyatna, 2010, *Amazing Autism*, Jakarta: PT. Elex Media Komputindo, Jakarta
13. Meliani dkk, 2007. *Hubungan antara Kecerdasan Emosional dan Depresi pada Ibu yang Memiliki Anak dengan Gangguan Autisme*, Jurnal Psikologika no 23 vol XII Jogyakarta : UII, 2007

O-03

Health Belief Model of Reproductive Women Interests to *Pap Smear*

Risma Fitria Dianasari, Suwoyo, Indah Rahmaningtyas

rismafd@gmail.com

Midwifery Department Health Polytechnic of Health Ministry Malang, Indonesia

ABSTRACT

Cervical cancer is a deadly disease. Hospital Data in East Java in 2007 until 2011 shows the increase of *cervical cancer* sufferer and mortality. *Pap smear*s as a method of early detection, so that the cancer is found early. Early detection in Indonesia is still about 5%. In order for the society to understand early detection, elucidation is done to motivate them to do go for check up or just to stay informed. HBM is an effective elucidation method for increasing the interest of reproductive women to have *pap smear*s. So the purpose is to assess the effect of HBM Elucidation techniques towards the interest of reproductive women to have *pap smear*s. A pre-posttest experimental design was used. The population is all reproductive women who have not done the *pap smear*s. Simple random sampling was used to select 53 respondents. The research instrument is a questionnaire. Analysis of the data used the Wilcoxon Match Pairs Test is count Z = 6.158> Z table = 1.96 means that there is influence of HBM elucidation techniques towards the interest of reproductive women to have *pap smear*s. Before the elucidation was administered, 58% of respondents had a low interest. However, after elucidation was given 62% of the respondents had a high interest. From this study it can be seen in the effectiveness of the HBM. We recommend that health workers apply HBM Elucidation techniques to increase the reproductive women interest in making decision about health such as going for *pap smear*s.

Keywords: Health Belief Model, Interest, *Pap smear*, Reproductive women

BACKGROUND

Cancer is one of the non-infectious diseases which have a tendency to increase every year. *Cervical cancer* is a malignancy that is derived from the cells of the cervix [1]. Early detection of *cervical cancer* increases life expectancy, with life expectancy approaching 100% in cancer in situ, before spreading [2]. The earlier diagnosis of *cervical cancer* stage, make better for prognosis. Combined 5-year life expectancy in Cancer Centers around the world are : stage I 86% -89%, stage II, 43% -70%, 23% stage III and stage IV -43% 0% -12 % [3].

According to the WHO (World Health Organization) in 2003 there were more than10 million cases of cancer patients. Prediction increase every year approximately 20%, it is estimated that by 2020 the number of new cases of cancer will reach 20 million people for a year, and an estimated 84 million people will die in the next 10 years if no intervention is adequate [4].

Cancer control program in Indonesia is still prioritized on the two highest cancer in Indonesia, *cervical cancer* and carcinoma mammae [4]. In the world every two minutes, a woman dies because *cervical cancer*. WHO (2010) recorded 4 new cases every minute and a woman dies every two minutes, while Asia Pacific (2010) a women die every four minutes. In Indonesia every an hour a woman dies of *cervical cancer* and 52 million from about 115 million Indonesian women at risk of *cervical cancer* for many reasons. Indonesia recorded 15,000 new cases for a year, 8,000 die and 90-100 cases every 100,000 women [5].

Number of *cervical cancer* in Hospital (out patient) in East Java in 2007, there were 771, in 2008 as many as 821, in 2009 671, in 2010 about 868, and in 2011 as many as 901

patients. While the distribution of *cervical cancer* (inpatient/opname) in East Java in 2007 there were 737 cases, in 2008 there were 912 cases with 7 deaths, in 2009 there were 592 cases with 10 deaths, in 2010 there were 890 cases with 11 deaths, and in 2012 there were 790 cases with 29 deaths [4].

Data from Kediri District Hospital showed that the number of *cervical cancer* (inpatient) in 2011 as many as 40 with 3 deaths, in 2012 as many as 32 with 2 deaths, and in 2013 as many as 34 with 5 deaths. While *cervical cancer* patients (outpatient) in 2011 as many as 28, in 2012 as many as 23 cases, and in 2013, 52 cases [6].

From the news on a variety of media, *cervical cancer* is a deadly disease, when patients come in an high stage. This is what happened in Indonesia, women do not care about early detection [7]. A cope of cancer in Indonesia still cannot be implemented optimally, because up to 70% of new cases were found in the high stages [4].

Although the detection of *cervical cancer* at a very early stage (and can be recovered) can be done with a *pap smear* test, many women do not do this test. Currently the coverage of screening for early detection of *cervical cancer* in Indonesia through a *Pap smear* and IVA is still very low (around 5%), whereas the screening coverage is effective in reducing morbidity and mortality from *cervical cancer* is 85%. In research conducted in Indonesia in 2005, it was found that the rate of *Pap smear* in Indonesia is only 5-8%. In East Java *Pap smear* is only 5-6%. The data from the *pap smear* results by WKBT-KKBS, Indonesian Family Planning Association East Java in 2005-2009 show an incre High Interest ntage of cancer. In 2005 there were 2303 with 2 positive cancer, in 2006 ther Middle Interest positive cancer 1, 2007, there were 2015 with positive cancer 1, 2008, there Low Interest positive cancer 1, and in 2009 there were 3006 with positive cancer 8. Data from Health Office Kediri about numbers *pap smear*s at Puskesmas around Kediri District, show that there has been no *pap smear*s on Blabak Health Center, District Kandat, Kediri [8].

Results of a preliminary study in Nglarangan, Selosari village, district. Kandat, Kediri in 2013 occurred one death from *cervical cancer*, and there are currently one *cervical cancer* patients are still under treatment. Nglarangan is the highest reproductive woman in the village Selosari as many as 263.

To cope with *cervical cancer* what must be done is health education, so that people can understand the importance of early detection and they can do that periodically [7]. Health education activities are done by sharing health messages, make belief, so that people not only appreciate, have awareness and understand, but alsosuggest about health [9].

The failure of an individual or the community to accept the efforts of prevention and curative of diseases organized by the health providers, led the theory that explains the behavior of disease prevention into health trust model / Health Belief Model (HBM). When individuals act against or treating the disease, there are four High Interest volved in these actions, perceived susceptibility, perceived seriousness, pe Middle Interest s and barriers, and cues [10]. HBM is a preventive health behavior model that Low Interest medical world and covers a range of behaviors, such as screening. There are several theories besides HBM like TRA (Theory of Reasoned Action), Theory Stimulus Organism Response (SOR), Theory Lawrence Green, Function Theory and Theory Kurt Lewin. But I have choosen HBM. This is due to the HBM technique makes the respondents felt the seriousness and danger of *cervical cancer*, to know the benefits of *pap smear*, and be motivated to have a *pap smear*. HBM is an effective elucidation method for increasing the interest of reproductive women to have *pap smear*s. Based on the problems, we aimed at studying the "The Effect Of Health

Belief Model (HBM) Elucidation Technique To Reproductive Women Interests To Have *Pap smear* At Nglarangan, Selosari Village, District Of Kandat, Kediri."

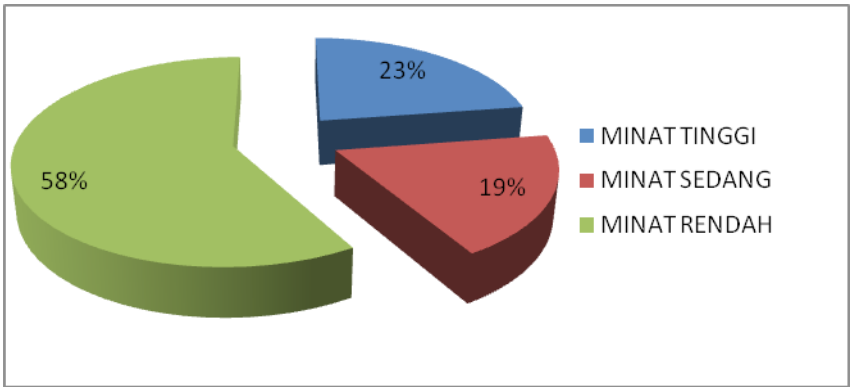
METHODS

This research used experimental design with pre and post test. The study area is Nglarangan, Selosari Village, District Kandat, Kedirion 25 July 2014. The target population is all reproductive women who have not done the *pap smears*, totaling 263 people. Simple random sampling technique, a probability sampling technique, was used to select 53 respondents. The research instrument was a structured questionnaire. Data was presented using pie charts. The data was analyzed using the Wilcoxon Match Pairs Test.

RESULTS AND DISCUSSION

Result

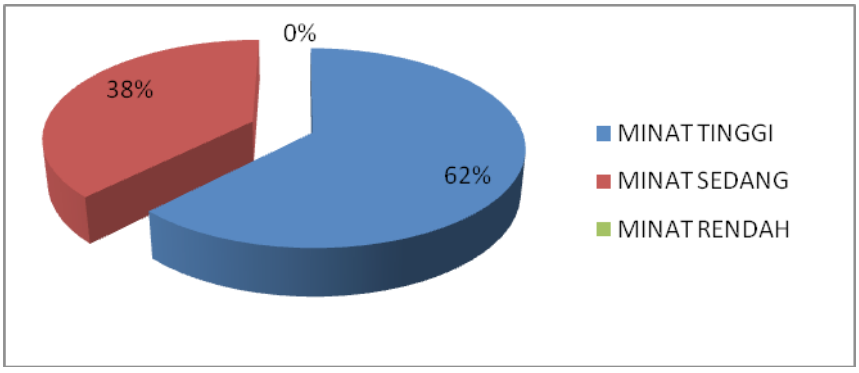
Before the elucidation was given 31 (58%) of respondents had a low interest. For more details can be seen in pie chart below :



Sources: Primary data research in 2014

Image 1 : The interest of reproductive women to have *pap smears* before given HBM elucidation technique

After elucidation was given 33 (62%) of respondents had a high interest. For more details can be seen in pie chart below:



Sources: Primary data research in 2014

Image 1 : The interest of reproductive women to have *pap smears* after given HBM elucidation technique

Discussion

In this research, before elucidation 31 respondents (58%) had a low interest of the *pap smear*, then after given HBM elucidation technique, 33 respondents (62%) have a high interest. A total of 16 respondents had changed their interest from lower to middle. 6 respondents changed from middle to high interest, and 15 respondents change from the low interest into high interest.

According to Azrul Azwar, health education activities are done by sharing informatio, so that the individuals not only appreciate, gain awareness and have understanding, but also enable them to give suggestions about the health activities [9]. Further, Syafrudin explains that HBM specifically confirms perceived susceptibility someone affects to decision in their health behaviors[11].

Health education means increasing the interest of respondents. Certainly, because the respondents know more information about *pap smear*. Beside that elucidation in this research using HBM technique. HBM is an effective elucidation method for increasing the interest of reproductive women to have *pap smears*. This technique has several key variables for increasing health belief. Respondents can perceive seriousness and susceptibility to *cervical cancer*, know the benefits of *pap smear* and be motivated to do *pap smear*. As a result more than 50% of the respondents in this study had an increase of interest to a "high interest" after administering the HBM elucidation technique. High interest means that someone wants to have pap smear as soon as possible.

Based on the answers of 15 respondents who changed from low to high interest, it is known that 14 respondents (93%) of respondents with low interest before didn't know the purpose of the *Pap smear*. Then after given elucidation 13 respondents (86%) became aware of the the purpose of the *Pap smear*.

After elucidation 62% of the respondents had a high interest in pap smear. It means that respondent not only knew, understood, but also realized the importance to have *pap smears*. This is supported by the statement of 15 respondents who change from low interest to high interest, 12 people (80%) expressed scared of *cervical cancer*, that were previously only 3 (20%) who expressed like that. With HBM elucidation technique, information about *cervical cancer* and *Pap smear*s delivered by underlining the components of Health Belief Model. This is due to the HBM technique makes the respondents felt the Health Belief Model. It makes the respondents felt the seriousness and danger of *cervical cancer*, know the benefits of *pap smear*, and be motivated to have a *pap smear*. Because of that reason above, 62% of respondents had a high interest.

In this situation, the susceptibility and seriousness of *cervical cancer*, as well as the perceived benefits of *pap smear*, increase the reproductive women interest in making decision to have *pap smears.*

CONCLUSIONS AND RECOMMENDATIONS

Conclusions of research are: 1) More than half of respondents have a low interest on *pap smear* tests before the HBM elucidation technique was given, 2) More than half of respondents have high interest on the *Pap smear* after the HBM elucidation technique was given, 3) There is influence of HBM elucidation techniques towards the interest of reproductive women to have *pap smears* in Nglarangan, Selosari Village, District Kandat, Kediri.

Suggestions are: 1) Suggestions for health workers to apply HBM Elucidation techniques to increase the reproductive women interest in making decision about health and one of them

is to have *pap smears*, 2) For next research, can show other factors that affect interest, so the effectiveness of HBM Elucidation technique in increasing interest can be seen clearly.

REFERENCES

1. Directorate of Non-Infectious Disease Control. *Buku Saku Pencegahan Kanker Leher Rahim dan Kanker Payudara*. Jakarta; 2009.
2. Available at www.pppl.depkes.go.id/_asset/_download/bukusaku_kanker.pdf accessed 29-1-2014 at 09.44 a.m.
3. Corwin, E. *Patofisiologi*. Jakarta : EGC; 2009.
4. Benson, R. *Buku Saku Obstetri dan Ginekologi*. Jakarta : EGC; 2008.
5. East Java Departement Health. *Kegiatan Pengendalian Kanker di Jawa Timur*; 2012.
6. Syafrudin. *Himpunan Penyuluhan Kesehatan*. Jakarta : Trans Info Media; 2011.
7. Kediri Hospital. *Morbiditas out patient and opname 2011, 2012, 2013.*
8. Tapan, E. *Kanker, Antioksidan, & Terapi Komplementer.* Jakarta. PT Elex Media Komputindo; 2005.
9. Kediri Health Departement. *Monthly Report Early Detection Ca Mammae and ca cervix*; 2013.
10. Ali, Z. *Dasar-Dasar Pendidikan Kesehatan Masyarakat dan Promosi Kesehatan*. Jakarta : Trans Info Media; 2010.
11. Novita, N. *Promosi Kesehatan dalam Pelayanan Kebidanan*. Jakarta : Salemba Medika; 2011.
12. Syafrudin. *Promosi Kesehatan untuk Mahasiswa Kebidanan*. Jakarta: Trans Info Media; 2009.
13. Astuti, E. *Bahan Dasar Untuk Pelayanan Konseling*. Grasindo : Indonesia; 2010.
14. Indonesia Central Bureau of Statistic; 2012.
15. Available at http://www.bps.go.id/menutab.php?tab=4&tabel=1&kat=3& id_subyek=56& ist=1&var=W accessed 26-2-2014 at 08.00 p.m.
16. Boston University School of Public Health. 2013. *The Health Belief Model*. Available at http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/SB721-Models/SB721-Models2.html accessed 5-2-2014,10.50 a.m.
17. State Ministri For Population / National Family Planning Coordinating Board. *Profil Hasil Pendataan Keluarga Tahun 2012*; 2013.
18. Bungin, B. *Metodologi Penelitian Kuantitatif.* Jakarta : Kencana Prenada Media Grup; 2010.
19. Departement of Education and Culture. *Kamus Besar Bahasa Indonesia*; 2008.
20. http://bahasa.kemdiknas.go.id/kbbi/index.php access 13-02-2014, 22.00 p.m.
21. Selosari Village. *Rekapitulasi Hasil Pendataan Keluarga Tingkat Desa tahun 2013 Desa Selosari*; 2013.
22. Fibriana, A.I. *Jurnal Kesehatan Masyarakat :Keikutsertaan Pelanggan WPS dalam VCT*. Semarang; 2013.
23. Available at http://journal.unnes.ac.id/nju/index.php/kemas
24. Gant, N. *Dasar-Dasar Ginekologi dan Obstetri.* Jakarta : EGC; 2010.
25. Hardjito, K. *Pengantar Biostatistika*. JawaTimur : Forikes; 2010.
26. Jong, W. *Kanker*. Jakarta :Arcan; 2005.
27. Indonesia Health Ministry. *Panduan Memperingati Hari Kanker Sedunia di Indonesia 2013;* 2013.

28. Maulana, H. *Promosi Kesehatan*. Jakarta : EGC; 2009.
29. Morgan, G. *Obstetri dan Ginekologi Panduan Praktik.* Jakarta : EGC; 2009.
30. Notoatmodjo, S. *Pendidikan dan Perilaku Kesehatan.* Jakarta: PT. Rineka Cipta; 2003.
31. Notoatmodjo, S. *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: Rineka Cipta; 2007.
32. Notoatmodjo, S. *Ilmu Perilaku Kesehatan*. Jakarta : Rineka Cipta; 2010.
33. Notoatmodjo, S. *Metodologi Penelitian Kesehatan*. Jakarta : Rineka Cipta; 2010.
34. Notoatmodjo, S. *Promosi Kesehatan dan Perilaku Kesehatan*. Jakarta: Rineka Cipta; 2012.
35. Nursalam. *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan*. Jakarta : Salemba Medika; 2008.
36. Nursalam. *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan.* Jakarta : Salemba Medika; 2009.
37. Purwanto, H. *Pengantar Perilaku Manusia.* Jakarta : EGC; 1999.
38. Rahma, R.A. *Beberapa Faktor yang Mempengaruhi Minat WUS dalam Melakukan Pemeriksaan IVA di Desa Pangebatan Kecamatan Karanglewas Kabupaten Banyumas.* Jurnal Ilmiah Kebidanan, Vol 3 No 1 Edisi Juni 2012.1-14; 2011.
39. Sugiyono. *Statistika untuk Penelitian*. Bandung : Alfabeta; 2010.
40. Suparyanto. *Konsep Dasar Minat;* 2011.
41. Available at http://dr-suparyanto.blogspot.com/2011/09/konsep-dasar-minat.html accessed 12 February 2014 12.05 p.m
42. Widjiartini. Implementasi *Hasil Pap smears pada Pengembangan Surveilans Terpadu Infeksi Menular Seksual di Jawa Timur*; 2010.
43. Yatim, F. *Penyakit Kandungan*. Jakarta:Pustaka Populer Obor; 2008.

O-04

QUALITY OF LIFE: TUBERCULOSIS IN PREGNANCY; THE METRO CITY, INDONESIA

Yetti Anggraini[1], Martini[2]

Poltekkes Tanjung Karang Jurusan Kebidanan Program Studi Kebidanan Metro[1,2]
e-mail: y3ty.4w4@gmail.com

Abstract

The impact of pulmonary TB in pregnancy is an increased risk of low birth weight, preterm birth, infants with low Apgar scores immediately after birth, anemia, perinatal life to the increased mortality and infant morbidity and Mother. The prevalence of pulmonary TB among pregnant women in Indonesia is estimated at 1%. Case in Lampung Province in 2014 the Incidence rate of tuberculosis in pregnant women amounted to 50.01%, while tuberculosis among pregnant women in the Metro city was only 3 cases. This study is aimed at, to obtain in-depth information about the readiness of pregnant women in the face of pulmonary tuberculosis, when a mother is diagnosed with pulmonary tuberculosis, nutritional status, psychological management of pulmonary tuberculosis and mother with pulmonary TB. This research is a qualitative research, using observation with a descriptive approach, Data was collected through in-depth interviews and focused group discussions with the help of tape recorders and interview guidelines. The subjects were pregnant women with pulmonary TB and informants asked information is the husband, in-laws, parents or relatives who live at home. The results of the qualitative analysis study concluded that pulmonary tuberculosis mother with only one person with a history of prior pregnancy. Pregnant woman pulmonary tuberculosis quality of life largely not experience significant interference. Quality of life of pregnant women with pulmonary TB are seen from the physical, psychological, social and environmental merely psychological factors that influence the everyday life of the mother, because the mother feels the pain of his life was no longer.

Keywords: Tuberculosis in pregnancy, Quality of Life

Background

The impact of pulmonary TB in pregnancy is an increased risk of low birth weight, preterm birth, infants with low Apgar scores immediately after birth, anemia, perinatal life to the increased morbidity and mortality of infant and mother[1]. Complaints often found inlcude prolonged cough, bodweakness, decreased appetite, weight loss, sometimes they cough up blood, and pain around the chest[2].

Tuberculosis in the region continues to grow. So far, Asia including the region with the spread of tuberculosis (TB) is the highest in the world. Eleven of the 22 countries with the highest number of TB cases are in Asia, including Bangladesh, China, India, Indonesia, and Pakistan. Four of the five patients with TB in Asia including the productive age group[3]. Number of TB patients in Indonesia is the third largest in the world after India and China[4]. Mortality due to TB in Indonesia reached 140,000 people in a year, or 8 percent of deaths worldwide

The incidence of TB in pregnancy is 1/10,000 pregnancies. The prevalence of pulmonary TB in Indonesia is still high, it can be assumed that the frequency in women was high. An estimated 1% of pregnant women suffer from pulmonary tuberculosis. Case in Lampung based on reports of Communicable Disease Program and Family Health in 2014 the discovery rate of tuberculosis in pregnant women amounted to 50.01%[5-6], while tuberculosis in pregnant

women in Metro City, constituted about 3 cases.

Research conducted by Narayan et al, 2009 on the effects of extrapulmonary tuberculosis TB, showed that tuberculosis in spleen effect on pregnancy, labor and the products of conception. Tuberculosis during pregnancy have a higher risk of hospitalization by 21%, infants with low Apgar scores immediately after birth by 19%, low birth weight (<2500 grams) of 3%. Risk is also increased in the fetus, such as abortion, fetal growth inhibition, premature birth and the occurrence of TB transmission from mother to fetus through the amniotic fluid aspiration (called congenital TB).[2-7]

Based on the description of the background above, researchers are interested in doing research about relationship on the nutritional state with the incidence of pulmonary tuberculosis in pregnancy in pregnant women in Midwife Clinics on District of South Metro Metro City 2016.

METHOD

This study is a qualitative research use observation with a descriptive approach. This study consisted of the independent variable is the quality of life, as well as the dependent variable pulmonary tuberculosis in pregnancy.

Subjects were informants will be asked information about the object to be studied. The informants including husband, parents, parents in-laws, brother, sister, or people who are in the same home environment. The objective of the study is to establish the quality of life of pregnant women who have tuberculosis with a focus on finding out how a pregnant woman manages herself, both physiological and psychological preparation towards.

Data was collected through in-depth interviews, and focus group discussions (FGD) with the help of tape recorders and interview guidelines.

The sampling procedure in this study is based sampling theory, or based on the operational construct (theory- based/operational construct sampling). Selection of survey respondents are based on certain characteristics, the husband, in-laws or parents. The number of respondents of this study is three.

The analysis methods used in qualitative research through several stages of the organization of data, coding and analysis, testing of the allegations, strategy analysis and interpretation phase. The analysis process can involve concepts that emerged from the answers or the respondent's own words (indigenous concept); therefore the interview guide has been prepared to be able to answer research questions.

RESULTS

After in-depth interviews, the quality of life for pregnant women who had pulmonary tuberculosis, was depicted in a number of aspects as discussed below:

5. Physical

Physical is a situation that reflects the feelings of someone like discomfort, fatigue, pain, sleep satisfaction, drug dependence, daily activities and ability to work.

Based on the interview about the extent to which the mother felt the pain in their daily activities:

> "..... Now I've not trade any more, because all of the body starts to ache, pain, rub a little taste, I rarely take a nap, and now for a long course I've helped with my son

mothers who are junior class 3. I am more slept “(Pregnant woman 1)
“..... Thank God, for my daily activities still I can do, if you asked me, is it pain, I never feel pain or anything so ... from the beginning I did not work. For day and night sleep it was normal, was not disturbed ..... “(Pregnant woman 2)

Based on the results of in-depth interview, the three Pregnant women already understood the meaning of pulmonary tuberculosis and say that there is no family history of both the mother and the babies who had had pulmonary tuberculosis, it can be seen from the excerpts results of indepth interview by one of the pregnant women as follows :

“..... Infectious diseases and attacks the lungs. My family and my husband are no one ever suffered from tuberculosis ..... so I confused where my mother contracted and by whom. “(Pregnant woman 3)

The results of in-depth interview shows that tuberculosis experienced mother was known at the time of pregnancy and there is also a mother who was already suffering from tuberculosis since childhood. As expressed by pregnant women who already suffer from pulmonary tuberculosis since childhood:

“..... of ten my brother, only me who is suffering from tuberculosis as a child, my mother said the little time I was coughing but not heal ..” (Pregnant woman 1).

Based on interviews mother had to conduct examination in the clinic, such as those delivered by one of the pregnant women:

“..... it turned out after being examined by the midwife of this pregnancy I suffered from tuberculosis and I had to undergo treatment, the midwife said that treatment need for 9 month .... first I was scared, but because it is for me and my son so that we can be healthy again I went through the treatment ..... “(Pregnant woman 2).

The pregnant women had varying experiences with compliance on anti-pulmonary tb drugs. As indicated by their responses, the frequency of taking the drugs varied, poor compliance and this led to replase in some cases as shown in the responses below:

Mom 1: “..... yes I got .... in the beginning I drink it when I’m relapse, if not I do not drink, now diligently I take the medicine.
Mother 3: “.....it’s given .... I drink it if I remember .....”

One of the three pregnant women said that the dangers would be experienced by the mother with pulmonary TB would have an impact on the mother and the baby, such as those delivered by one of the pregnant women, namely:

“..... I am afraid my son’s handicapped especially it’s my first pregnancy. The midwife said I may miscarry this pregnancy and my baby was born later could not normal, low birth weight and even the most impact I fear is death. “(Pregnant women 2)

Of the three pregnant women who experienced pulmonary tuberculosis, mother did not work, only As a housewife and their educational backround is high school, it is drawn from the interview:

Mother 1: “..... ordinary housewife, children were 4 still small mom .....”

".... My husband also works odd jobs. I am married already two times mom, my first husband died struck by lightning, this is my second husband. Sometimes just finished a day laborer, which is important is children are still in school. I treated follow BPJS mom .... "
Mother 2: "..... I just a housewife mom, the additional work I watch my mother shop" "..... my mother house is near, at least just one kilo of my house, a grocery shop mom ... ... "
"..... Yes ..... day sometimes the husband's income of 50-100 thousand ..... at least, it's pretty can create a shopping to side dishes .... . "
Mother 3: "..... yes ordinary housewife mom ...."
"..... Yes surely be pleased if got money, my husband is odd factory, while my son was in 6th grade, soon entered junior high school."

6. Psychological

A state of mind of someone with a sense of negative thinking, how does one enjoy life, the way of thinking, concentrating, appearance and self-esteem.

Of the three pregnant women, after the interview, all addressing the disease with sincerity, but sometimes they are often shrouded by negative thoughts. This is illustrated by the results of indep interview as follows:

Mom 1: "..... I surrender with my illness mom, this may be my own way and twist. But I sometimes like to think if I die and my children was a little ..... "
Mom 2: "..... Well it's a destiny mom, all must be received.. but sometimes I like to think, what I have wanted to die. If I do not ? how the children .... "

Based on interviews about the appearance Mother and satisfaction with the current state of the mother

Mother 1: "..... All my clothes become so small mom ... so now I'm not thinking about the appearance again. Satisfied or not, I am also confused, if asked satisfied or not. If I say I do not satisfied his lack of gratitude .so I just let them, exhausted increasingly getting my dismay, my illness is getting relapse ... So I do not want the stress thinking out of that ...

All Women experience and feel the anxiety with her pregnancy, but she said it was ready for delivery, and in good condition during pregnancy. It appears from the results of indepth interview as follows:

Mother 1: "..... I scared mom, let alone my illness I have long suffered. Two of my children have not yet checked what they are infected or affected by tuberculosis ..... "
"..... I will immediately check my child who will be born, hopefully not infected, I could also just a normal birth."
Mother 2: "..... sometimes if thinking about that I afraid mom, afraid about my son. Hopefully after I finished taking this medication I could negatively. Amen ..... "
"..... wrote my plan I would be born in the midwife mom..... inshallah me and my baby is healthy."
Mother 3: "..... fear does not mom, only misgivings wrote ... God willing, I am ready ...."
Of the three Pregnant women only one person who has experienced further complications, because of a disease that has suffered before pregnancy, even since childhood.
".... Efflorescence in pulmonary lung specialist doctor said the mother. My pulmonary valve was also hit, my body is now a lot of bumps, and yesterday I just do endoscopy ..... "

7. Social

The operational definition of social is a state of concerns interpersonal relationship; sexual life and social support someone.

All pregnant women say that she is suffered pulmonary tuberculosis, husband and her family are very concerned and attentive to her. This is illustrated by the results of indep interview as follows:

> Mother 1: "..... My husband do not change mom , since the beginning marry me already knew that I was suffering from tuberculosis. My husband always reminded when it's time I had to control ..... "
> Mother 2: "..... Every I pregnant control with the midwife or clinics my husband followed me, even my husband who prefers wondering the same midwife."
> Mother 3: "..... My husband always drove me to the clinic to take the package of drugs in health centers ... in fact myself actually been lazy, but my husband like mad if I do not following schedule control"

Based on the results of interviews about what happened to sexual relation during illness and relation with surrounding society or with a neighbor, showed as below:

> " .....Alhamdulillah husband understanding mom, occasionally ask me love, but it was not a normal routine. My body ached if weighted-overlap, so the husband also likes affection to me. My neighbors are good mom, I wrote often assisted, they never excommunicate me .... "(Pregnant women 1)
> "..... in sexuality it's does not problem mom, justthe frequency are already rare. If with my neighbor not a problem, they still accepted me well, children too often assisted with my neighbors. (Pregnant women 2).

8. Environment

Environmental described as state security, availability of information, the environment and shelter, access to health services, resources and transportation

Pregnant women who experience pulmonary TB get information from the midwife, with the results of the interview:

> "..... After me to be suffering from tuberculosis during this pregnancy, I was given an explanation on the prevention, treatment and how the treatment by the midwife ...." (Pregnant women 3)

Pregnant women who experience pulmonary TB is also implementing what has been the midwife described, with the results of the interview:

> "..... Yes mom .... I apply what has been described. (Pregnant women 3)

Pregnant women who were interviewed said that the source of funds is self-financing and they have followed BPJS, transportation that belongs as well to treatment is a motorcycle with private ownership. As the results of the interviews, namely:

> Mother 1: "..... of BPJS mom, I'm a member .... moreover I've had frequent endoscopy. Treated my husband delivered by the motor, and thank God the motor itself ..... "

Mother 3: "..... my husband's is diligently pay BPJS ..., I was delivered by motors mom, and thank God its already has own."

Of the three pregnant women who were interviewed said that during pregnancy nutritional state decreased and dietary little effect. As the results of the interviews, namely:

Mother 1: "..... midwife said that my nutritional state is low, if I are relapse I lazy to eat mom ....."
Mother 2: "..... yesterdayshe told me that I KEK (chronis malnutrition) mom, malnutrition said the midwife. If my daily diet is normal ..... "
Mother 3: "..... My nutrition is less said the midwife, my daily diet not much changed mom, just like normal ...."

From the results (Focus Group Discuss) FGD addressed to the nearest person obtained the following results:

9. Physical

FGD results, it can be concluded that the husband knew his wife had pulmonary TB, it's danger for mother and child. From this is evident from the following interview excerpt:

"..... Yes mom, the midwife said my wife was in contact with TB ....." (husband 1)
"..... Worried about miscarriage, premature baby ..... I know mom, even can to death" (husband 2)
Even the mother family's says that she has been detected from the baby because of a cough that does not heal, the family expressed no history, and the only mother who was suffering from tuberculosis. (Informant 1)

Based on the results of focus group discussions, the husband said that she routinely undergo treatment, and always take medication although they sometimes have to be reminded, and for pregnant mother appeared thinner although diet has not changed much. This is apparent from the quotations FGD results, namely:

"..... Routinely mom, Among drug out I certainly again. Drink the medicine that they like to forget sometimes remind us that nag. I pity mom, pregnant body but really getting thin, but diet not change much anyway, just the usual ..... but i do not know why even thinner now. "(Husband 1)
"..... I am afraid, my wife and my children see why." (Husband 2)

10. Psychological

FGD results, the husband said that his wife was worried and anxious about her pregnancy, and husband said he would accompany her as will birth later. This is apparent from the quotations FGD as follows:

"..... Sometimes she likes to cry mom ... scared child will be see why. Surely I'll stay with her mom .... "
This is also supported FGD another informant that his aunt:
".... Yes, sometimes crying, worried. Surely her husband will accompany him. "

11. Social

FGD generally very supportive husband and attention to the mother during pregnancy. It appears from the results of FGD ?? as follows:

"..... Yes my mom always delivers at the time of control and pregnancy check. But this pregnant is a bit fussy, many worried, especially if relapse recurrent .... "(husband 3)

Another informant said the husband always gave the attention and affection on her. Husband attitude did not change even remind Mom to take medication and receive state Capital gracefully. (Informant 2)

12. Environment

From FGD result, the husband said using BPJS as a source of funds, and has a form of motor transport to drive his wife to the health service, it appears from a quotation in FGD as follows:

"..... BPJS mom, let alone my wife had frequent endoscopy. For Treated, I driving my wife with a motor, and the motors has own ..... "
Mother 3: "..... my mother who paid BPJS ..., I was delivered by motors mom, and thank God its already has own."

CONCLUSION

The results of qualitative analysis can be concluded that the overall quality of life for pregnant women who have pulmonary TB did not experience significant interference. Studies using the WHOQOL-BREF instrument shows consistent results, in which the psychological domain is a major contributor to the overall quality of life experienced by pregnant women with pulmonary tuberculosis.

BIBLIOGRAPHY

1. Supriyo, dkk, 2011, Jurnal Kesehatan, Pengaruh Perilaku dan Status Gizi terhadap kejadian TB paru dalam kehamilan di Kota Pekalongan
2. Lely, 2007, http://www.blogspot.com Pregnancy and Tubercolosis, Jakarta, diakses tanggal 11 Maret 2016
3. Kompas, 2007, http://www.kompas.com.tanya.kehamilan, Prevalensi TB paru di Indonesia, Jakarta
4. Kementerian Kesehatan RI, Badan Litbangkes, 2014, Profil Kesehatan, Jakarta
5. Dinas Kesehatan Kota Metro, 2015, Profil Kesehatan Lampung tahun 2014, Lampung
6. Dinas Kesehatan Propinsi Lampung, 2015, Profil Kesehatan Lampung tahun 2014, Lampung
7. Djitowiyono, 2008, http://www.blogspo.com. Tuberkulosis kehamilan, Jakarta, diakses tanggal 14 Maret 2016
8. Nursewia, 2012, http://www.leovea.coment, Penyakit TBC pada kehamilan, Jawa Tengah, diakses tanggal 11 Maret 2016
9. Arifin, Laily, 2014, http://www.medind.mic.onibrt, Kehamilan dan Tuberkulosis, Jakarta, diakses tanggal 7 Maret 2016-03-14
10. Narayan, dkk, 2009, http://proquest.umi.com/pqdweb. Efek TB dalam kehamilan, Jakarta
11. Sulfaras, 2012, http://www.blogspot.com.kehamilan.tanya, TB paru dalam Kehamilan, diakses tanggal 8 Maret 2016
12. Prawirohardjo, Sarwono. 2008. Ilmu Kebidanan. Jakarta: Yayasan Bina Pustaka

O-05

THE EFFECT OF *PIPER BETLE LINN* LEAF INFUSA IN PERINEAL WOUND HEALING IN PRIVATELY PRACTICING MIDWIVES

Ana Kurniati*

*Health Polytechnic of Health Ministry of Yogyakarta

ABSTRACT

Perineal injury as a result of an episiotomy or spontaneous rupture was an area that should be preserved and cared for keeping them clean. One way of suture perineal wound care was using the infusion of betel leaf (*Piper betle Linn*). Betel leaf contain a substance as an antiseptic and disinfectant that serves to reduce the infection in the wound. The aim of this study was to determine the influence of betel leaf infuse (*Piper betle Linn*) to heal postnatal maternal perineal wound. The method of this study was experiment with pre-post design with control group design. The dependent variable was healed perineum stitches time. It was be measured with a REEDA scale (Redness, edema, ecchymosis, Discharge, Approximation). The independent variable was the provision of betel leaf infusa the perineum stitches. The sample in this study were 40 people, and it were consisting of two groups. One group was spontaneous vaginal postnatal mothers who experience spontaneous perineal laceration stage II of labor and perineal suturing was done by a smear or cleaned with betel leaf infusion and the other group was postnatal mother who got standard caring. Samples were selected in this study are affordable populations that met the inclusion and exclusion criteria, and it was analysed using *Mann-Whitney* Test. This study showed that the time of wound healing maternal perineal stitches with REEDA scale based on treatment group with betel leaf infusa was cured in the third day as much as 15%, it was 70% in fifth day and it was 85% in seventh day. The conclusion of this study there was differences time cured of postnatal maternal perineal stitches. The cured time perineal wound caring with betle leaf infusa treatment was more faster than the time cured of perineal care postnatal maternal perineal stitches without betel leaf infusa treatments.

Keywords: betel leaf infusa (*Piper betle Linn*), perineal wound healing

Background

Pregnancy and childbirth was a tremendous boon for every woman who experienced it. Childbirth was a natural process, but it often caused traumatic problems and could increasing maternal morbidity and mortality. Childbirth would cause trauma to the mother, either physical trauma or psychological trauma. Physical trauma such as perineal laceration was something that the most commonly experienced of women during spontaneous vaginal delivery especially at first childbirth would cause short-term problems and long-term. Perineal pain was effected on the first days and weeks of postnatal perode.[1,2]

It was about 85% of women who delivered spontaneously vaginally experienced perineal trauma, they were 32-33% women with episiotomy and they were 52% with spontaneous laceration. It was approximately ¾ of which require suturing the perineum to aid in healing tissue. Perineal lacerations would have increased if the delivery did manipulation in the form of artificial birth with forceps, vacuum, and also aid breech deliveries. To help the healing process of suturing perineal laceration as the main action must be done according to the conditions that occured. The part of perineal wound must be considered carefully because it was based on the reports that the proportion of women experiencing postnatal got perineal pain.[1,3]

Persistent health problems was found in women who experience spontaneous perineal tear or episiotomy was performed, complained of perineal pain increased, decreased sexual satisfaction after childbirth, and delayed sexual activity. The causes of maternal mortality in postnatal was highest puerperal infection and genital infection was a complication during childbirth. Post partum mothers who suffered wounds perineum were very susceptible to infection, because the perineal wound that was not maintained will greatly affect the wound healing of the perineum.[4]

The incidence of infection due to rupture of the perineum was still high, covering the perineal wound has not completely closed on the seventh day post partum, it was with serous discharge and redness. This was due to lack of care and need nutritional patterns that could affect wound healing. The perineal wound made discomforts impacts for postnatal mother. Factors that affect the wound healing of the perineum was the pattern of nutrition, mobilization, personal hygine, aseptic treatment and drug-factor obatan.[5]

Perineum injury either as a result of episiotomy and spontaneous rupture was a guarded and cared area for keeping them clean by washing the wound with an antiseptic solution. Perineal wound healing was the improving perineal wound with the formation of new tissue that covers the perineal wound in a period of 6-7 days post partum. Maternal perineal wound caring was useful to relieve discomfort, keep clean, prevent infection and speed wound healing sewing, closed perineal wound with the treatment of the vulva. Java community habit used betel leaves decoction for cleaning the vulva/pubic in the postnatal period has lasted for generations.[6,7]

According to the research, or piper betle Linn was one of the plants that efficacious as an antiseptic. The use of traditionally usually by boiling the water and then betel leaves decoction was used to rinse or clean other parts of the body, or betel leaves were crushed and then placed it on the wound. The content of the betel leaf essential oil were consisting of hydroxy kavikol, kavibetol, estargiol, eugenol, metileugenol, karvakrol, terpenes, sesquiterpenes, fenilpropan, and tannin. Karvakrol is disinfectant and antifungal when it was used as antiseptic.[8]

Betel leaf extract has been developed in several dosage forms eg toothpaste, soap, mouthwash because of his antiseptic. Preparations juice, infusion, extracts of betel leaf was had antibacterial activity against gingivitis, plaque and caries. The research concludes that the levels of 25% of betel leaf extract in the preparation in antiseptic gel was capable of eliminating all the microorganisms in palms. Based on this, the betel leaf extract can be developed to be applied topically in the treatment of wounds and betel leaves can be easily grown and acquired in the community. Researchers interested in conducting research wound care stitches perineal on postpartum mother by using a betel leaf in mothers who gave birth in a midwife practice independently. This study aims to determine the effect of the use of betel leaf infusa for the treatment of stitches in the perineum during childbirth injury.

Method

The method of this research was experiment with the form pre post design with control group design. The dependent variable was long healed perineal stitches. The independent variable was the provision of betel leaves infusa to the perineum stitches. The population in this study was the mother of postnatal. The population was affordable postnatal mothers who gave birth at four places privately practicing midwives in the area of Kulon Progo Yogyakarta and it was conducted from June to September 2016. The sample in this study were spontaneous vaginal postnatal mothers who experience spontaneous perineal laceration stage II of labor and has performed suturing perineal cleaned with betel leaf infusa and standard care. Samples were selected in this study were affordable populations that met the inclusion

and exclusion criteria. Inclusion criteria of this study were mother with spontaneous vaginal postnatal that were not anemic, was helped midwife the criteria DIII midwife educated and experienced more than 5 years of practice, has performed suturing technique as subcuticular baste techniques or interrupted transcutaneous on the perineum. The exclusion criteria in the study was mothers who experienced birth complications, women who undergo artificial birth, history of pelvic or genital infections, and home addresses unreachable research.

Sampling technique was done by sampling consecutive admission to the research subjects delivered in 4 places privately practicing midwives, it was based on a patient who came and met the inclusion criteria until it was met the number of samples. The division of the sample was determined by dividing the subjects into two study groups: group I was the postnatal mother with spontaneous laceration perineal stage II of labor who have carried out the technique suture stitch as subcuticular or interrupted and did wound care stitches perineum with care standards and betel leaf infusa, and group II was postnatal mothers with a spontaneous perineal laceration degree II has done with suturing technique as transcutaneous subcuticular and interrupted by a midwife and did perineal stitches with standard care without the betel leaf infusa.

Minimum sample size was on level of 95% and 80% of power test, and it was obtained 18 subjects for each group. For anticipation of the samples drop out, the number of samples was added 10%, so that the sample for each group was 20 subjects. This research was conducted in June through September 2016 in Independent Practice Midwives in Kulon Progo Regency, Yogyakarta. The tools that used in this study were a questionnaire to obtain data on the characteristics of the respondent and betel leaves infusa on level 25% with ingredients of betel leaf over the age of 4 months as much as 50 grams of washed under running water and then cut into pieces and added with distilled water as much heat as 100 ml, then heated in water bath for 15 minutes then filtered and obtained water infusa was clear and it was used to lubricate or to clean stitches perineum after each wipe from the first day after birth until the seventh day (used to clean the wound sutures of perineal on pubic area for 2 times a day). Each patient was given sterile gauze, towel and 100 ml betel leaves infusa, it was packaged in bottles disposable.

Spontaneous perineal laceration wound healing stage II made by examining the perineum using REEDA Scale form that contains five items, namely examination perineal wound healing Redness, edema, ecchymosis, discharge, and approximation. The characteristics data collection of this study that was included age and education, parity, and treatment with betel leaves infuse the perineum using data collection forms. Spontaneous perineal laceration wound healing stage II made by examining the perineum using REEDA Scale form that contains five items, namely examination perineal wound healing Redness, edema, ecchymosis, discharge, and approximation.[9]

Data analizing that used in this research was the analysis univariable, to see the distribution of frequencies and percentages of the variables studied, the subject characteristics such as age and education, parity, independent variables (administration stitches perineum to infuse betel leaf and standard treatments stitches perineum), Data analysis using SPSS for Windows version 18.0 which includes descriptive and inferential analysis. The descriptive analysis in the form of mean and standard deviation, percentage or proportion. The inferential analysis using the Mann-Whitney Test.

Result

The Subject Characteristics in this study were include the age and maternal education and parity, it was presented in Table 1. :

Table 1. Distribution of Respondents by Age and Education

The Groups	Treatment with betle leaves infusa		Treatment without betle leaves infusa	
	n	Percent	n	Percent
Age				
20-35 years	15	75%	15	75%
>35 years	5	25%	5	25%
mean	30.25		33	
range	20-40		24-41	
Education				
Basic	7	35%	8	40%
Secondary	13	65%	12	60%
Parity				
1	5	25%	2	10%
2-3	15	75%	18	90%
mean	2.1		2.15	
range	1-3		1-3	

Based on table 1 shows that the majority of subjects aged were 20-35 years in both groups, with an average age in the group of perineal wound care stitches with betel leaves infusa 30.25 years and in the treatment group perineal suture without betel leaf infusion is 33 years old, the level of education of the subjects both groups largely secondary education around 60% -65%. Parity in both groups of subjects mostly second and third bore children with a range of child labor first and most give birth to a third child.

Table 2. Comparison of Wound Healing Stitches Postnatal Perineal Based on Betel Leaves Infusa Treatment and Without Betle Leaves infusa Treatment

The Day	Perineal Wound Healing Based on REEDA Scale	Treatment with Betle leaves infusa n= 20	Percent %	Treatment without Betle leaves infusa n= 20	Percent %
1	Good	-	-	-	-
	Less good	20	100%	-	-
	Bad	-	-	20	100%
3	Good	3	15%	-	-
	Less good	17	85%	3	15%
	Bad	-	-	17	85%
5	Good	14	70%	-	-
	Less Good	6	30%	5	25%
	Bad	-	-	15	75%
7	Good	17	85%	2	10%
	Less good	3	15%	16	80%
	Bad	-	-	2	10%

Based on table 2 shows that the sutures perineal wound healing on the first day based on the REEDA scale was seen in the treatment group stitches perineum with betel leaves infusa as much as 100% was unfavorable, the treatment group without betel leaves infusa as much as 100% was bad. The third day seen in the treatment group perineal stitches with betel leaves infusa as much as 85% was less good and the treatment group perineal stitches without betel leaves infusa as much as 85% of the subjects was bad. The fifth day seen in the treatment group perineal stitches with betel leaves infusa as much as 70% was better and the treatment group perineal stitches without betel leaves infusa as much as 75% was worse. The seventh day seen in the treatment group perineal stitches with betel leaves infusa as much as 85% was better and the treatment group perineal stitches without betel leaves infusa as much as 80% was unfavorable.

Based on the table 2 that there was longer recovery time for postnatal maternal perineal stitches based on REEDA scale that the betle leaves infusa groups treatment with the most rapid cured was on the third day as much as 15% of the subjects, on the fifth day that there was 70% of the subjects and the seventh day was 85% of the subjects.

Table 3. Analysis of The First Healing Day of postnatal Based on Wound Care Stitches with the Betle Leaves infusa and Without Betle Leaves Infusa

Variabel	n	Mean Rank	Sum of Ranks	ρ Value
Treatment without Betle leaves infusa	20	30.50	610.00	0.000
Treatment with Betle leaves infusa	20	10.50	210.00	

Based on table 3 showed that there was a difference cured time between the healing perineal sutures wounds with betel leaves infusa treatment group and without betel leaves infusa treatment group on the first day with the Mann-Whitney Test analysis showed the ρvalue = 0.000 (α <0.05).

Table 4. Analysis of The Third Healing Day of postnatal Based on Wound Care Stitches Perineal healing with the Betle Leaves Infusa and without Betle Leaves Infusa

Variabel	n	Mean Rank	Sum of Ranks	ρ value
Treatment without Betle leaves infusa	20	28.72	574.50	0.000
Treatment with Betle leaves infusa	20	12.28	245.50	

Based on table 4 showed that there was a difference between the time of perineal sutures heal wounds with betel leaves and infuse treatment without betel leaf on the third day with the Mann-Whitney Test analysis showed the ρvalue = 0.000 (α <0.05).

Table 5. Analysis of The Fifth Healing Day of postnatal Based on Wound Care Stitches Perineal healing with the Betle Leaves Infusa and without Betle Leaves Infusa

Variabel	n	Mean Rank	Sum of Ranks	ρ value
Treatment without Betle leaves infusa	20	28.95	579.00	0.000
Treatment with Betle leaves infusa	20	12.05	241.00	

Based on table 5 shows that there was a difference cured time between the perineal sutures heal wounds with betel leaves infusa treatment group and without betel leaves infusa group on the fifth day with the Mann-Whitney Test analysis showed that the ρvalue=0.000(α<0.05).

Table 6. Analysis of The Seventh Healing Day of postnatal Based on Wound Care Stitches Perineal healing with the Betle Leaves Infusa and without Betle Leaves Infusa

Variabel	n	Mean Rank	Sum of Ranks	ρvalue
Treatment without Betle leaves infusa	20	28.15	563.00	0.000
Treatment with Betle leaves infusa	20	12.85	257.00	

Based on table 6 shows that there was a difference cured time between the perineal sutures heal wounds with betel leaves treatment group and without betel leaves treatment group on the seventh day with*Mann-Whitney* Test analysis showed the value of p = 0.000 (α <0.05)

Discussion

Based on the results of this research with the *Mann Whitney* analysis showed that the ρ value = 0.000 (α <0.05), which means that there was a difference between the average length of cured stitches perineum with betel leaf infusa (*Piper betle Linn*) was shorter or quicker recovery compared with standard treatment.

The results of this study were consistent with the results of the research in Surabaya on study effectiveness gel formulation antiseptic hand extracts of betel leaf (*Piper betle Linn*) that extract gel betel leaves have antiseptic power, gel formulation with higher levels of betel leaf extract 15% able to reduce microorganisms in the palm of the hand up 57%, while the extract concentration 25% were able to eliminate all microorganisms. This was in accordance with the tradition of the people who frequently use betel leaf as a medicinal plant to stop bleeding, ulcers, itching and rinse your mouth.[10]

Betel leaves (*Piper betle Linn*) has many substances that were beneficial to health. Betel leaves contain active compounds, especially essential oils, essential oils it contains 30% phenol and its derivatives. The phenol compound had antibacterial activity and also as antifungal and antioxidants so that when it was used as a treatment by the application of the wound would be able to speed up the drying and healing of the perineum stitches on postnatal mothers and prevent infection. This research was resulted that postnatal mothers who cared with betle leaves infusa for perineal stitches were dry faster and lokhea odorless and reduced pain.[8,10]

The results of suturing could be cause ecchymosis (bruising) or edema. Mother that got an pain experienced may be due to hematoma as bleeding in the tissues, causing distension. The healing perineal process and discomfort that arises also because of the increased of circulation in the area of tissue laceration. Therefore essential examination during the postnatal perineum. Although suturing technique had no effect on wound healing of the perineum, but during the healing process of tissue reaction generated would be looked.[11]

Suturing perineal laceration aims to made closed the wound edges, so that the time required for the formation of scar tissue faster. Suturing perineal laceration healing takes place in three stages, phases of inflammation, proliferation and maturation. In the perineal suturing expected primary wound healing occurs, granulation tissue that occurs was a little and within 10-14 reepitelisasi normally have occurred. The results of this study found that the first day of postnatal good approximation wound, the wound was closed to prevent the onset of infection. Open wounds perineal skin with a distance of less than 3 mm was found at postnatal day 3 in both groups and a greater percentage of healing on a betel leaf infusion group.

The Java community habit was used betel leaf decoction to clean the vulva/pubic in the postnatal period has lasted for generations. The contents of the betel leaf essential oil were consisting of hydroxy kavikol, kavibetol, estargiol, eugenol, metileugenol, karvakrol, terpenes, sesquiterpenes, fenilpropan, and tannin. Karvakrol was a disinfectant and antifungal that it was used as an antiseptic.[8] The contents of eugenol in the betel leaves could prevented premature ejaculation, eradicated the fungus Candida albicans and it was an analgesic that can reduce pain in the perineum stitches. The content of betle leaves were karvakrol disinfectant and antifungal nature so that it could be used as an antiseptic to prevent infection such as vaginal discharge caused by the fungus Candida albicans.

Piper betle Linn is a tropical plant closely related to the common pepper. It is extensively grown in Sri Lanka, India, Malaysia, Thailand and other Southeast Asian countries. It has been historically known as traditional herb used as mouth wash, dental medicine, cough medicine, astringent, tonic and others. Several researchers have reported that betel extract and betel oil showed antimicrobial and antioxidant activities in model systems. *Piper betle L* is reported for various pharmacological activities such as antimicrobial, antioxidant, antimutagenic, anticarcinogenic, antiinflamatory. Hydroxychavicol is the major phenolic component, extract of betel leaf has been reported to possess antinitrosation, antimutagenic, anticarcinogenic activities. Other useful properties include antiinflamatory, antiplatelet and antithrombotic without impairing haemostatic functions.[12,13]

The results of this research was consistent with research on Pharmaceutical Magazine 164, the research conducted with the test method (replica method). Betel leaf gel extract was containing an antiseptic. The preparation of betel leaves with levels ranging from 15% have the ability to reduce 57% of microorganisms on the palms, the content of betel leaf extract 25% able to eliminate all the microorganisms in the palm of the hand. Antiseptic power contained in the betel leaf extract gel with content levels of 15% have antiseptic gel together with the preparation of ethanol, and the content levels of 20% and 25% have antiseptic gel formulation together with triclosan. The ability of essential oils as a free radical. The liveliness of the class of compounds which function as antiradikal as flavones, flavanones, squalene, tocopherols, carotene, vitamin C, and others. Betel leaf was used to treat canker sores, sore throat, oral cancer, and others. It made the betel leaf was indicated as an anticancer agent, where in the cancer would show

when normal cells were damaged, causing mutations ganetik, the cause of damage to the DNA of normal cells which are free radicals and carcinogenic substances. This caused free radicals can react with proteins, lipids, carbohydrates or DNA that ultimately lead to cancer, premature of aging, inflammation, coronary heart disease, and others. That was necessary antioxidants that are capable of reacting with free radicals.

Perineal laceration was the most frequent trauma experienced by a mother, especially in the first delivery. Perineal lacerations that occur spontaneously was not expected to cause tears wider. Midwives as one birth attendants should be able to do suturing perineal laceration to the second degree. Good wound healing (good wound healing) or unfavorable (insufficient of perineal wound healing) can occur in both groups. Cleanliness perineum was very important for the healing of the wound so that the subject has also been given counseling about perineal care in both the treatment group with betel leaf infusa or without the betel leaf infusa, but what about the cleanliness or the way wound care stitches perineal any research subjects can not be observed directly by researchers.

Based on the results of this study can be summarized as Characteristics of postnatal mothers in the treatment group with betel leaves infuse the majority aged 20 to 35 years and the majority of secondary education, and parity 2-3, the treatment group without betel leaves infusa the majority aged 20 to 35 years, the majority of secondary education and parity 2-3. Long healed stitches postnatal maternal perineal REEDA scale based on treatment groups with the most rapid cured of betel leaf infusa was on the third day as much as 15%, on the fifth day that was 70% and the seventh day was 85%. The time healing in postnatal maternal perineal stitches were taken care of betel leaves infusa was faster than the perineal care postnatal maternal perineal stitches without betel leaf infusa treatments.

SUGGESTION

1. Wound healing of the perineum with betel leaves infusa need to be done taking into account the time and other factors that influence in order to describe the condition of postnatal.
2. The results of this study can be developed as a reference for more extensive research in order to obtain the maximum benefits for the welfare of mothers with postnatal use of betel leaf as a natural medicinal plants for the treatment of postnatal perineal stitches so as to reduce pain in puerperal particular wound healing stitches perineum.

REFERENCE

1. Henderson C, Bick D. Perineal care: an in international issue. London: Cromwell Press; 2005.
2. Watanatitan J, Armarttasn S, Manusirivithaya S. Incidence and factors associated with postpartum perineal pain in primipara. Thai J ObstetGynaecol. 2009;17:139-44.
3. Sohail S, Abbas T, Ata S. Comparison between synthetic vicryl & chromic catgut on perineal repair. Medical Channel. 2009;15(2):48-50.
4. Morano S, Mistrangelo E, Pastorino D, Lijoi D, Costantini S, Ragni N. A randomized comparison of suturing techniques for episiotomy and laceration repair after spontaneous vaginal birth. Journal of Minimally Invasive Gynecology [serial online]. 2006; 13(5): 457–62 [diunduh 5 November 2010]. Tersedia dari: http://www.obgyn.ubc.ca
5. Bobak, L.J, 2005, Maternity nursing, edisi 4, Jakarta: EGC.
6. Oxorn H, Forte WR. Obstetrics pathology and physiology of childbirth. Yogyakarta: Andi

Offset; 2010.
7. Angsar MD. Perlukaan alat-alat genital. Dalam: Wiknjosastro H, Saifuddin AB, Rachimhadhi, [penyunting]. Ilmu kandungan. Edisi ke-2. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo; 2008. hlm. 410-11.
8. Sari R, Isadiartuti D. Antiseptic activity evaluation of piper leave from Piper betle Linn extract in hand gel antiseptic preparation. Majalah Farmasi Indonesia, 17(4), 163-169, 2006
9. Calvert S, Fleming V. Minimizing postpartum pain: a review of research pertaining to perineal care in childbearing women. Journal of Advanced Nursing, 2000, 32(2), 407-415
10. Parwata IMOA, Rita WS, Yoga R. Isolasi dan uji antiradikal bebas minyak atsiri pada daun sirih (Piper betle Linn) secara Spektroskopi Ultra Violet-Tampak. Jurnal Kimia 3 (1), Januari 2009: 7-13
11. Fleming VEM, Hagen S, Niven C. Does perineal suturing make a difference? The SUNS trial. BJOG: an International J Obst Gynaecol. 2003;110:684-9
12. Suppakul P, Sanla-Ead N, Phoopuritham P. Kasetsart Journal.(Nat.Sci)40(Suppl.): 91 – 100 (2006)
13. Ali I et al. In vitro antifungal activity of hydroxychavicol isolated from Piper betle L. Annals of Clinical Microbiology and Antimicrobials. 2010, 9:7. http://www.ann-clinmicrob.com/content/9/1/7

O-06

CORRELATION BETWEEN CHARACTERISTICS AND PREGNANCYRISK USING POEDJI ROCHJATI'S SCORING CARD

Heni Puji Wahyuningsih[1], Yuni Kusmiyati[2], Lusiana Anggraini[3]

[1,2]) henipujiw@gmail.com, Lectur of Poltekkes Kemenkes Yogyakarta, Jalan Mangkuyudan MJ III/304 Yogyakarta 55143.

ABSTRACT

Maternal mortality due to inadequate handling delivery complications, deaths can be prevented and avoided. Early detection is important for predicting pregnancy complications that may occur so it can be caught early risk factors that develop in gestation further. This study aimed to determine the correlation characteristics of mothers with risk pregnancies with a screening PoedjiRochjati's Scoring Card. This type of research is observasional with cross sectional design. Sample is pregnant women in Sewon II community Health centers. Sampling techniques thatsaturated the entire population of 60 pregnant women in April 2015. Data in the form of primary data collected by direct questionnaire, the results were analyzed with chi square. This study showesd that the majority of women classified as high-risk pregnancy. There are association between age (p = 0.000), parity (p = 0.040), spacing pregnancies (p = 0.034), obstetric history (p = 0.001), and history of disease (p = 0.021) with the level of risk of pregnancy. There is no relationship between the level of education (p = 0.510) and employment status (p = 0.203). From pregnancy screening indicate that the majority of high-risk mothers need a referral system and proper planning of delivery for pregnant women at Sewon II community Health centers. In conclusion, there is aassociation between age, parity, spacing of pregnancy, obstetric history, history of disease with risk pregnancy.

Keywords: characteristics, pregnancyrisk, PoedjiRochjati's Scoring Card

Background

Maternal Mortality Rate (MMR) became one of the important indicators of public health degree. Target achievement of the Millennium Developmental Goal's (MDG), namely reducing the MMR to 125 per 100,000 live births in 2015. According to PoedjiRochjati every minute of every day, somewhere in the world, one person died due to complications of childbirth. Indonesia's MMR is still very high. A total of 228 mothers die in every 100,000 live births. This condition is cemented Indonesia as one of the countries with the highest MMR Asia, the 3rd highest in the ASEAN region, and the 2nd highest in the SEAR region. Until the year 2012 Indonesia's commitment to the MDG's are still very far from the target, because it is based on the data IDHS 2012 Indonesia's MMR would rise to 359 per 100,000 live births.[1]

Mc Carthy and Mine (1992) describes the determinants of proxy / close maternal mortality are complications during pregnancy, childbirth, and postpartum while determinant between covering health status, reproductive status, access to health services, and healthy behaviors.[2] Most of the maternal deaths a tragedy that could have been prevented, avoided, and requires the attention of the international community. Maternal mortality caused by handling delivery complications were inadequate. Birth complications can occur in all pregnant women and is a manifestation of maternal risk factors that could cause a risk / hazard on childbirth.[3] While the variables associated with obstetric complications include birth attendants, parity, demeanor, pregnant complications prior history, and the place of delivery. [4]Mother's education level will affect the mother's level of

knowledge. The higher the person's level of knowledge, will allow a person or people accessing health information.[5] People who work have a mindset that is more extensive than that does not work it is influenced by a better social interaction so as to enhance the level of knowledge or experience and more exposure health information.[6]Information a woman to conceive and give birth or have a child is determined by the readiness of the three things: physical readiness, mental, and social readiness / economics. Pregnant women at the age less than 20 years and more than 35 years have an increased risk for complications 5.117 times of the aged 20-35 year.7 mothers with high parity, or more than 4 higher risk of obstetric complications is greater than the parity. [4] Spacing pregnancies also contribute in increasing the risk of pregnancy. Mothers with gestational distance of less than 2 years of 16.512 times the risk of obstetric complications compared with a distance of more than 2 year.[7] mothers who have abnormalities at birth had a 25.0 times greater risk for maternal deaths occur compared to no birth defects. Who have a history of the disease have a mortality risk 25.4 times greater than those without a history of disease.[8]

Efforts are being made to prevent the occurrence of complications is to increase the coverage of antenatal care, then all pregnant women are given care and antenatal screening with Score Card PoedjiRochjati (SCPR) for the early detection of pro-active, ie recognize problems that need to be wary and find early presence danger signs and risk factors in pregnancy risk factors that can be found growing in gestation more lanjut.3 Early detection of symptoms and danger signs during pregnancy is the best effort to prevent serious disruption of the mother's pregnancy safety.[9]

Data from Bantul Health Profile 2014 above, the rate of maternal mortality in Bantul in 2013 increased compared to the year 2012. In the year 2013 amounted to 96.83 / 100,000 live births that a number of 13 cases, whereas in 2012 amounted to 52.2 / 100,000 or 7 cases. In 2013 PHC Sewon II, Kretek, Displays, and Pleret accounted for the largest mortality in Bantul. SewonPuskesmaas region II is relatively closest to the referral facility because it was in town. The approximate number of pregnant women with complications of pregnancy in Community health center of Sewon II was ranked the 5th largest in Bantul.[10]

This study aimed to determine the correlation characteristics of the mother is the level of education, employment status, age, parity, spacing of pregnancy, obstetric history, and history of disease-risk pregnancy in pregnant women.This study aims to determine the relationship of maternal characteristics such as age, parity, spacing of pregnancy, obstetric history, and history of disease to the level of risk of pregnancy using PoedjiRochjati's Scoring Card.

Method

This type of research is analytic survey with cross-sectional design. This research samples using sampling techniques saturate the entire population in this study were pregnant women during their pregnancy in Community Health CenterSewon II In April 2015 the number of 60 people. This research was conducted at Community Health CenteSewon IIBantul. The variables studied were the level of risk of pregnancy and maternal characteristics consist of educational level, employment status, age, parity, spacing of pregnancy, obstetric history, and the history of disease. The research instrument used was a questionnaire directly with PoedjiRochjati'sScoring Card. In this study, the data is taken directly from the respondent (primary data) consisting of age, parity, employment status, pendidikan, spacing of children, and a history of previous deliveries and secondary of KIA book form data from antenatal care including medical history. Data processing methods, namely scoring, coding and tabulating. Univariate data analysis using the chi-square with Confidence Interval (CI) of 95% ($\alpha = 0.05$).

Result

Analysis ofthe correlation betweenthe incidence women withobstetric complicationsusing thechi-square shows the resultsas shown in Table1.

Table1.Correlation between Characteristics Mother Pregnancy Risk Level Scoring Card Poedji Rochjati on Pregnant Women

Variable	Category	PregnancyRisk Level						Total		x^2	*p*
		VHRP		HRP		LRP					
		F	%	F	%	F	%	F	%		
Level Of Education	Not Schools	0	0	1	100.0	0	0	1	100	5.268	0,510
	Basic	6	26.1	12	52.2	5	21.7	23	100		
	Intermediate	6	19.4	12	38.7	13	41.9	31	100		
	Height	1	20.0	1	20.0	3	60.0	5	100		
Job Status	Not Work	10	27.0	17	45.9	10	27.0	37	100	3.185	0,203
	Work										
	Bekerja	3	13.0	9	39.1	11	47.8	23	100		
Age	≤16 Or ≥35 Years	9	52.9	8	47.1	0	0	17	100	19.087	0,000
	17-34 Years	4	9.3	18	41.9	21	48.8	43	100		
Parity	Nulliparous	4	28.6	4	28.6	6	42.9	14	100	13.182	0,040
	Primiparity	4	13.3	13	43.3	13	43.3	30	100		
	Multiparas	3	21.4	9	64.3	2	14.3	14	100		
	Grandemultipara	2	100.0	0	0	0	0	2	100		
Distance Pregnancy	≤2or≥10Years	4	50.0	4	50.0	0	0	8	100	6.746	0.034
	>2-<10 Years	9	17.3	22	42.3	21	40.4	52	100		
Obstetric History	Abortion	1	50.0	1	50.0	0	0	2	100	27.079	0.001
	PullPliers/ Vacuum	0	0	2	100.0	0	0	2	100		
	Manual Plasenta	0	0	0	0	0	0	0	100		
	Infusion/ Transfusion	0	0	5	100.0	0	0	5	100		
	Caesarean Section	4	100.0	0	0	0	0	4	100		
	Nothing	8	17.0	18	38.3	21	44.7	47	100		
History of Disease	Anemia	6	31.6	11	57.9	2	10.5	19	100	11.579	0.021
	Malaria	0	0	0	0	0	0	0	100		
	Pulmonary Tuberculosis	0	0	0	0	0	0	0	100		
	Heart Trouble	0	0	0	0	0	0	0	100		
	Diabetes	1	100.0	0	0	0	0	1	100		
	Pms	0	0	0	0	0	0	0	100		
	Preeclampsia	0	0	0	0	0	0	0	100		
	Nothing	6	15.0	15	37.5	19	47.5	40	100		

Table1 shows five maternal characteristics such as age, parity, spacingof pregnancy, obstetric history, andhistory of diseasehave a relationship($p < 0.005$) with the levelof risk of pregnancy.

DISCUSSION

Correlation Characteristics Mother Pregnancy Risk Level

Level of Education

This research shows the majority of mothers with primary education and school is not high and very high risk in pregnancy, while women with low risk pregnancies majority of secondary education. From these data it can be seen the higher the risk of pregnancy more and more mothers with low education. From the results of this study also showed most mothers with higher education levels classified as low-risk pregnancy. However, in this study did not prove a relationship between level of education and the level of risk of pregnancy with p> 0.05 is equal to 0.510 and 0.284 for koefien contingency is low. Previous research has theory or mother's education level affect the level of knowledge of the mother, the higher the person's level of knowledge, will allow a person or the public access healthy information.[5] Lack of knowledge will have an impact on decisions maternal health services. Results of this study are not consistent with the theory, this is because the possibility of the influence of other factors on the health information obtained mother.

Job Status

This study shows that mothers during their pregnancy in Community health center of Sewon 2 in April 2015 most mothers did not work and classified as high risk and very high in pregnancy. While women with low risk pregnancies majority of the work. However, in this study did not prove the relationship between the status pekkerjaan-risk pregnancy with p> 0.05 is equal to 0.203 and 0.225 for koefien contingency is low. People who work have a mindset that is more extensive than that does not work it is influenced by a better social interaction so as to enhance the level of knowledge or experience and more exposed to health information.[6] These results are not in accordance with this theory, it is possible by factors other than work that is not counted as keleaan and so forth.

Age

Readiness of a woman to conceive and give birth or have a child is determined by the readiness of the three things: physical readiness, mental, and social readiness / economics. Pregnant women at the age less than 20 years and more than 35 years have an increased risk for complications 5.117 times of the aged 20-35 year.[7]Pregnant too young age of less than 16 years and are older than 35 years are more at risk than pregnant women in age 17-34 years because it was feared effect on organ maturation and possible exposure to the disease is higher than that of pregnant mothers in health reproductive age.[3]Addition pregnancies too young are also vulnerable to changes in maternal emotional and easily shaken so that the resulting lack of attention to her pregnancy, Pregnancy in older age also have a negative impact in terms of decreased endurance so that when parturition is not strong fear when push. In addition of course the function of reproduction is no longer able to bear a pregnancy resulting in the occurrence of uterine contractions are inadequate to cause bleeding and even death. According to the theory above, this study suggests women with high risk pregnancies occur in the majority (52.94%) mothers were pregnant at age ≥35 years, while mothers with low and high risk pregnancies majority aged between 17-34 years. Mothers with low-risk pregnancies were classified as no-risk age. Chi-square test results showed no significant relationship between age and level of risio pregnancy with p = 0.000 and 0.491 contingency coefficient

indicates the level of relationship is. This shows the age of the mother at risk of becoming one of the manifestations of the risk of pregnancy. Therefore, the age factor should be realized by all the mothers so planning pregnancy should be carefully thought out and planned that in healthy reproductive age. Mother's age at risk of more than 35 years must be planned carefully place and birth attendants even if necessary referral to hospital. It should be highlighted for health professionals that people still do not fully understand about the life of healthy pregnant and pregnancy planning is in the reproductive age, the child should be presented early information about reproductive health so as to minimize a pregnancy at a young age and too old. Additionally fragment family planning be a solution to minimize gestational age is too old.

Parity

Parity indicates the status of maternal childbirth. Nulliparous or women who have never given birth are more at risk because of not knowing the problems / complications in the pelvis, the mother's ability to push, as well as other complications, while grandemultipara or mothers with high parity> 4 have the risk of decline in organ function which lead to complications of pregnancy and childbirth, such as bleeding, uterine rupture, diabetes, and the other. [3] Mothers with high parity, or more than 4 higher risk of obstetric complications is greater than the parity. [4] In accordance with the above theory, this study shows that women with high risk pregnancies occur in women who gave birth to more than four times the amount of 100%, whereas mothers who had not delivered evenly in a low risk, high, and very high. Chi-square test results showed <0.05 is 0.04 so it can be concluded parity proved to be strongly correlated with the level of risk of pregnancy. Contingency coefficient shows the number 0.424 means that the level of relationship that proved only achieve moderate category. Therefore expected to mothers at risk as never before delivery could be dealt with better obstetric care or referral to health facilities are better, while the mother is at risk at high parity can be reduced or prevented by family planning (FP).

Distance Pregnancy

Spacing pregnancies also contribute in increasing the risk of pregnancy. Mothers with gestational distance of less than 2 years of 16.512 times the risk of obstetric complications compared with a distance of more than 2 year.7 Distance pregnancy now with pregnancy previously £ 2 years or ≥ 10 years are more at risk than the spacing pregnancies now with a previous pregnancy> 2 years or <10 years. This is because too soon pregnant again allow for complications such as contraction inadequate, uterine rupture, hemorrhage, and so forth because the reproductive organs are not yet fully returned in their original condition or the body is not optimal anymore to get pregnant and give birth, while the distance is too long too risky lead complications such as inadequate contraction due to decreased organ function and the inability mengejan.3 According to the theory, this study suggests women with high-risk pregnancies occur in the majority (66.67%) of mothers with pregnancy spacing <2 years. It is also evident from the results of the chi square test is 0.034 so that it can be concluded within the pregnancy proved strongly correlated with the level of risk of pregnancy. However, contingency coefficient indicates the number 0.318 means that the level of relationship that is evident in the low category. Therefore expected to mothers at risk for poor pregnancy spacing should be addressed in an adequate facility in order to minimize further complications or in other words referred to a planned to a higher facility as well as increased health promotion

kemasyarakat regarding family planning and birth control must be given kemasyarakat.

Obstetric History

Mothers who have abnormalities at birth had a 25.0 times greater risk for maternal deaths occur compared to no birth defects.[8]Mother with bad obstetric history are more at risk than women who have never had obstetric history includes failed pregnancy (abortion), never childbirth with forceps pull / vacuum, uridirogoh never given birth, had given birth were given infusions / transfusions and caesarean section ever. This is because the possibility of complications of pregnancy and childbirth is greater, such as mothers who have given birth to the uridirogoh, gave birth to a vacuum, forceps and caesarean section feared not being able to push, contraction is inadequate, even allowing for spontaneous labor. In accordance with the theory in this study mothers with pregnancy very high risk experienced by all mothers with a history of caesarean section (100%), women with high-risk pregnancy experienced by all mothers with a history of strain forceps / vacuum and with the infusion / transfusion (100%), whereas low-risk mothers nobody has a bad obstetric history. It is also reinforced by the results of the chi square test so that it can be concluded that 0,001 obstetric history proved to be strongly correlated with the level of risk of pregnancy. However, contingency coefficient indicates the number 0.558 means that the level of relationship that is evident in the medium category. Therefore expected to mothers with a history of poor obstetric more attention and getting an adequate labor planning with referral to a hospital with better facilities so that if any complications can be dealt with immediately.

Disease History

Pregnant women with a history of both diseases who are suffering or have suffered from before pregnancy include anemia (anemia), malaria, pulmonary tuberculosis, heart failure, diabetes (diabetes), Sexually Transmitted Diseases (STDs), and preeclampsia light more at risk than women A healthy. In accordance with the theory in this study showed mothers with high-risk pregnancy experienced by women who experienced anemia was 64.71% while the capital with very high risk occurs in women with diabetes by 100%, while women with low risk of pregnancy no one has history of disease. It is also reinforced by the results of the chi square test so that it can be concluded that 0,021 strong proven history of disease associated with the level of risk of pregnancy. However, contingency coefficient indicates the number 0.402 means that the level of relationship that is evident in the medium category. Dangers that can occur in case of anemia, among others died fetal death, preterm birth (gestational age <37 weeks), prolonged labor and postpartum hemorrhage.[3] Mothers who have a history of the disease have a mortality risk 25.4 times greater than those not have a history of disease.[8] Most mothers with a history of experiencing anemia it is at risk of bleeding during childbirth, fetal death, premature delivery, as well as the development of the child in the womb less than optimal due to lack of oxygen supply, because with early detection can determine maternal complications since early so there is no delay even in some cases the condition can be corrected if handled properly. With early detection of maternal disease early in pregnancy can overcome the disease that does not cause further complications as well as on cases that can not be repaired can be planned further action, while mothers with new health problems detected in late pregnancy is expected to be referred to receive delivery care adequate , right, and adequate. Diseases such as anemia when it is detected early on it can still be improved by improving nutrition, while cases of diabetes mellitus can be better

planned regarding nutrition, weight control infants, as well as best delivery process.

Conclusion

Most of the women classified as high-risk pregnancy and very high. There is a significant association between maternal characteristics such as age, parity, spacing of pregnancy, obstetric history and the history of disease-risk pregnancy. Maternal characteristics that are safe for pregnancy is the age, parity, spacing of pregnancy in a range that is not at risk, and no obstetric history and the history of disease.

Suggestion

Results ofthis research canbe usedtotake the policyinpromotivetoraise public awarenessabouthealthy pregnancies. Midwives are expected to facilitate the planning ofthe mother in labor and appropriate referralin accordance with the level of risk of the mother as well as improving preventive measures to educate the public about healthy pregnancy. Researchers further recommended conducting research with observation or inspection directly to the ANC not only direct in quiry and observation of data so that the data obtained subjectively better quality and accurateas well as add ing other characteristics such associoeconomic involving respondent's family.

REFERENCE

1. Badan Pusat Statistik, Badan Kependudukan dan Keluarga Berencana Nasional, Kementerian Kesehatan, dan ICF International. *Survey Demografi dan Kesehatan Indonesia 2012*. Calverton Mayland USA: BPS dan Macro Internasional, 2012
2. Saifuddin, AB. *Ilmu Kebidanan Sarwono Prawirohardjo*. Jakarta: PT. Bina Pustaka Sarwono Prawirohardjo, 2009
3. Rochjati, Poedji. *Skrining Antenatal pada Ibu Hamil*. Surabaya: Airlangga University Press, 2011
4. Huda, Nurul Lasmita. "*Hubungan Status Reproduksi, Status Kesehatan, Akses Pelayanan Kesehatan dengan Komplikasi Obstetri di Banda Sakti,Lhokseumawe Tahun 2005"*. 1:6(2007): 276-278.
5. Riyanto, Agus. *Statistika Deskriptif (untuk Kesehatan).* Yogyakarta: Nuha Medika, 2013
6. Soekanto, Soerjono. *Sosiologi Suatu Pengantar*. Jakarta :PT. Raja Grafindo Persada, 2006
7. Edyanti, Deal Baby. "*Faktor pada Ibu yang Berhubungan dengan Komplikasi Kebidanan*". 3:1(2014): 1-7.
8. Sarwani, Dwi, dan Nurlaela S. "Analisa Faktor Kematian Ibu (Studi Kasus di Kabupaten Banyumas)".2009. 2 Februari 2015 <http://kesmas.unsoed.ac.id/sites/default/files/fileunggah/jurnal/ANALISIS%20FAKTOR%20RISIKO%20KEMATIAN%20IBU-1.pdf>
9. Adriaansz, George. *Ilmu Kebidanan Sarwono Prawirohardjo*. Jakarta: PT. Bina Pustaka Sarwono Prawirohardjo, 2009
10. Dinkes Kabupaten Bantul. *Profil Kesehatan Kabupaten Bantul Tahun 2014*. Yogyakarta : Dinkes Bantul; 2014

O-07

EFFECT OF WARM COMPRESS AND AROMATHERAPY INHALED *PEPPERMINT* TO DECREASE THE INTENSITY OF PAIN MENSTRUATION (DYSMENORRHEA)

Tri Maryani, Dwiana Estiwidani

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email: sahabatbidanyk@gmail.com, estiwidani@yahoo.com

ABSTRACT

Teenagers is marked by biological changes that menstruation often causes discomfort or pain in the lower abdomen is called the menstrual pain. Giving a warm compress can dilate blood vessels there by increasing local flow which results in relaxation. Giving aromatherapy positive effect that stimulates sensory receptors which in turn affects other organs that can cause powerful effects on emotions. Knowing the effect of warm compresses and inhaled peppermint aromatherapy to decrease the intensity of dysmenorrhoea. This pre-experimental study design (one group pre-post test design). The research subject is the entire junior high school student who experience menstrual pain (dysmenorrhoea) in Junior High School Pundong 1 Bantul Yogyakarta. Subjects were given a warm compress explanation of the procedures and the provision of aromatherapy. All procedures were performed by the respondents themselves. Measurement of pain scale using the Visual Analogue Scale (VAS). The data was analyzed by paired sample T test. Respondents before treatment experienced menstrual pain of moderate intensity and light and after being given the whole treatment decreased pain in the lightweight category. The mean pain intensity decreased before 3.7 and after 1.05. The test results using the T test showed p value of 0.0001 ($p < 0.05$), which means there is the effect of warm compresses and inhaled peppermint aromatherapy to decrease the intensity of dysmenorrhoea. There is the effect of warm compresses and inhaled peppermint aromatherapy to decrease the intensity of dysmenorrhoea.

Keywords: Warm compres, aromatherapy inhalation peppermint, intensity of dysmenorrhoea, girls

INTRODUCTION

Adolescence (puberty) is a period of transition from childhood to adulthood where there is growth spurt (growth spurt), and the relative has not yet reached the stage of maturity mentally and socially so that they have to deal with emotional distress and social conflict. World Health Organization (WHO) declared adolescence begins in children who have reached the age of 10 to 18 years, while according to the MOH is between 10-19 years and unmarried. At that time many changes both psychologically and biologis[1].

Changes in biological development marked by the start of menstruation (periods). Menstruation is the process of bleeding from the uterus lining of the uterine wall with fragments in adult women occur periodik[2]. At the time of or before menstruation, women often experience discomfort in the lower abdomen is called menstrual pain (dysmenorrhoea). There are two types of dysmenorrhoea, namely primary and secondary dysmenorrhoea. The type of dysmenorrhea often experienced by adolescents is of primary dysmenorrhea menstrual pain found no abnormalities in the genital tools real.

Primary dysmenorrhoea usually occur simultaneously or some time after menarche usually after 12 months or more, because of menstrual cycles in the first months after

menarche generally anovulatory manifold that is not accompanied by pain. The pain arises shortly before or together with the onset of menstruation and can last several days. The nature of pain are spasms, convulsions usually confined to the lower abdomen but can spread to the waist and thighs[3].

The incidence of dysmenorrhea in the world is very large. An average of more than 50% of women in every country experiencing dysmenorrhoea[4]. Dysmenorrhoea incidence in the United States an estimated 45-90% cover: 12% severe pain, 37% moderate pain, mild pain 49%, which resulted in 14% of girls do not attend school. The incidence of dysmenorrhoea in Indonesia in 2010 amounted to 64.25% comprising 54.89% primary dysmenorrhoea and 9.36% secondary dysmenorrhoea[5].

Research Cakir M, Bieniasz, and Michael (2009), found that dysmenorrhea is menstrual disturbances with the greatest prevalence (89.5%), followed by menstrual irregularities (31.2%), as well as the extension of the duration of menstruation (5.3%). In the assessment of the research conducted in Surabaya in 2011 the prevalence of dysmenorrhea varies between 15.8 to 89.5%, with the highest prevalence in adolescents. Chung-Hey Chen, Yin-Hui, Margaret and Kun-Ming (2006), stating that the pain during menstruation is a disease of women who used to be a problem because it can recur in the short term, causing absenteeism at school for teens.

How to cope with menstrual pain (dysmenorrhoea) can be done with pharmacologic and non-pharmacologic therapies. Pharmacologic therapies include administration of analgesics, hormonal therapy, non-steroidal drugs prostaglandin and dilatation of the cervical canal. While non-pharmacologic therapies include warm compresses, regular exercise, aroma therapy and massage, relaxation techniques, and consuming beverages asem turmeric[6]. Pharmacologic therapy is very risky, because of the side effects of these drugs when used freely and repeatedly without medical supervision. Aromatherapy has a positive effect because it provides a fresh aroma, fragrant, stimulates the sensory receptors which in turn affects other organs that can cause powerful effects on emotions. The aroma is captured by receptors then the receptors will alter the odor into electrical impulses transmitted to the brain and affect parts of the brain associated with mood (mood), emotions, memory and learning. It also provides information to the hypothalamus which is the regulatory body's internal systems, including the system of sexuality, body temperature and reaction to stres[7].

Based on the above background, it is necessary to do some research to find a replacement therapy in non-pharmacologic safer than therapeutic pharmacologic to overcome the problems of dysmenorrhoea, such as herbal therapy, therapeutic supplements, acupuncture, behavioral therapy and aroma therapy so that researchers interested in conducting research with the title: The influence of warm compresses and aromatherapy inhalation pappermint to decrease the intensity of menstrual pain (dysmenorrhoea) in adolescent girls in Junior High School 1 Pundong Bantul Yogyakarta.

This study aimed to determine the effect of warm compresses and aromatherapy inhalation pappermint to decrease the intensity of menstrual pain (dysmenorrhoea) in adolescent girls in Junior High School 1 Pundong Bantul Yogyakarta

METHODS

This study was designed to pre-experimental approach (one group pre-post test design). The population in this study were all female student at Junior High School 1 Pundong Bantul Yogyakarta. The sampling technique in this study using techniques nonprobability sampling. Subjects were taken by purposive sampling with criteria. Variable

treatment that warm compresses and peppermint aromatherapy inhalation and impact variable is the intensity of menstrual pain (dysmenorrhea). Warm compresses in this study was performed at the time of compressing the perceived pain before menstruation is the first or two by using the hot pot filled with warm water at 45-50^{o} C to as 600 cc (3/4) with a wrapped towel , compressing for 20 minutes with a central location below or waist. Aromatherapy is a way to reduce pain by using essential oils of peppermint which steam is inhaled by using aromatherapy furnace for 15-20 minutes. The intensity of menstrual pain is the degree of pain experienced before menstruation or at the beginning of the time period. The pain intensity measured 2 times that: prior to the warm compresses and peppermint aromatherapy inhalation and after treatment for 20 minutes, measured right at the 20th minute by using the Visual Analog Scale (VAS) scale with range 0-10. Univariate analysis expressed in terms of average, minimum value, maximum value and frequency distribution. Before the test will be conducted bivariate analyzes data normality with the Kolmogorov-Smirnov test. Subsequent analyzes using paired sample T test analysis.

RESULTS

The study was conducted for 3 months ie June-August 2016 in Junior High School 1 Pundong Bantul Yogyakarta by the respondent amounted to 40 students of class VIII and IX. Here is presented the research results as a whole:

Characteristics of Respondents

Table 1.
Characteristics of Respondents based in Junior High School 1 Pundong Bantul Yogyakarta

Characteristics	n	%	Mean
Age of menarche			
≥12 years	34	85	12
< 12 years	6	15	
Total	40	100	
Duration of menstruation			
≥6 days	32	80	6
< 6 days	8	20	
Total	40	100	
Regularity			
Regular	31	77.5	
Irregular	9	22.5	
Total	40	100	

Based on Table 1, note the vast majority (85%) of respondents experienced menarche (first menstrual period) at the age of over 12 years with a duration of menstruation majority (80%) over 6 days with menstrual patterns mostly have regular (77.5%).

On average respondents had experienced menarche (first menstrual period) at the age of over 12 years. This is consistent with the theory Wiknjosastro (2005) which states that menarche is a sign of the beginning of the sexual maturity around the age of 13 years. The duration of menstrual respondents on average six days, it is still classified as normal, according to the

theory Wiknjosastro (2005) which states long menstruation usually 3-5 days, 1-2 days later there followed a little blood, and there are up to 7 -8 days. Most respondents had regular menstrual cycles (28-35 days) and only a small portion is not regular. These irregularities may be caused by hormone levels at the age of children or adolescents who have not been balanced, fatigue, psychological and nutrisi imbalance, but it is not explored further in this study [3].

The intensity of dysmenorrhoea

Menstrual pain intensity was measured before and after the warm compresses and aromatherapy using the Visual Analog Scale (VAS) at a scale of 1 to 10. The results of the overall measurement is presented as follows:

Table 2.
Distribution of respondents based on the intensity of dysmenorrhoea in Junior High School 1 Pundong Bantul Yogyakarta

The intensity of dysmenorrhoea	Pretest		Posttest		Pretest		Posttest	
	N	%	N	%	Mean	SD	Mean	SD
Lightweight	18	45	40	100	3.7	1.091	1.05	0.904
Average	22	55	0	0				
Heavy	0	0	0	0				
Total	40	100	40	100				5

Based on Table 2, note the respondents experiencing menstrual pain of moderate intensity and light and after being given the whole treatment decreased pain in the lightweight category. The mean pain intensity decreased, ie before and after 1.05 to 3.7

Before being treated most respondents feel menstrual pain scale medium and light. It said the scale was because while some respondents felt the sizzle of menstrual pain, grinning but still can indicate the location of pain, describe the pain felt and was able to follow orders well. While the scale of said light because the current study respondents expressed the pain but still able to good communication[8].

In primary dysmenorrhoea the pain started with the onset of menstruation or just before menstruation and survive or persist for 1-2 days. Pain is described as spasmodic and spread to the back of the upper thigh or the back or middle. Common symptoms that often occur malaise (malaise), fatigue, vomiting, diarrhea, lower back pain, headaches, and sometimes vertigo[9]. Dysmenorrhoea problem is a disease that women commonly occur in obstetrics because it can recur within a short time, causing students are not present at the school. Pain response at every person is different which is influenced by many factors. One of the dominant factors that influence pain response is the age of the individual. Age is closely related to the maturity level of a person's thinking. Increasing age, a person's level of knowledge and experience will also be increase[10]. Factors cause of the majority of respondents experiencing pain in the scale of being, probably due to age factor for respondents in this study is still relatively age children.

Effect of Warm Compress and Aromatherapy Peppermint with Intensity of dysmenorrhoea

Before the test the influence of warm compresses and peppermint aromatherapy with menstrual pain intensity then first tested the normality of the data by the Kolmogorov-Smirnov test. The test results obtained an average intensity of menstrual pain 3.70 before treatment and

1.05 after treatment with p value is obtained respectively 0.113 and 0.051 (> 0.05) so that it can be concluded the data were normally distributed. Therefore, further testing using the T test.

Table 3
Analysis of T-Test Results Effect of warm compresses and aromatherapy on Intensity of dysmenorrhoea in Junior High School 1 Pundong Bantul Yogyakarta

Group	n	Mean	Std. Deviation	t	*p-value*	CI (95%) Lower	Upper
The intensity of dysmenorrhoea before-treatment after treatment	40	2,650	1,075	15,585	0,0001	2,306	2,994

Based on Table 3, it is known that the perceived intensity of menstrual pain before and after treatment the average of 2.65 (scale of light). Results of T-test showed that the average intensity of pain before and after treatment was statistically have significant differences with p value of 0.0001 (p <0.05).

The results showed after being given a warm compress treatments and aromatherapy peppermint all respondents had experienced mild pain scale and the mean pain intensity decreased. From the statistical test no influence warm compresses and inhaled peppermint aromatherapy to decrease the intensity of menstrual pain. This is according to research Vonny (2013) which states that a warm compress can reduce pain intensity on a student dysmenorrhoea. Besides giving a warm compress and aromatherapy is a non-pharmacological ways to deal with menstrual pain. Respondents were given a warm compress on the abdomen while experiencing menstrual pain will experience the relaxation of the muscles and reduces pain caused by spasm or stiffness as well as provide a sense hangat[11].

The working principle of a warm compress using hot jar wrapped in a cloth that is by conduction where the transfer of heat from the pot into the body so that it will cause dilation of blood vessels and will decrease muscle tension[10]. Relaxation made respondents self-control, stress and control emotions when feeling uncomfortable or painful. Respondents can change the perception of cognitive and affective motivation to do relaxation and imagination, or in other words distract from the pain that will be felt menstrual pain diminished or disappeared.

The principle of a warm compress using hot jar wrapped in a cloth that is by conduction where the transfer of heat from the pot into the body so that it will cause dilation of blood vessels and will decrease muscle tension. Relaxation made respondents self-control, stress, and control emotions when feeling uncomfortable or painful. Respondents can change the perception of cognitive and affective motivation to do relaxation and imagination, or in other words distract from the pain that will be felt menstrual pain diminished or disappeared[9].

Aromatherapy is one of peppermint aromatherapy smells a lot like teenagers or children because it is not fragrant and resemble candy. Aromatherapy can reduce menstrual pain and prevent seizures. Once given aromatherapy peppermint all respondents reduced scale of the pain of the pain scale is becoming lighter. The workings of peppermint aromatherapy administered inhaled through the circulatory system and the olfactory system. The olfactory organ is the sense of taste in a variety of nerve receptors that relate directly to the brain. The aroma is a volatile molecule, when entered into the nose by breathing will be interpreted by the brain as the sense of smell. By inhalation portion of a molecule will enter the lungs.

Aromatherapy molecules will be absorbed by the mucous lining of the respiratory tract, either in the bronchi or the branches of subtlety (bronchiale) and gas exchange occurs in the alveoli. The molecule to be transported by the circulatory system to the lungs. Deep breathing will increase the number of aromatherapy in the body. The resulting odor response would stimulate the cells of brain neurochemistry. Neurochemical brain cells that would trigger an increase in pain-reducing hormone production resulting pain sensors decreased[13].

CONCLUSION

There is the influence of warm compresses and aromatherapy to decrease the intensity of dysmenorrhoea. The intensity of dysmenorrhoea prior to treatment includes moderate and minor scale. The intensity of dysmenorrhoea after treatment entirely included mild scale.

SUGGESTIONS

Head of schools can enter information in non-pharmacologic pain management menstrual local content lesson (through a management team of the school health efforts or UKS) so as to reduce menstrual pain or dysmenorrhoea and the number of students who leave teaching because of dysmenorrhoea.

REFERENCES

1. BPS. *Angka kematian Ibu meningkat .* Available at: http://www.bps.go.id accessed March 2, 2015.
2. Manuaba, I.B. *Obstetri Ginekologi.* Jakarta : EGC; 2009.
3. Mochtar. R. *Sinopsis Obstetri*. Jakarta : EGC; 2002.
4. Nichols and Helmick. *Chilbirth Education, Practice Research and Theory*, *2th* ed. Philadelphia London: WB Saunders; 2000.
5. Maurenne. *Birthing ball*; Available at: http://mynaturalchildbirth.org/birthing-ball/ accessed December 2, 2015.
6. Anderson. *Pain Rating Scales*.The University of Texas Cancer Center; 2001.
7. Kozier, Barbara, Erb. Glenora. *Fundamental of nursing : Consept, Process and Practise 8th* ed; Prentice Hall. USA; 2004.
8. Bobak, Lowdermik, Jansen. *Keperawatan Maternitas*. 4th ed. Jakarta : EGC; 2005.
9. Potter., Perry. A. *Buku Ajar Fundamental Keperawatan*. Jakarta: EGC; 2005
10. Mathew, A., Nayak, S &Vandana, K. A comparative study on effect of ambulation and birthing ball on maternal and newborn outcome among primigavida mothers in selected hospitals in mangalore. *Nitte University Journal of Health Science*. 2012; 2(2):2-5.
11. Rad, L.S., Jahanshiri, A. Effect of a period exercise during pregnancy on certain delivery parameters. *European Journal of Experimental Biology*. 2013; 3(2):78-85.
12. Hau, W.L., Tsang, S.L., Kwan, W., Man, L.S.K., Lam, K.Y., Ho, L.F., Cheung, H.Y., Lai, F.K., Lai, C.Y & Sin, WH. The use of birth ball as a method of pain management in labour. *HKJGOM*. 2012; 12(1):63-68.
13. Gau, M.L., Chang, C.Y., Tian, S.H & Lin, K.C. Effects of birth ball exercise on pain and self-efficacy during childbirth: a randomized controlled trial in Taiwan. *Elsevier*. 2011. 293-300.

O-08

THE EFFECT OF ASPHYXIA ON THE DEVELOPMENT OF CHILDREN

Yuni Kusmiyati[1], Isti Norviana[2], Heni Puji Wahyuningsih[3]

[1,3]Department of Midwifery, HealthPolytechnic of Health Ministry Yogyakarta, [2] Department of Midwifery,Gadjah Mada University, Yogyakarta.
Corresponding author: P yuni_kusmiyati@yahoo.co.id

Abstract

Children who surviv easphyxia may experience long-term morbidity. Asphyxia is a condition of air exchange disruption that occurs as a result of the failure to start and maintain breathing during birth.The aim of this study was to measure the development of children aged 2-4 years who were born with asphyxia. This studu was a retrospective cohort design studying preterm babies born in the period 2011-2013 in Dr. Sardjito Central Hospital Yogyakarta, Indonesia, was applied. Asphyxia was assessed based on positive pressure ventilation resuscitation status and APGARscore in the 5th minute, while children's development was assessed using Denver II test. Analysis used Logistic regression. This study showed that There were 60 child and primary caretaker pairs who participated in this research. Children born with asphyxia had a2.1 times (95% CI:1.01-4.04) greater risk of abnormal development compared children born without asphyxia. Asphyxia has a significant influence on abnormal development children after controlling for other factors. Therefore, it is expected that this result can be applied and implemented by clinicians to re-establish prevention programs for asphyxia by eliminating or minimizing risk factors, as well as programs of early stimulation for children with asphyxia.

Keywords: asphyxia, development, childrent

Background

Asphyxia is a condition of air exchange disruption that occurs as a result of the failure to start and maintain breathing during birth [1,2,3.] The incidence of asphyxia in developing countries is approximately 3% [1.] The assessment of asphyxia still varies, according to the NeonatalResuscitation Program(NRP), in which the evaluation of the newborn begins at birth. Therefore, it is recommended that the assessment of asphyxia broadened to incorporate the baby's resuscitation status [4,5.] Children who survive asphyxia may experience disruption to various organs, causing long-term morbidity and abnormal development[6,7.] Measuring their development post-asphyxia becomes important as a basic tool to plan, monitor and evaluate clinical interventions related to each child's health[8.]

The children age of under five is a golden age in range of the development of an individual. In this age, a child experiences the extraordinary growth and development, either from the side of physic, motoric, emotion, cognitive or psychosocial so that it is also called as a ctitical age[9]. The critical age is a period or step which determines the human quality in the age of future.[10] 80% of the brain growth happens in the golden era, if there is no a good treatment, so that in the future age can not be improved especially in the broken brain.[11]

Under 5-age is the sensitive time/periode, especially the growth and the development bacause it can affect the development for the future. In U.S. the disorder of the development is found on 12-16% of children population. A research in Indonesia showed that 20-30% under 5-age children experienced the growth disorder, most of them are on the lateness/delay in aspect of rough motoric and language.[11]Approximatelly, 16% 0f under 5-age children in

Indonesia experienced the growth disorder of nerve and brain, starting from light until heavy ones caused by pregnancy disorder, child-birth disorder and clash in the part of body/head in the time of birth-chlid.[12] The development of child pictured the measurement of individual's function maturity and it is an important indicator in evaluating the quality of children's life. Therefore, the child development have to be controlled periodically. Based on the background mentioned above, the further research needs to be done to prove the relationship between baby-birth and asphyxia towards the child development in the time of pre-schooling. Because of that, writer is interested to conduct the further research concerning about "The Effect of Asphyxia On the Development of Children".

Method

Indonesia is an archipelago. Children comprise the largest proportion of the population in Indonesia, at 33.9 percent or 82.6 million people. The largest distribution of children is those in the age range of 0-6 years, at 32.6 million[13]The Dr. Sardjito Hospital, is the central referral hospital. Babies born at this hospital who suffer from asphyxia represent approximately 5% of the total number of birth[14.]

This research used a retrospective cohort design. This study first determined the research population as all preterm born and living babies delivered at Dr. Sardjito Hospital in 2011-2013; these were divided into groups of children with asphyxia and without asphyxia. Children with asphyxia were defined by the administration of positive pressure resuscitation and an APGAR scoree of less than 7 in the 5th minute. Non-asphyxia was determined when the baby did not receive positive pressure resuscitation and the APGAR scoree in the 5th minute was between 7-10. Each subject was followed-up, by examining the children individually according to the address found in their medical records to measure their current development (at age 2-4 years).

Participants **o**f this study were 60 child and primary caretaker pairs who participated in this study.The population comprised all infants born at Dr. Sardjito Hospital in 2011-2013 who met the following inclusion criteria: preterm birth (gestation less than 37 weeks), no major or multiple congenital abnormalities, alive, and with a complete medical record. The exclusion criteria were: children who could not be found or who had died. The exposed group was the total sample of those esposed (30), while the non-exposed group was constructed by matching based on birth times close to those of the exposed group (30)

Data sources/measurement in this study was the exposure in this study was asphyxia. Data were obtained from Sardjito Hospital medical records for 2011-2013. The outcome was childhood development statusmeasured using Denver II. Denver II consisted of 4 dimensions: (soft motoric, hard motoric, language and personal social). The researched covariates and the variables possibly functioning as confounders were birth weight, nutrition status of children, parent's job, parent's education and the status social economic of parents. The possibility of bias was controlled using various methods. Selection bias was anticipated by choosing exposed and unexposed groups that filled the same criteria. In this study, blinding was performed for the data collection, in which the outcomes data were collected by people who were not aware of the exposure status of the children.

This study used the bivariate analysis used chi square tests, and the multivariate analysis used Logistic regression.The p-value of the likelihood ratio to the chi-square was used as a guide to the model's goodness of fit. All p-values were two-tailed and statistical significant level was set as less than 0.05. [15,16.]

Result

Data taking of asfixcia and non-Asphyxiababy was conducted in Dr. Sardjito Hospital on 16-18 th September 2015 and got 60 respondents, meanwhile to complete the data of the development of pre-schooling aged children was done by going home-visit on 19-28thSeptember, 2015. Home visit was conducted in city of Yogyakarta and regency of Sleman and got respondents of 22 for city of Yogyakarta and in regency of Sleman got total of 38 of pre-schooling children as many as the determined samples which have been calculated so that it was got the data as follows:

Subject Comparability

Tabel 1.Subject Comparability (Asphyxia vs. Non-Asphyxia Groups)

Variabel	N	(%)	Asphyxia		P-value
			Yes	no	
Birth weight					
< 1500	21	35	11	10	0,78
≥ 1500	39	65	19	20	
Mother Education					
Primary	42	70	23	19	0,26
Secondary	18	30	7	11	
Father Education	46	76,7	24	22	0,54
Primary	14	23,3	6	8	
Secondary					
Father Job	4	6,7	29	28	0,55
Unemployement	56	93,3	1	2	
Employement					
Economy status	10	16,7	8	2	0,03
Low	50	83,3	22	28	
High					
Nutrition status	29	48,33	17	12	0,19
Abnormal	31	51,66	13	18	
Normal					

Table 1 shows that majority (65%) of respondents of bitrh weight are ≥ 1500 gram. In the level of parents education majority of mother and father education are the primary school (70% and 76,7%). Meanwhile, majority of father education status having respondents (93,3%) have jobs. Further, family economy status, majority (83,3%) stay in the level of the have and for the respondents of nutrition satus, most of them (51,6%) have a normal nutrition status.

Table 2 Correlation between neonatorumasphyxia and the development of 2-4 year-aged children

Asphyxia	Development				P-value	95 % CI	RR
	Abnormal		Normal				
	n	%	n	%			
Asphyxia	24	80	6	20	0,001	1,31-3,60	2,1
No Asphyxia	11	36,7	19	63,3			

Table 2 shows that there is a correlation between Asphyxia and the development of 2-4 year-aged children. This is shown by p-value 0,001 < 0,05. RR is 2,1, meaning the respondents of born Asphyxiaexperienced the risk of abnormal development 2 times higher compared with the respondents that didn't experience the history of asphyxia.

Table 3 The Effect of asphyxia to the development of children based on the social, fine motor function, language and gross motor function

Asphyxia	Development				P-value	95 % CI	RR
	Abnormal		Normal				
	n	%	n	%			
Social/ Personal							
-Asphyxia	12	40	18	60			
- No Asphyxia	9	30	21	70			
Fine Motor function							
- Asphyxia	4	13,3	26	86,7	0,161	0,47-33,7	1,2
- No Asphyxia	1	3,3	29	96,7			
Language							
- Asphyxia	17	56,7	13	43,3	0,008	1,18-4,99	2,4
- No Asphyxia	7	23,3	23	76,7			
Gross motor functions							
- Asphyxia	11	36,7	19	63,3	0,005	1,33-22,7	5,5
- No Asphyxia	2	6,7	28	93,3			

Table 3 Shows that there is no correlation beetwenAsphyxiaand sosial personal and fine motor function development. There are relationship between Asphyxia and the language and gross motor functiondevelopment.

Table 4. The Effect of asphyxia and covariates on the development of children

Variable	Development of Children				CI 95%
	B	SE	P-Value	Exp(B)	
Asphyxia	0,75	0,37	0,04	2,11	1,01 - 4,40
Nutrition Status	0,62	0,39	0,11	1,86	0,85 - 4,04
Birth Weight	0,46	0,35	0,18	1,58	0,79 - 3,15
Mother Education	0,55	0,58	0,35	1,72	0,54 - 5,45
Economic Status	0,15	0,41	0,70	1,16	0,51 - 2,63

Table 4 shows that there is a correlation between Asphyxiaand the development of 2-4 year-aged children with RR value is 2,11, meaning the respondents of born Asphyxiaexperienced the risk of abnormal development two times (95% CI: 1,01 – 4,04) higher compared with the respondents that didn't experience the history of asphyxia.

Disccusion

Majority of respondence with the history of asphyxiaexperienced the growth disorder. The aspect of the growth disorder is the development of language and rough motoric up to intelligence. This happens because in the time of baby born experienced asphyxiaor stop beathing spontaneously at the same time the supply of oxygen to brain will be disturbed even stop so that brain can not work optimally, besides, combination of decreasing oxygen supply (hipoxia) and blood supply (iscemia) resulted in the change of biochemistry inside body which can cause the event of nerve cell death and brain disorder.[17] When brain doesn't get oxygen supply will cause several nerve vessels in brain experienced disorder so that it can cause the disorders ranging from rough motoric, fine motor function, until intelligence. This case is in accordance if asphyxiacan result in the bleeding of brain, brain damage, and then the lateness of growth. One of the risk factors existing motoric disorder on children is asphyxia. Asphyxiamay result in the severe brain damage. The severe brain damage makes the cognitive development come late, the motoric development be delayed, and cerebral palsy. [18]

The majority of baby born ≥ 1500 gram doesn't arise as main variable related with a child development but on baby that the majority are born ≤ 1500 gram will take the higher risk experiencing the growth disorder, this is, because of organ maturity which has not been perfect. The function of perpiration, urogenity, neurology have not been formed perfectly. The growth of nerve system mostly depend on the degree of maturity. In the lower weight of body, the centre of reflex is lack of development because of the weak nerve development, so that on the very small baby it is more difficult to wake up and to possess weak crying. It not only happens on the babyhood, this event wil also influence nerve system in the time of entering under five age, so that it causes the development disorders. The low baby born often suffers from bleeding of intraventricular caused by premature-born baby often suffers apneu, severe asphyxiaand syndrome of respiration disorder. As a result, baby becomes hipoxia and hiperapnoe can cause the blood vessels to brain is lessened so that the functions of brain are experiencing disorder too. In the age of pre-schooling a child with the history of the very low weight birth will experience the development disorder, especially in the aspect of rough motoric.[19]

The majority of children's nutrition is in the normal stage. The lack of giving nutrition will affect the function of body especially at the age of golden age. In this age, the growth of brain is very rapid, so it needs nutrition to help brain work. Nutrition is one of the important components in supporting on going process of the growth and development which becomes the needs to grow and develop during the growth period. States that nutrition is the most important thing in the growing process. As long as the growing process of pre-natal, the lack of nutrition will affect the growth at ovum implantation until giving birth and the quality of child development for the future. Nutrition also gives influences the birth weight of a child, in the time of pregnancy if the nutrition supply of mother is fulfiled, so the birth weight of a child will be optimum. Aspects of parents' education and economic status do not have the direct effect towards the child development.

Conclusion

There is a correlation between neonatorum asphyxiawith the development of 2-4 year-aged childern. Need efforts to prevent and early detection on childern with asphyxiaborn to prevent a toddler development.

References

1. World Health Organization. Safe motherhood basic newborn resuscitation a practical guide. Geneva,WHO;1997.p.4.
2. Health Technology Assessment Indonesia. Prevention and treatment of asphyxia nepnatorum. Jakarta: Ministry of Health of the Republic of Indonesia; 2008.p.4
3. Aslam,H.M.,Saleem,S.,Afzal,R., Iqbal, U., Saleem, S.M., Shaikh M &Shahid,N. Risk factors of birth asphyxia.*Italian Journal of Pediatrics*.2014;40;94.
4. Lyer, R. The APGAR score. *Pediatrics.* 2006; 118;1314.
5. ACOG & AAP. The APGAR score. *Pediatrics.*2006;117;1444-1447.
6. Thomson, A.J., Searle, M., & Russell, G. Quality of survival after severe birth asphyxia. *Archives of Disease in Childhood.*1977;52;620-626.
7. Morales, P.,Bustamante, D., Marchant,E.P.,Neira-Peña,T., Hernández,G., Castro,C.A&Mancilla,C. Pathophysiology of perinatal asphyxia: can we predict and improve individual outcomes? *The EPMA journal.* 2011; 2;211–30.
8. Petersen,S., Mavoa,H., Swinburn,B., Waqa,G., Goundar,R., & Moudie, M. Health-related quality of life is low in secondary school children in Fiji. *International Journal of Pediatrics.* 2012; 294-530.
9. Budirahardjo S. 2011. *The Golden Age*. Jakarta: Kompasiana.
10. Desmita. 2010. *Develoment Pshicology*. Bandung: Rosda Karya.
11. Nirwana Ade B. 2011. *The Pshicology of Baby, Toddler and Child. Jakarta*: Nuha Medika.
12. Ministry of Health of the Republic of Indonesia. 2010. *Guidelines for Handling of The Case of Abnormality Toddlers Growth*. Jakarta: Ministry of Health of the Republic of Indonesia.
13. The Ministry of Women's Empowerment and Child Protection and The Central Bureau of Statistics.The Profiles of children in Indonesia 2012. Jakarta. 2012.p.1.
14. Local Development Bureau Special Province of Yogyakarta. The Profile of special Province of Yogyakarta. Local Development Bureau Yogyakarta.2009.p.2
15. Quijano, F.A. A simple method for estimating relative risk using logistic regression. *BMC Medical Research Methodology.*2012;12:14.

16. Joanne Peng, C,Y.,Lee,K.L&Ingersoll,G.M. An Introduction to Logistic Regression Analysis and Reporting. *The Journal of Educational Research.*2002;96(1):1-14.
17. Dalili H, Firouzeh N, Mahdi S, Amir Kamal H, Mamak S and Fatemeh N. *Comparison of the Four Proposed Apgar Scoreing Systems in the Assessment of Birth Asphyxia and Adverse Early Neurologic Outcomes*. PLoS One 2015;10(3):e0122116.
18. Morales, P.,Bustamante, D., Marchant,E.P.,Neira-Peña,T., Hernández,G., Castro,C.A&Mancilla,C. Pathophysiology of perinatal asphyxia: can we predict and improve individual outcomes? *The EPMA journal.* 2011; 2;211–30.
19. Kidokoro H, Peter J. Anderson, Lex WD, LianneJ.Woodward, Jeffrey J. Neil and Terrie E. Inder. *Brain Injury and Altered Brain Growth in Preterm Infants: Predictors and Prognosis*. American Academy of Pediatrics 2014;*pp:e444 -e453.*

O-09

EFFECT OF TURMERIC TAMARIND DRINKS TO A DECREASE IN PRIMARY DYSMENORRHEA

Sri Lestariningsih, Weliyati, Dwinda Alhuda Arofa

Metro Midwifery Departement of Health Polytechnic Tanjungkarang
E_mail : lestariningsihs@yahoo.co.id

Abstract

Primary dysmenorrhea can cause a negative impact to the smooth running of daily activities, especially young women. The reason is the amount of prostaglandin excessive menstrual blood which stimulates uterine hyperactivity. The purpose of this study to determine the effect of acid on the consumption of herbs turmeric decrease in dysmenorrhea in Students Metro Midwifery Studies Program.

The research design uses pre-post test wih control design. The research sample that is coed Metro Midwifery Studies Program Level I at 2014. Variable komsusi herbs turmeric, tamarind ie activities aimed spent turmeric medicinal value to the acid in order to reduce menstrual pain with how to drink two days before menstruation until two days during menstruation. Variable reduction in dysmenorrhea is dysmenorrhea perceived decline coed. Sampling using purposive sampling method. Sampling using purposive sampling method. Instrument data collection using a questionnaire. The analysis using dependent T-test.

The results of the study in the intervention group gained an average pain intensity before, namely to 5.43 and after consuming herbs turmeric, tamarind reduced to 2.38 with a p value of 0.000. Conclusion there are differences in measurements of pain intensity before and after taking turmeric, tamarind, based on that then there is the influence of the consumption of herbs turmeric, tamarind to the reduction in dysmenorrhea in student Midwifery Studies Program Metro at 2014. Suggestions for students to make herbal medicine turmeric acid as a safe and effective alternative in dealing with primary dysmenorrhea.

Keywords: Primary Dysmenorrhea, Turmeric Tamarind Drinks

BACKGROUND

Primary dysmenorrhea is one disorder that most often occurs during menstruation. Primary dysmenorrhea began to arise since the first period came and reduced the pain complaint after the woman is married and hamil.[1] Dysmenorrhea causing many women permission or leave because he could not withstand the pain. The study showed that the prevalence of dysmenorrhea in the world is quite high. In 2005, as many as 75% of young women in Egypt experienced primary dysmenorrhea, dysmenorrhea 55.3% mild, 30% moderate and 14.8% dysmenorrhea dysmenorrhea berat.[2] The incidence of primary dysmenorrhea in Japan in 2005, namely 46%.[3] While in the United States estimated that nearly 90% of women experience dysmenorrhea primer.[4]

The results of the study in Malaysia showed the incidence of primary dysmenorrhea in adolescent girls reached 62.3%.[5] In Indonesia, as many as 60-75% of young women experience dysmenorrhea. where three-quarters experienced moderate pain and the rest suffered pain berat.[6] According Riyanto, in Indonesia there are no exact figures on the number of patients with menstrual pain, while in Jakarta, primary dysmenorrhoea in adolescent still about 83.5% on the year 2001.[7] In 2008, achieve 54.89%.[4] the incidence of dysmenorrhea in Lampung Province in 2010 reached 72.1%.[8]

Primary dysmenorrhea can cause a negative impact to the smooth running of daily activities, especially young women. Dysmenorrhea make women can not work as usual and require a prescription for mengatasinya.[9] Approximately 10-15% of women with dysmenorrhea in the United States are not capable of doing anything. Primary dysmenorrhea also cause 35% of teens not attending school and as much as 5% come but only sleep in kelas.[10] According Osuya, as many as 27.3% of young women are absent from school and work on the first day of menstruation due to dysmenorrhea. Impact of primary dysmenorrhea in adolescent girls in Purworejo cause school absences <3 hari.[11] As many as 52% of students in SMK Surakarta who experience primary dysmenorrhea often ask for permission to go home because not hold nyeri.[12] While in SMK Negeri 1 Kota Metro, 84% of students suffer primary dysmenorrhea, besides make the girls a hard time concentrating, pain makes some of the students fell pingsan.[13]

The causative factors of primary dysmenorrhea: Psychological factors (do not get good lighting on the process of menstruation), constitutional factors (anemia, chronic disease), cervical canal obstruction factors, endocrine factors, and factors alergi.[14] Some things you can do to reduce primary dysmenorrhea is setting a nutritious diet, exercise effective, akupuntur.[15] Patients can rest, warm compresses and taking herbs turmeric asam.[16] Using inflammatory agents and non-steroidal contraceptive pill oral.[17] The use of herbal medicines have always trusted people in Indonesia, including herbs turmeric, tamarind to deal with complaints of pain haid.[18] turmeric, tamarind drink is a drink that is mixed with the main ingredient of turmeric and turmeric asam.[19] Naturally it is believed to contain active ingredients can serve as analgesics, antipiretika, and antiinflamasi.[20] Likewise sour (tamarind) which has an active ingredient as anti-inflammatory, antipiretika, and penenang.[21] Based on preliminary studies in Midwifery Studies Program Metro, there are 66.25% of the students who experience primary dysmenorrhea. The purpose of this study was to determine the influence of Turmeric Tamarind Drinks to the decline of primary dysmenorrhea on students in Metro Midwifery Studies Program.

METHOD

The research design uses pre-post test with control design. The independent variable is the consumption of herbs turmeric, tamarind activities aimed at use value of herbs turmeric spent acid in order to reduce menstrual pain with how to drink two days before menstruation until two days during menstruation. The dependent variable is a decrease in dysmenorrhea is dysmenorrhea perceived decline coed. Collecting the dependent variable using a scale measuring pain intensity. There are 4 levels of pain, that is: No pain (0), mild pain (1,2,3), moderate pain (4,5,6), severe pain (7,8,9), severe pain once (10). The research sample student Metro Midwifery Studies Program Level I Year 2014. Samples intervention and control groups were determined by using a minimal sample size formula according Lemeshow, 22, received respectively 21 people. Sampling using purposive sampling method. The research location Metro Midwifery Studies Program, the research conducted at On 9 April - 31 May, 2014.

RESULTS

Table 1
The average intensity of pain in the intervention and control groups

Variabel	Mean
The Intervention group	
Measurements before intervention	5,43
Measurements after consuming herbs turmeric, tamarind	2,38
The control group	
Measurements before the study	5,10
measurements after	5,48

According to the table 1 is known, the average pain intensity in the intervention group before taking herbs turmeric, tamarind ie 5.43 (category of moderate pain), and after taking herbs turmeric, tamarind ie 2.38 (mild pain category). While the average pain intensity in the control group before the study is 5.10 (the category of moderate pain), and after the study is 5.48 (the category of moderate pain).

Table 2
Test Results T-test in Group Intervention Before and After Eating Herb Turmeric Acid

Variabel	Mean	SD	SE	*P value*
Measurements before intervention	5,43	1,399	0,305	0,000
Measurements after intervention	2,38	1,746	0,381	

According to the table 2, seen the mean difference between before and after the intervention is obtained p value of 3.05 and 0.000, so it can be concluded that there are differences in measurements of pain intensity before the intervention and after consuming herbs turmeric, tamarind.

Table 3
Test Results T-test on Control Group

Variabel	Mean	SD	SE	*P value*
Measurements before research	5,10	0,625	0,136	0,119
Measurements after research	5,48	1,250	0,273	

Based on Table 3, seen no significant mean difference between before and after the study is -0.381 and obtained p value 0.119, so it can be concluded there was no difference in pain intensity in the second measurement.

DISCUSSION

The results of the study in the intervention group showed that there was a decrease in average pain intensity prior to the study, from the category of moderate pain that is mild pain 5,43 into categories namely 2.38 after the respondents consumed herbs turmeric, tamarind with p value 0.000, which means that there are differences in measurements of

pain intensity before the intervention and after consuming herbs turmeric, tamarind, so it can be concluded there is the influence of the consumption of herbs turmeric, tamarind to the decline of primary dysmenorrhea.

The results are consistent with the results of research Anindita stating that there are significant turmeric, tamarind drink consumption habits on the complaint of primary dysmenorrhoea in adolescent girls in Surakarta municipality. The results of this study also was supported by the results of research Suciani stating that there are significant differences between the average intensity of dysmenorrhea pain in the experimental group and the control group after the administration of decoction of turmeric asam.[23]

Turmeric contains kurkuminoid which is one type of antioxidant and efficacious among others as bacteriostatic, spasmolytic, antihepatotoksik, and anti-inflammatory. Acid is a fruit that has high levels of antioxidants and will increase kadara ntioksidannya when combined with other herbs. Research shows that the administration of turmeric mixed drinks with acid can reduce dysmenorrhea pain scale for an average of 15 minutes after treatment diberikan.[24] Anti oxidant properties of fruit acids can be enhanced when combined with other ingredients and spices like turmeric one. Acid serves to improve blood circulation, thus preventing the occurrence of vascular kontriksi when dismenore.[25]

Several studies have shown that extracts of turmeric is able to decrease the number of intestinal bacteria colonize (Escherichia coli). Among the plant Zingiberaceae family, proved to contain curcumin turmeric (yellow dye) highest and has the ability pharmacological antibacterial, anti-inflammatory, antioxidant, anticancer, anti-HIV and anti-parasit.[26] Data according to IOT (industries Traditional Medicine) and IKOT (Small industries Traditional medicine) of 4.l87 there are 40% people use turmeric as a treatment and 10% of people consume turmeric to relieve pain haid.[27] Tamarind fruit, has natural active agents as anti-inflammatory and antipiretika anthocyanins. In addition tamarind fruit also contains tannins, saponins, sesquiterpenes, alkaloids, and phlobotamins to reduce system activity saraf.[28] content of tamarind can accelerate blood circulation and cool.[29]

Consuming acidic stew turmeric can reduce pain intensity dysmenorrhoea. Decoction of turmeric acid has activity as antioxidants and phenolic compounds. The acid Turmeric contains such kurkuminoid, volatile, flavonoids and other useful as analgesic (pain refiner), anti-inflammatory and so on, so that the pain experienced during menstruation can be reduced by consuming turmeric, tamarind stew regularly. Thus in this study we can conclude that there is the influence of drink turmeric, tamarind to the reduction of primary dysmenorrhea in Midwifery Studies Program student at Metro.

CONCLUSION

1. The average intensity of pain in the intervention group before the study were pain edang category with a value of 5.43, and after consuming herbs turmeric, tamarind reduced to mild pain category with a value of 2.38.
2. Mean pain intensity in the control group before the study is the category of moderate pain with a value of 5.10, and after the study average pain intensity increased but remain in the medium category with a value of 5.48.
3. There is the influence of the consumption of herbs turmeric acid in the intervention group with the average reduction in pain intensity with p value 0.000.

RECOMMENDATION

Students can make herbs turmeric, tamarind as a safe and effective alternative for primary dysmenorrhea with respect to:

1. Materials and how to make it, which is 3 finger turmeric, tamarind (kawak acid) of a marble, brown sugar to taste, and hot water ¾. How to make starting from turmeric peeling and thinly sliced, then enter into a glass of hot water, add sour kawak, brown sugar, then stirred. Let stand until lukewarm
2. How to drink it two days before menstruation and 2 days during each menstrual cycle.

REFERENCE

1. Devi, Nirmala. 2012. *Gizi Saat Sindrom Menstruasi*. Jakarta. PT Bhuana Ilmu Populer Kelompok Gramedia.
2. Badawi, K. (2005). Epidemiologi of Dysmenorrhoea Among Adolescent Student In Mansoura, Egypt. *Eastern Mediterranean Health Journal, Vol. 11*.
3. Osuya, Y. (2005). Dysmenorrhoea In Japanese Women. *International Journal of Gynecology and Obstetrics*.
4. Proverawati dan Misaroh. 2009. Menarche Menstruasi Pertama Penuh Makna. Yogyakarta. Nuha Medika
5. Liliwati, LKM Verna, O Khairani. 2007. *Dysmenorrhea and its effect on School Activities Among Adolescent Girls in a Rural School in Selangor, Malaysia, Med & Health.* Tersedia (http://Intra.hukm.ukm.my/ppgk/jurnal/2.1/04.pdf) (2 Januari 2014)
6. Hendrik, H. 2006. *Problema Haid* (Tinjauan Syariat Islam dan Medis). Solo: Tiga Serangkai.
7. Riyanto, Harun. 2001. Nyeri Haid pada Remaja. Tersedia dalam http://www.yastroki.or.id/read.php?id=190 (6 Februari 2014)
8. Dinas Kesehatan Provinsi Lampung, 2010, Profil Kesehatan Provinsi Lampung Tahun 2010 (pdf), Bandar Lampung
9. Prawirohardjo, Sarwono. 2005. Ilmu Kebidanan. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo
10. Sharma, A., et al. 2008. *Prevalence And Severity of Dysmenorrhea : A Problem Related To Menstruation, Among First and Second Year Female Medical Students Vol 4.* dalam http:aph.sagepub.com/cgi/content/refs/20/3/234 (Diakses 12 Januari 2014).
11. Sulastri, 2006, *Perilaku Pencarian Pengobatan Keluhan Dysmenorrhea pada Remaja Di Kabupaten Purworejo Propinsi Jawa Tengah*. Tesis, Universitas Gadjah Mada, Yogyakarta, ONLINE http://www.solpro.net.com. Diakses tanggal 13 Januari 2014
12. Kurniawati, Dewi, Yuli Kusumawati. 2010. *Pengaruh Disminore Terhadap Aktifitas Pada Siswi SMK Batik 1 Surakarta.* UNS. Tidak dipublikasikan
13. Nur Azizah, Luthfia. 2011. Hubungan Status Gizi dan Riwayat Dismenore pada Keluarga dengan Kejadian Dismenore di SMK Negeri 1 Kota Metro. Karya Tulis Ilmiah. Politeknik Kesehatan Kementerian Kesehatan Tanjungkarang
14. Simanjuntak P. 2008. *Gangguan Haid dan Siklusnya*. In: Winkjosastro H., Saifuddin A.B., Rachimhadhi T. (eds.). *Ilmu Kandungan*. 2nd ed. Jakarta: PT Bina Pustaka Sarwono Prawirohardjo.
15. Anindita, Ria. 2010. *Pengaruh Kebiasaan Mengkonsumsi Minuman Kunyit Asam Terhadap Keluhan Dismenorea Primer Pada Remaja Putri Di Kotamadya Surakarta*. Skripsi. Fakultas Kedokteran Universitas Sebelas Maret Surakarta. 2010.

16. Sina, M. Yusuf. 2012. *Khasiat super minuman alami tradisional beras kencur & kunyit asam menyehatkan dan menyegarkan tubuh tanpa efek samping.* Yogyakarta. Diandra Pustaka Indonesia.
17. Price S. A, et all. 2006. Patofisiologi Konsep Klinis Proses-Proses Penyakit. Jakarta. Penerbit Buku Kedokteran EGC.
18. Indahan, Zely. 2010. 50 Solusi Herbal Pengobatan Murah. Yogyakarta. Penerbit Universitas Atmajaya
19. Limananti A.I. and Triratnawati A. 2003. *Ramuan Jamu Cekok Sebagai Penyembuhan Kurang Nafsu Makan Pada Anak: Suatu Kejadian Etnomedisin*. Makara, Kesehatan.
20. Norton K.J. 2008. *Menstruation Disorder-Causes, Symptoms and Treatments of Dysmenorrhea*. Tersedia http://www.steadyhealth.com/articles/Menstruation_Disorder Causes Symptoms_and_Treatments_of_Dysmenorrhea_a773.html. (diakses 12 Januari 2014)
21. Nair M.G., Wang H., Dewitt D.L., Krempin D.W., Mody D.K., Qian Y., Groh D.G., Davies A.J., Murray M.A., Dykhouse R. and Lemay M. 2004. *Dietary Food Supplement Containing Natural Cyclooxygenase Inhibitors and Methods for Inhibiting Pain and Inflammation*. Tersedia http://www.freepatentsonline.com/6818234.html.
22. Lemeshow, Stanley. 1997. Besar Sampel dalam Penelitian Kesehatan. Yogyakarta: Gajah Mada University Press
23. Suciani Sri Rahma, dkk. 2014. Efektivitas Pemberian Rebusan Kunyit Asam terhadap Penurunan Dismenorea. Program Studi Ilmu Keperawatan Universitas Riau
24. Marlina, E. (2012). *Pengaruh minuman kunyit terhadap tingkat nyeri dismenore primer pada remaja putri di SMA N 1 Tanjung Mutiara Kab. Agam*. Tersedia http://repository.unand.ac.id/17914/ (diakses 10 Januari 2014)
25. Astawan, M. 2009. *Sehat dengan hidangan kacang dan biji-bijian*. Bogor: Penebar Swadaya.
26. Utami, P. 2012. *Antibiotik alami untuk mengatasi aneka penyakit.* Jakarta Selatan: Agro Media Pustaka.
27. Leli, Rahmawati & Atik. 2011. Pengaruh kunyit asam terhadap penanganan nyeri haid pada siswi kelas xi sma negeri i sugihwaras. Tersedia http://journalakes.files.com/2012/06/jurnal- akes-rajekwesi-vol-4.pdf (diakses 10 Januari 2014)
28. Lukita-Atmadja W., Ito Y., Baker G.L., and McCuskey R.S. 2002. Effect of curcuminoids as anti-inflammatory agents on the hepatic microvascular response to endotoxin. *SHOCK*. 17 (5): 399–403.
29. Dedi, dkk. 2013. Asam Jawa. Tersedia http://klinikpengobatanalami.wordpress.com/2013/05/11/asam-jawa/) (diakses 12 Januari 2014)

O-10

ANALYSIS OF Cl2 GAS OBTAINED FROM SALT WATER ELECTROLYSIS ASDISINFECTANTIN THE DISINFECTION OF CARE-ROOMS IN HOSPITALS (A controlling effort for nosocomial infections)

Sri Puji Ganefati, Hartono, Adi Heru Sutomo, Prabang Setyono

Environmental Science Program of Sebelas Maret University in Surakarta, Indonesia
E-mail: sripuji_ganefati@yahoo.com

ABSTRACT

Patients who were treated in hospitals after 48 hours can be infected by microorganisms, this condition is called as nosocomial infection. Nosocomial infection is a major cause of death among patients, i.e. amounting to 175,000 cases/year, and 10% of in-patients (1.4 million people) were estimated got nosocomial infection. In Indonesia, the in-patients who were exposed to nosocomial infection was as much as 9.4%. The impact of nosocomial infections increases the treatmentdays between 4-12 days, and also increases the treatment cost for about US $ 600-40000/patient (± IDR 7.820.452-521.363.472). One of the prevention and control measures is by means of environments safety efforts with using air germ number standard which is set between 200-500 CFU/m3. Up to now, the efforts to sanitize the air in treatment rooms through disinfection is not effective, sincethe air germ number still exceeds the standard, i.e. 3,758 CFU/m3. As an alternative, air disinfection in treatment rooms can utilize Cl2 gas derived from salt water electrolysis. Results of laboratory examination that using 1, 5 and 10 % salt concentration, show that those concentration were able to reduce the number of air germs, i.e. 15, 32, and 56 CFU/m3, respectively. The highest number of air germs was reduced by the application of 10 % concentration. Results of the analysis show that the Cl2 gas obtained from the electrolysis can be used as a disinfectant to disinfect the treatment rooms in hospitals as nosocomial infection control efforts.

INTRODUCTION

Other diseases which are emerged after patients were hospitalized for 48 hours and caused by microorganisms are called nosocomial infections. The sources of transmission of these infections are originated from medical equipments, humans (both the visitors and medical/paramedical personnel), and environment which are contaminated with disease agents, as well as patients who developed resistance to certain drugs. According to WHO (2011)[1], nosocomial infection is one of major causes of the high global morbidity and mortality, i.e. 1.4 million deaths worldwide and 10% of hospitalized patients were experiencing nosocomial infection or about 175,000 cases/year. The average percentage of in-patient who got nosocomial infection in European and American countries is about 1%, meanwhile in Asian countries it is about 40%. In the USA, the incidence of nosocomial infection is 5-6 out of 100 in-patients, or in average, every year there are 2 million cases (Weinstein, 1998)[2].

The prevalence of nosocomial infections in low and middle income countries is about 5.7 - 19.1%, or higher if compared withthe prevalence in high income countries, i.e. 3.5 -12% (Wikansari et.al, 2012)[3]. Based on the research results of Panjaitan (2013)[4], in Indonesia, 9.4% of in-patients in hospitals were contracted with nosocomial infection. According to Suwarni and Sutomo (2000)[5], the incidence of nosocomial infectionsamong public and private hospitals in Yogyakarta Province, in average was 4.26% cases.

According to WHO (2011)[1], the impact of nosocomial infections can increase morbidity and mortality. The mortality due to these infections is as many as 1.4 million cases or 10% of the nosocomial infection affected patients. Nosocomial infections also increase mortality rate between 19-75% and causing longer hospitalization, i.e. between 4-12 days, thus increasing the cost for US $ 600-40000/patient (± IDR 7.820.452-521.363.472).

The prevention and control of nosocomial infections in hospitals is conducted through five main activities, namely; safety for patients, safety for health workers, safety for the institution, safety for the environment and safety for business (Nugraheni, 2012)[6]. Based on the decree of Minister of Health No.1204/Menkes/SK/X/2004, the environmental safetyfor preventing nosocomial infections consists of the condition that the air germ number in care-rooms shouldnot exceeding the maximum threshold of 200-500 CFU/m^3 of air (Minister of Health, 2004)[7].

The care-rooms sanitation techniques which are performed today is by ultra violetradiation and chemical disinfections (Boyce, 2011)[8] and (Ratula, 2010)[9]. However, the real condition of the results are still facing failurethat the number of bacteria of the treatment rooms is still high. Based on the research results of Suwarni and Sutomo (2000)[9], the examination of germ number in treatment rooms of public and private hospitals in Yogyakarta showed an average of 3,758 CFU/m^3, or higher if compared to the standard 200-500 CFU/m^3. Those prevention and control of nosocomial infections through room disinfection using ultraviolet light and chemicals need high investmentcost. On the other hand, the incorrect use of chemical disinfectant can causing pollution in the environment and may lead to microorganism resistance (Kusnoputranto, 2005)[10].

According to Saksono (2012)[11], the control and prevention of nosocomial infections by means of treatment room disinfection can use Cl_2 gas as the disinfectant. Cl_2 gas can be obtained from the electrolysis of salt water. The electrolysis reaction of table salt (NaCl) solution with electrical current that produces 2Na in solid form and Cl_2 in gas form can be used as an alternative in the prevention and control of nosocomial infections.

Salt water solution is widely used for variousactivities as preservative substance (antimicrobial). Chlor (Cl) element as the active ingredient in salt has the characteristic of microbial killing. According to Giyanti (2004)[12], the use of chlor in drinking water treatment, or called chlorination, is aimed to reduce and kill microorganisms. Chlor that available in markets is in the form of Chlorine. Electrolysis reaction is a process of the release of Cl element in salt that is functioned to damage the bond of NaCl becoming metallic sodium (Na) and chlor gas (Cl_2).

Based on the laboratory tests, salt water solution with a concentration of 100g/liter can reduce the number of air germs from 70 CFU/m^3 to 56 CFU/m^3 (80% reduction). One of the advantages of Cl_2 gas electrolysis from salt water (NaCl) is it has low investment cost for the equipments and the materials are very cheap. The price of salt is very cheap and readily available and can always be found in every household.

OBJECTIVE

To understand the results of theoretical study of the function of salt water, as the basis for laboratory testing,to determine its concentration variation inproducingchlor gas (Cl2) as disinfectant for reducing the number of air germs in the treatment rooms of hospitals.

METHOD

The methods used in this paper are literature review and fieldwork, by means of analyzing

the factors that affect the control and prevention of nosocomial infections. The factors comprise of: analysis of environmental factors, analysis of disinfection method for treatment room and force field analysis on the use of salt water as disinfectant in the disinfection of care-rooms in hospitals.

ANALYSIS AND DISCUSSION

1. Factors affecting the control and prevention of nosocomial infections

The control and prevention of nosocomial infections is influenced by several factors, either from the sufferer patients themselves or from outside. Factors that were proved influencing the incidence of nosocomial infections are: the presence of microorganisms as disease agents (virus, bacteria and fungi); and resistance to drugs and equipments, including roomswhich are contaminated with disease agents (Herpan, 2012)[13]. The propagation media of microorganisms in the treatment rooms, among othes are via air, water, food, medical devices and humans who are related with the patients. In thetransmission processof nosocomial infections, air is one of transmission media that has the greatest effect (Minister of Health, 2002)[14].

According to Sutrisno (2002)[15], the controlling technique of bacteria numberin air can be conducted in various ways, e.g. air filtration system; self closing door; ultraviolet radiation; and disinfectant spraying.

c. Air filtration system

The air filtration is conducted by flowing airinto the rooms through air filtration system. The infrastructures used may include central air conditioning, split air conditioning or buildings thatare specially prepared for the air filtration. This system can work well if regular maintenance of the equipments used is applied. Air filter tools which are not maintained, by themselves play role as the breeding source ofmicroorganisms.

d. Self Closing Door

In this system, mats which are soaked in advance into disinfectant solution are provided and placed in front of the door inside the room. Microorganisms that will be disinfected are only those that contact with the mat, whereas other microorganisms existing in the surrounding air still can enter the rooms.

e. Ultra Violet (UV) Radiation

Ultra violet irradiation system uses a moveable instrument thatits angle can be adjusted. The ultra violet lamp is mounted on wall or ceiling of the room. The weakness of this system is eventhough the microorganisms that are exposed to ultraviolet light will die, those that are not affected will remain alive. Ultra violet disinfection is costly regarding to the procurement of the specific lamps.

f. Disinfectant Spraying

Disinfectant spraying system usesdevices, such as sprayer, mister or fogger, to produce air spray which is mixed with disinfectant solution in low pressure andin the form of large enough sized droplet. The use of chemical disinfectants which are not appropriate in the dose and timing of exposure can causing environment pollution due to the presence of the chemicals' residue and resistance to the target microorganisms may occur.

2. Analysis of Factors Influencing Nosocomial Infection Prevention

c. Salt Water as Disinfectant for Treatment Rooms in Hospitals

Electrolysis of salt water is a destruction reaction of NaCl (table salt) bonds in water. Salt water consists of table salt (NaCl) which are dissolved into water with certain concentration. The bond of NaCl in electrolysis will be broken into sodium ($2Na^{+}$) in solid form and Cl_2 in gas form. Electrolysis is an electrochemical cell which causes redox (reduction and oxidation) reaction. Reduction and oxidation reactions occur in Sodium (Na) element, meanwhile oxidation reaction occurs in Chlor element (http://www.ut.ac.id/html/suplemen/peki4310/sel_elektrolisis.htm)[16].

The Cl_2 gas obtained from the electrolysis of salt water is released into the air, and therefore kill the existing microorganisms. The results of tests conducted at the labotary of Polytechnic of Health of Yogyakarta at June 25 th, 2013 showedthat table salt concentration of 100g/liter in 10 minutes exposure is able to reduce 80 % of bacteria number. In the market, chlor is known under the trade name of Chlorine, and commonly used as disinfectant in drinking water treatment.

Cl_2 gas from the electrolysis of salt water can be used for controlling and prevention of nosocomial infections in hospitals. This disinfection of treatment rooms in hospitals by using the Cl_2 gas can reduce the air germs number in those rooms. Therefore, theoretically, that reduction of bacteria number can prevent nosocomial infection among in-patients inhospitals. Electrolysis of table salt (NaCl) water can be applied at the treatment rooms in public hospitals as the efforts to control and preventthe occurence of nosocomial infections.

d. Analysis of Nosocomial Infection Causing Factors

Analysis of factors for the occurrence of nosocomial infections is needed to determine the factors associated with the control and prevention efforts of nosocomial infections. The analysis is described in detail in Table 1, as follows.

Table 1.
Analysis of Nosocomial Infection Causing Factors

No	Items	Factors			
		Taking Medication	Human	Equipment	Environment
1	Risk of Transmission	Small	Big	Small	Big
2	Target	Patients	Doctors, Paramedics, Patients and Visitors	Paramedics	Sanitation Officers
3	Characteristic	Curative	Preventive and Promotive	Preventive	Preventive and Promotive
4	Transmission	Small	Big	Big	Big
5	Cost	Expensive	Expensive	Cheap	Cheap
6	Easiness	Difficult	Difficult	Easy	Easy
7	Technology	Not available	Not available	Available	Available
8	Special Officer	Needed	Needed	Needed	Not Needed

9	Sustainability	Not Exist	Exist	Exist	Exist

Based on the analysis of the factors influencing the occurrence of nosocomial infection among in-patients, human and environment are considered as the factors that contribute great influence on the incidence of this infection. Since human factors are very difficult to control, in this paper the control of environmental factors is more emphasized in the prevention of nosocomial infections.

e. Analysis of Environmental Factors as the Cause of Nosocomial Infection

Environmental factors consist of water, soil and air. The incidence of nosocomial infectionsamong in-patients in hospitalsis via air due to pathogenic microorganisms present in the air. Analysis of environmental factors was conducted to determine the dominant factors which are affecting, and to find the ways of controlling and preventing nosocomial infection as appropriate measure (Tinambunan, 2008)[17].

Based on Table 2, environmental factors that influence the occurrence of nosocomial infections is the surrounding air. The air contain causal microorganisms of nosocomial infection which are originated from human, includingthe patients who do activitiesin the hospitals. Water and soil factors have small contribution to nosocomial infection cases. The provision of water in hospitals has passed adequate treatment and is tailored to existing standards. Soil factors also have small contribution in these infections since patients are not in direct contact with it. The incidence of nosocomial infections has very small possibility to occur via soil transmission.

Table 2. Analysis of Environmental FactorsCausing Nosocomial Infections

Items	Environment		
	Water	Soil	Air
Risk of transmission	Small	Small	Big
Transmission source	Yes	No	Yes
Technology	Available	Not Available	Available
Effort	Preventive	Not Applicable	Preventive
Public Participation	Not Exist	Not Exist	Exist
Failure	Not Exist	Not Exist	Exist
Cost	Not Applicable	Not Applicable	Present

f. Analysis of Room Disinfection Methods

Based on the analysis, the method of room disinfection by using Cl_2 gas is considered as the best method or superior when compared with the existing methods. Room disinfection method with using Cl_2 gas can be manufactured withappropriate technology, has low cost and can be made by general people.

Table 3. Analysis of Room Disinfection Methods

Items	Factors		
	Sunlight/Ultra Violet	Chemical substance	Cl_2 Gas
Technology	Available	Available	Available
Cost	Expensive	Expensive	Cheap
Pollution Impact	Possible in form of waste of UV lamp	Possible in form of chemical residues and microorganism resistance	Not Present
Government involvement	Exist	Exist	Not Exist
Special Officer	Needed	Needed	Not Needed
Operational of Tools	By Special Officer	By Special Officer	By Any Officer
Operational Guidance of Tools	Exist	Exist	Exist

g. Force Field Analisys of Cl_2 Gas as Disinfectant of Care-Rooms in Hospitals

Force Field Analysis (FFA) is an analysis about the factors existed in real condition that strengthen the use of a certain methodof being more excellent.

Table 4. Force Analysis Factor of Cl2 Gas Utilization Obtained from Salt Water Electrolysis as Disinfectant for Care-Rooms in Hospitals

No	UVandchemicals	Value	Salt Water Electrolysis	Value
1.	Cost	-	Cost	+
2.	Appropriate technology	-	Appropriate technology	+
3.	Design	+	Design	+
4.	Ease of manufacture	-	Ease of manufacture	+
5.	Ease of use	+	Ease of use	+
6.	Availability of materials in manufacturing	-	Availability of materials in manufacturing	+
7.	Need no expert in the manufacturing	-	Need no expert in the manufacturing	+
8.	Ease of maintenance	-	Ease of maintenance	+
9.	Benefit	+	Benefit	+
10.	Possibility of environmental pollution	-	Possibility of environmental pollution	+
11.	Management Acceptance	+	Management Acceptance	+
12.	Occupational Accident	-	Occupational Accident	+
13.	Length ofApplicationTime	-	Length ofApplication Time	+
14.	Procurement of Equipment and Materials	-	Procurement of Equipment and Materials	+
Sum+		4	Sum+	14

Based on the results of Force Field Analysis, electrolysis method for salt water is an appropriate technology that can be applied to disinfect treatment rooms in hospitals, therefore the control and prevention of nosocomial infections can be conducted. The operation and maintenance of the device (electrolizer) is very easy to do, and the ingredient (table salt) is also

easy to obtain and cheap. The electrolizer is also easy to manufacture and its procedure of handling is very simple.

CONCLUSIONS AND RECOMMENDATIONS

1. Conclusions
   a. Theoretically, salt water produces chlor gas (Cl_2) which can be used as a disinfectant for treatment room disinfection in hospitals.
   b. Salt water electrolysis method is more superior to other chemicals such as Virkon and Mikrosit as disinfectant for treatment room disinfection in hospitals.
2. Recommendations

   It is needed to conduct laboratory examinations for concentration variations of salt water in producing chlor gas (Cl_2) as disinfectant for care-room disinfection in hospitals.

BIBLIOGRAPHY

1. World Health Organization, 2011, Prevention of Hospital-Acquired Infections A Practical Guide 2nd Edition. Department of Communicable Disease, and Surveilance
2. Weinstein R. A., Nosocomial Infection Update Cook County Hospital & Rush Medical College, Chicago Illinois, USA, 1998. File:A:\Nosocomial Infection Update. Htm
3. Wikansari, N.; Hestiningsih, R.; dan Raharjo, B.; 2012; Pemeriksaan Total Angka Kuman Udara dan Stapylococcus aureus di Ruang Rawat inap Rumah sakit X Kota Semarang; Jurnal Kesehatan masyarakat, Vol. 1, No. 1, Hal. 384-392, Universitas Diponegoro, Semarang
4. Panjaitan, Costy; 2013, Infeksi Nosokomial di Rumah Sakit Harus Diantisipasi, Jakarta, www.politikindonesia.com, diunduh 25 November 2015.
5. Suwarni, Agus & Sutomo, Adi Heru 2000. Studi Deskriptif Upaya Penyehatan Lingkungan, Infeksi Nosokomial Dan Rerata Lama Hari Perawatan Di Rumah Sakit Pemerintah Dan Swasta Propinsi Daerah Istimewa Yogyakarta, Jurnal Lembaga Pengabdian Masyarakat Universitas Gadjah Mada, Yogyakarta
6. Nugraheni, Ratna; Suhartono; 2012; Infeksi Nosokomial di RSUD Setjonegoro Kabupaten Wonosobo; Jurnal Media Kesehatan Masyarakat Indonesia, Vol. 11/No. 1, April 2012, Semarang.
7. Minister of Health, 2004, No.1204/Menkes/SK/X/2004 on environmental health requirements of hospital, Jakarta
8. Boyce JM, Havill NL, Moore BA. Terminal decontamination of patient rooms using an automated mobile UV light unit. Infect Control Hosp Epidemiol Journal 2011;32: 737–42.
9. Rutala WA, Gergen MF, Weber DJ. Room decontamination with UV radiation. Infect Control Hosp Epidemiol Journal 2010; 31: 1025–9.
10. Kusnoputranto, H. 2005. Pengantar Toksikologi Lingkungan, Direktorat Jendral Pendidikan Tinggi Departemen Pendidikan dan Kebudayaan, Jakarta.
11. Saksono, Nelson; Abqari, Fakhrian; Bismo, Setijo; 2012; Aplikasi Teknologi Elektrolisis Plasma pada Proses produksi Klor-Alkali, Jurnal Teknik Kimia Indonesia, Vol 11, No. 3 Universitas Indonesia, Jakarta.
12. Giyantini. 2004. Disinfeksi Air dengan Chlorinasi, (5): 17-18., Journal Info Penyehatan Air dan Sanitasi ISSN: 1414-761X, Volume VI, No. 11, Juli 2004, Ditjen. PPM & PL.

13. Herpan; Wardani, Yuniar; 2012; Analisis Kinerja Perawat dalam Pengendalian Infeksi Nosokomial Di RSU PKU Muhammadiyah Bantul Yogyakarta; Jurnal Kesehata Masyarakat Vol. 6, No. 3, ISSN : 1978-0575, UAD Yogyakarta, September 2012 : 144-211
14. Minister of Health. 2002. Undang-Undang RI No.23 Tentang Kesehatan. Arloka: Surabaya.
15. Sutrisno,C.T., Suciastuti,E. 2002. Teknologi Penyediaan Air Bersih. PT Rineka Cipta : Jakarta.
16. http://www.ut.ac.id/html/suplemen/peki4310/sel_elektrolisis.htm, diunduh tanggal 25 Maret 2016
17. Tinambunan, Paul; 2008, Force Field Analysis https://alexemdi.wordpress.com/2008, diunduh tanggal 25 maret 2016

O-11

THE FORMULATION MODEL OF LIME PEEL EXTRACT AND PANDAN AS AN ANTIMICROBIAL TO DECREASE THE NUMBER OF AIR BACTERIA AT BADROOM

Siti Hani Istiqomah*[1], Muhamad Mirza fauzie[1]**

*[1]Departement of Environmetal Health, Poltekkes Kemenkes Yogyakarta, Jl. Tatabumi 3, Banyuraden, Gamping, Sleman, DIY 55293
* Corresponding author: email: hani_ist@yahoo.co.id

ABSTRACT

Indoor air quality is a problem that needs attention because it will affect human health, especcially the number of bacteria in bed room. One of the ways reducing the number of bacteria with Citrusaurantifolia extract and PandanusamaryllifoliusRoxb leaves formula. This study is a non Experiment with design randomized control group pre-test post-test. The subjects of this study consisted of a bedroom in RW 20 Baciro Yogyakarta totaling 14 bedrooms as an experimental group and a 7 bedroom as a group kontrol. Statistical analysis using onewayAnova followed by Post Hoc Test LSD. Test results of homogenity of variances p = 0.047 means that there is no homogenity in every variant, then followed by Kruskal Wallis test with a p-value 0.002 results which showed that there was a significant effect of exposure formula between the experimental group and the control group.Based on these results, we can conclude that there is the effect of the use with Citrus aurantifolia extract and PandanusamaryllifoliusRoxb leaves formula as an antimicrobial to the decrease in the number of air bacteria bedroom. Use of Formula 2 can reduce air bacteria up to 2,666 CFU/ m^3.

Keywords : Citrus aurantifolia, PandanusamaryllifoliusRoxb, the number of bacteria

INTRODUCTION

Home health problems are quite complex, one of which is indoor air quality, is also an issue that needs attention because it will affect human health. Room air quality caused by several things, such as lack of ventilation or too wide ventilation, the source of contamination in room, outdoors or on building materials. According Kasdjono, 2011, that healthy house must qualify for adequate ventilation, cubicle dwelling density, as well as occupant behavior in home[1)].

The results of the United State Environment Protection Agency (USEPA) that indoor pollution can be two until five times higher than outdoor pollution and one of the five major risk of pollution that threatens human health. According to Azwar, 1996 every gram of street dust containing approximately 50 million bacteria, whereas the dust in the room could contain 5 million bacteria. The high number of bacteria in indoor air is associated with potential disease acut respiratory infections (ISPA), pulmonary tuberculosis and Influenza[2)].

Results of research Nugroho, 2010, stating there was a significant correlation between the levels of dust in the house with ISPA in infants in PuskesmasDlingo. Another study stated that the number of airborne bacteria will grow if the residents who suffer from diseases such as respiratory infections, (Joseph and Sulistyorini, 2005) [3)].Results of research bacteria in the air during the day in nursery Hospital Kuala Kapuas Soemarno known among A335-1050 CFU/m^3 of air. This situation shows that the number of bacteria in the air is above the required standard is 700 CFU/$m^3$of air (Bahri, 2010) [4)], as well as the results of research

in the rooms inpatient Children's Hospital Banjarnegara shows the average measurement number of bacteria air 2566 CFU/m^3 (Andriyani,2010) [5].

In this study, one solution is to use Citrus aurantifoliaextract and PandanusamaryllifoliusRoxb leaves. Substances contained in lime one of them called limonene. Lime is one of the essential oil producing plants in which the skin of fruit contains a very complex chemical compounds and fly oil contains limonene (33.33%) where the compound that has the ability as an antimicrobial compounds and beneficial to health (Astarini 2010) [6]is to inhibit the growth of bacteria by inhibiting the function of the cell membrane (Goodman and Gilman, 2008) [7]. The results of the study (Setiorini, 2011) showed that the ethanol extract pandanwangi leaves have antibacterial activity against Propionibacterium acnes and Pseudomonas aeruginosa[8]. 70% ethanol extract pandanwangi leaves only has an antibacterial activity and does not have as an anti-fungal activity (Arini, 2012) [9].

Limonene is a carbon compound that becomes part of a 95% oil in orange peel and lime fruit, are often used to give the smell of citrus in household cleaners. In addition to providing smell, in this substance contains anti-bacterial and anti-fungal. According to the study, anti-bacterial in the lime is more powerful to kill bacteria and fungi than other chemical substances, such as anti-bacterial that are in the bath soap, dish soap and detergent. Besides lime slices with pandanwangi leaves, this plant is a family member Pandanaceae also called PandanusodorusRidl. As constituents of herbal oil concoctions, pandan leaves are mainly used as fragrances (Desputrohome 2008) [10]. Based on the research results Yudha et al, 2012, pandanwangi able to reduce the number of bacteria on washing lunch box, because the content of the material is antibacterial, namely Flavonoids[11]. There is the effect of aromatherapy extract lime (Citrus aurantifolia) in inhibiting air bacterial growth at ICU room Sultan Agung Semarang (Sari, 2012) [12].

Based on preliminary test results on September 1, 2015 by describing the essential oil 2 ml and 100 grams sliced pandanwangi leaves 1 cm, with the result on the pre 2666 colony/m^3, Plate method and post obtained number of air bacteria amounted to 1,166 colony/m^3 Plate method. The researchers tried to use Formula 1, which is essential oil (1 ml + 4 ml of ethanol) and 100 grams sliced pandanwangi leaves, Formula 2 Essential oil (2 ml + 8 ml of ethanol) as a solvent and 200 grams sliced pandanwangi leaves, and the control bedroom without treatment.

The purpose of this research is knowing the use of the formulation model of lime peel extract and pandan as an antimicrobial to decrease the number of air bacteria at bedroom.

METHOD

The research design is experiment with Pretest-Posttest With Control Group Design(Notoatmodjo 2005) [13], whose results were analyzed by descriptive and analytic.

The model used in this study is a model formula Citrus aurantifolia extract and PandanusamaryllifoliusRoxb leaves, then put into a container which contained applicator tool which has four fan measuring 12x12 cm presented in a bedroom. Extracts taken the active ingredient is the essential oil.

The number of air bacteria is measured before exposure and after 0.5 hours exposed. Measurement of temperature and moisture room at the time of sampling. The population is all houses in RW 20 Baciro Yogyakarta as many as 310 houses, excluding restricted population, residential river area (Girli), which has a boarding house. Added with a house that has a minimum of 3 bedrooms that have almost the same construction, the total number

is 71 homes, 71 x 3 = 213 bedroom. Samples were taken 10% with 21 rooms is measured pre-post = 42 samples. Sampling was using random sampling.

Sampling using midget impinger in the treatment of Formula 1, Formula 2 and controls. Data were analyzed by descriptive and analytic. In the analytical data that is performed ANOVA test with 95% significance level (α = 0.05), followed by LSD. Data is not homogeneous then using the Kruskal Wallis test.

RESULTS

From the measurement results of air bacteria in bedroom after treatment with Citrus aurantifolia extract and Pandanus amaryllifolius Roxb leaves,data obtained as in the following table:

Table. 2
Result Score for the number of air bacteria in bedroom
Model Formula 1

Sample	Pre	Post	Difference
1	5667	5167	500
2	4500	4167	333
3	3833	3667	166
4	4000	3833	167
5	6833	6000	833
6	8167	7667	500
7	1833	1500	333
Total	34833	32001	2832
Average	4976	4572	405

From Table 2, it is known that the average number of air bacteria in bedrooms is 4,976 CFU/m^3, while in formula 1,the average decrease in the number of bacteria is 405 CFU / m^3. An average decrease of 8%.

Table. 3
Result Score for the number of air bacteria in bedroom
Model Formula 2

Sample	Pre	Post	Difference
8	6166	4333	1833
9	4000	2833	1167
10	3500	1834	1666
11	7167	5333	1834
12	7333	5833	1500
13	7333	4667	2666
14	1333	833	500
Total	36832	25666	11166
Average	5262	3667	1595

From Table 3, it is known that the average number of air bacteria in bedrooms 5262 CFU/m^3, while in the second formula, the average decrease in the number of bacteria is1595 CFU/m^3. An average decrease of 30%.

Table. 4
Result Score for the number of air bacteria in bedroom
Control group

Sample	Pre	Post	Difference
15	4833	5167	-334
16	3333	4500	-1167
17	1333	2000	-667
18	4167	6333	-2166
19	6167	5667	500
20	6333	5667	666
21	2167	2000	167
Total	28333	31334	-3001
Average	4048	4476	-429

From Table 4, it is known that the average number of bacteria is 4048 CFU/m^3, whereas no decrease in control, sometimes even higher.

DISCUSSION

This study was conducted in April 2015 until the end of October 2015, the locations in RW 20 Baciro Yogyakarta. First of allto survey the house, socialize with the community to get their own house and not the lodgement and willing to be a place for research. Making tools applicator conducted in July 2015, before exposure of formulas and sampling firstly conducted prior preliminary test on September 1, 2015 by describing the 2 ml essential oil and 100 grams sliced pandanwangi leaves 1 cm, with the result on the pre 2666 colonies/ m^3 Plate method and postobtained the number of air bacteria amounted to 1,166 colonies/m^3 Plate method. In this study, can not take essential oils in the leaves of pandanus, because there is no equipment in several testing institute (3 place) in Yogyakarta, so pandanwangu leaves thinly sliced 1 cm long with the hope to pull out the aroma of pandanand kill microbes. To strengthen, researchers conducted a preliminary test with 200 grams of pandanwangi leaves exposed for 30 minutes using an applicator tool with the pre 3,998 colonies /m^3 Plate method and post 2831 colonies /m^3 Plate method. In addition, the results research by Aspandi (2008), a sample of 10 kg of fresh leaves of P. amaryllifoliusRoxb. essential oil obtained by 1.2 mL (0.032%) [14]. If this study requires 24 ml, it takes 200 kg of pandanwangi leaves.

Descriptive analysis

In this research, the value of decrease in the number of bacteria on the treatment of Formula 1 containing 1ml of essential oil of lime peel + sliced pandanwangi leaves 100 grams of at least 166 CFU / m3 and a maximum of 500 CFU / m3 while decreasing the number of bacteria for treatment of Formula 2 containing 2 ml essential oil + 200 g sliced pandanwangi leaves change in number of bacteria obtained value of at least 833 CFU/m^3 and a maximum of 2,666 CFU/m^3. That is to qualify up to 700 CFU/m^3 depending on how many the number of air bacteria in bedroom, if the number of bacteria more than 4000 CFU/m^3 is likely to meet the tough standards. In this study, the average number of air bacteria in 21 bedrooms was 4655 CFU/m^3. The high number of air bacteria in bedrooms likely due to the location of the bedroom, the position of the windows, vents facing the morning sun or not, cleaning

the bedroom. (Bahri, 2010) expressed the high number of bacteria is possible because the state of temperature, moisture and ventilation system. In the sample of bedroom 3 and 7, air bacteria in bedroom figures obtained was 1333 and 1833 CFU/m^3, when the ventilation bedroom facing toward sunlight and ventilation more than 10% [4].

Formula Essential Oil Peel Lime and Leaves Pandan Wangi as anAnti MicrobialAgaints Air Bacteria

Result of Exposure lime peel and pandanwangi leaves both in Formula 1 and Formula 2 affect the decrease in the number of air bacteria. There is an effect of Essential Oils Peel Lime and Pandan Wangi leaves is sliced thin, so it can be accepted and trusted.

This result of this study is siginificant, it is consistent with research (Sari et al, 2012) peel lime extracts aromatherapy affect the reduced number of air bacteria in ICU Islam Sultan Agung Hospital Semarang[12]. Giving aromatherapy lime peel extract with 100% concentration effect of reducing the amount of air bacteria compared with controls, but less than the maximum. This is due because in this study did not use an applicator tool so that less than the maximum in the vaporizing aromatherapy peel lime extract.

This resecarh using an applicator tool 20 x 20 x 40 cm by using components of the fan 4 pieces measuring 12 x 12 cm, for lime peel taken from essential oils while the fragrant pandan leaves thinly sliced. Essential oils are kind of oils from plant materials volatile without decomposition and has a distinctive smell (Astuthi et al., 2012) [15].Essential oils are plant compounds typical but not all plants produce essential oils. Essential oils are found only in plants that have the gland cells (Buchbauer 2010) [16].

Lime peel contains essential oils that can inhibit bacterial growth, namely air antibacterial compound limonene, linalool, and mirsen which works by destroying the bacterial cell membrane. Limonene is a hydrocarbon group containing terpenes, pale colored liquid, and have a very strong citrus aroma. The content of terpenes in this limonene has antimicrobial ability to work destroying the bacterial cell membrane. (Goodman and Gilman, 2008) [7].

Pandanwangi plant is one of the potential to produce essential oils (Rohmawati, 1995) [17]. Guzman and Siemonsma (1999) suggested that the pandanwangi leaves contain essential oils, consisting of 6-42% hydrocarbonseskuiterpen and 6% linalool monoterpenes, and 10% aromatic compounds such as 2-acetyl-1-pirolin.This is the most aromatic compounds in thepandan leaves[18].

Lime material in this study was obtained from the purchase in the Talok Markets, Baciro, Yogyakarta, while the pandanwangi leaves obtained from the garden in RW 20, Baciro. Each lime extraction results are different, it is influenced by raw material lime. The success of making essential oils by the raw material and the quality of essential oil produced is determined by the extraction method, the extraction process conditions and the condition of raw material is processed. Proven on the results of research by Yusufoglu et al. (2004) [19]), Ozek et al. (2006) [20]. Boutekedjiret et al., (2004) [21], and Wartini et al. (2010) [22].

Pandan Wangi leaves and lime are the two types of plants that are found in every area including DI Yogyakarta, this plant is often planted in the yard. But the potential for both of these plants in reducing the number of air bacteria in bedrooms need to know.

Decrease in number of bacteria bedroom in formula 1 with formula 2 is no difference in decline, to Formula 1 on average reduce the number of germs 405 CFU/m^3, while Formula 2 on average 1,595 CFU/m^3, Formula1 has the ability to reduce the number of bacteria up to 505 CFU/m^3 while Formula 2 up to 2,666 CFU/m^3. For the standard of 700 CFU/m^3.

This means that the ability of formula 2 is capable of killing microbes up to 55 %, although not up to the minimum standard. The average number of bacteria of 21 bedrooms is 4762 CFU/m^3, it is still far from the standard, so that seems a decrease of approximately only 50%, although there are number of air bacteria in bedroom as much as 1333 CFU/m^3. According to Goodman and Gilman (2008) suspected that the mechanism of action of essential oils undermine the integrity of the cytoplasmic membrane that acts as a selective permeability barrier, bringing active transport, and then control the internal composition of the cell. If there is damage to the integrity of the function of the cytoplasmic membrane, macromolecules and ions out of the cell, then the cell vandalized resulting in death [7)].

In addition to ventilation problems, high rates of air bacteria in bedroom is also due to the cleaning of the room, and the factor of the dry season because of the possibility of dust entering the room is higher than the rainy season. According to the National Institute of Occupational Safety and Health (NIOSH) 1997, the problem of indoor air quality is generally caused by several things, such as the lack of air vents 52%, their sources of contaminants in the room 16%, contaminants from the outdoor 10%, microbes 5%, 4% of building materials, other 13% (MOH (2005)[23)].

Temperature and Moisture Bedroom

The high number of air bacteria is also affected by temperature and moisture room. In this study, using the Kruskal Wallis test results can be concluded that the temperature and moisture on the Formula 1,2 and the Control was no different, meaning temperature and moisture conditions in the experimental group Formula 1, Formula 2 and the controls are the same.

Bedroom temperature conditions ranging 25,3^{0}C until 29,9^{0}C. Based onPermenkes No. 1077 / 2011 on Restructuring Guidelines The air in the house, it was mentioned that a comfortable room temperature ranges between 18-30^{0}C, so the condition of the bedrooms is qualified. Moisture at home samples 2 and 7 moisture is still around 70-79.9% due to measurement was 06 o'clock in the morning, so the moisture is high, while the sample room 1 measurements carried out the late afternoon where moisture already started to rise naturally[24)]. Based on research Istiqomah et al, 2007 stated that the moisture naturally be high during the morning and early evening start at 19:00 and above, In this study, the results of measurement of moisture still in a range qualified by Permenkes No. 1071 / Year 2011 on Restructuring air space that houses 40 until 60%[25)]

Product Acceptance Test Formula Lime Peel and Pandan Wangi Leaves

Of the 14 bedrooms were treated by Formula 1 and Formula 2, stating that the scent feels deeply is the treatment of Formula 2 with 2 ml of essential oil of lime peel and 200 g sliced Pandanwangi. Based on untrained panelists found that in Formula 1, the average value on a favorite color which is 1.7, in formula 2 is 1.71while the odor preferences in Formula 1 gained an average score of 1.1 and formula 2 average value of 1.86. This is according to a statement Istianto and Muryati (2014) [26)], that thepandanwangi as anti microbial may be as the air freshener or aromatherapy.

CONCLUSION

Based on the research that has been done, it can be concluded that there is a decrease in number of bacteria with itrusaurantifoliaextract and PandanusamaryllifoliusRoxb leaves as anti microbial air in bedroom.

Formula 2 is better than formula 1 in reducing the number of airbacteria in bedrooms. Formula 2 can reduce air bacteria up to 1,666 CFU/m^3 with exposure using an applicator tool for 0.5 hours. An average reduction of 30%.

SUGGESTION

Society can use the Formula 2 is 2ml lime peel extract and 200 grams sliced pandan leaves as one of the efforts in reducing the number of air bacteria. at least 1.5 hours each exposure.

REFERENCES

1. Kasdjono,H.,S.,editor. 2011, SanitasiPermukiman, Yogyakarta :Gosyen Publishing.
2. Azwar,A., 1996, Pengantar Administrasi Kesehatan Edisi ketiga, Binarupa Aksara,. Jakarta, 1996
3. Yusuf, N.A., Sulistyorini L, 2005. Hubungan Sanitasi Rumah Secara Fisik dengan kejadian ISPA pada Balita. Jurnal Kesehatan Lingkungan. Volume 1, No.2, Januari, 2005
4. Bahri,S., 2010. Angka KUman Udara Ruang Perawatan Bayi di Rumah Sakit Umum Daerah dr. H. Soemarno Sosroatmojo Kuala Kapuas.
5. Andriyani, 2010. Hubungan Kualitas Lingkungan Fisik Rumah dengan angka kuman udara di Ruang Rawat Inap RSUD Kabupaten Banjarnegara.
6. Astarini, Niluh P. F., 2010, Minyak Atsiri Dari Kulit Buah Citrus grandis, Citrus aurantium(L.) dan Citrus aurantifolia(Rutaceae) Sebagai Senyawa Antibakteri Dan Insektisida, Skripsi, Jurusan Kimia Fakultas Matematika dan Ilmu Pengetahuan Alam Institut Teknologi Sepuluh Nopember, Surabaya.
7. Goodman, B, dan Gilman, J.R, 2008, DasarFarmakologiTerapiVol.2, ECG , 1117-1118.
8. Setiorini, H., E., 2011. Uji Aktivitas Antibakteri Ekstrak Etanol Daun Pandan Wangi (Pandanus ammaryllifolius Roxb.) terhadap Propionibacterium acnes dan Pseudomonas aeruginosa serta Skrinning Fitokimia. Skripsi thesis, Universitas Muhammadiyah Surakarta.
9. Arini, M., 2012. Pengaruh Ekstrak Etanol 70% Daun Pandan Wangi (PandanusamaryllifoliusRoxb) terhadap Pertumbuhan Mikroba yang Abnormal di Kulit Kepala Penyebab Ketombe. http://perpusffup.or.id/index.php?p=show_detail&id=4268diaksestanggaltahun 2012
10. Desputrohome, 2008. DaunPandan, https://desputrohome.wordpress.com/2008/12/12/daun-pandan-pandanus-amaryllifolius-roxb/diunduhtanggal 17 Desember 2014.
11. Yudha, I., Herawati, L., Hendrarini, L., 2012. Pengaruh Perasan Jeruk Nipis (Citrus aurantifolia) pada pencucian kotak makan terhadap Angka kuman di Catering ‘X” Wirosaban. Jurnal Sulolipo, Edisi XXIV/2012: 114-123.
12. Sari, M.,A., Masfiyah, Chodijah, Uji Efektifitas Aromaterapi, Ekstrak Kulit Buah jeruk Nipis (Citrus aurantifolia) terhadap Jumlah Bakteri Udara Penelitian Eksperimental pada Ruang ICU RSI Sultan Agung Semarang. Sains Medika, 4(1):71-77).

13. Notoatmodjo S.2010. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta; 58 p.
14. Aspandi, 2008. Karakterisasi Minyak Atsiri dari Daun Pandan Wangi (Pandanus amaryllifolius Roxb.) dengan GC-MS. Other thesis, Fakultas Matematika dan Ilmu Pengetahuan Alam.
15. Astuthi, Made, Ketutsumiartha, I Wayan Susila, Gusti Ngurah Alit S.W. & I Putu Sudiarta. 2012. Efikasi Minyak Atsiri Tanaman Cengkeh (Syzygiumaromaticum (L.) Meer. & Perry), Pala (Myristicafragrans Houtt), dan Jahe (Zingiberofficinale Rosc.) terhadap Mortalitas Ulat Bulu Gempinis dari Famili Lymantriidae. J. Agric. Sci. And Biotechnol, vol. 1, no. 1, h. 15.
16. Buchbauer, Gerhard and Kemal H. C. Başer. 2010. Handbook of essential Oils: Science, Technology, and Applications. CRC Press/Taylor & Francis,975 h.
17. Rohmawati, E., 1995. Skrining Kandungan Kimia Daun Pandan serta Isolasi dan Identifikasi Alkaloidnya. Fakultas Farmasi, Universitas Gajah Mada.
18. Guzman CC and Siemosma SS., 1999, Plant Resources Of South-East Asia, spices no.13 Bogor.
19. Yusufoglu, A., H. Celik and F.G. Kirbaslar. Utilization of Lavandula angustifolia Miller extract as natural repellents, pharmaceutical and industrial auxiliaries. J.Serb. Chem. Soc .69 (1): 1-7.
20. Ozek G., Ozek, T., K. H. C. Baser, A. Duran, M. Sagiroglu. (2006). Comparison of essential oil of Xanthogalum purpurascens Lallem obtained via different isolation techniques. Journal of Essential Oil Research : JEOR. Vol. 18 (2): 181 – 184.
21. Boutekedjiret, C., R Belabbes, F. Bentahar, J-M Bessiere, S. A. Rezzoug. (2004). Isolation of rosemary oils by different processes. Journal of Essential Oil Research : JEOR. 16 . (3) : 195 -199
22. Wartini, N. M., I.G.A. L. Triani and A. Saputra. (2010). Komposisi ekstrak flavor daun pandan wangi (Pandanus amaryllifolius Roxb.) yang dihasilkan dari perlakuan jenis pelarut dan lama ekstraksi. Prosiding Seminar Nasional APTA. ISBN : 978-979-96290-1-2.
23. Depkes RI, 2005. Parameter Pencemar Udara dan Dampaknya terhadap Kesehatan. www.depkes.go.id/download/Udara.P DF. diunduh tanggal 19 September 2015.
24. Kemenkes, 2011. Peraturan Menteri Kesehatan Nomor 1077/Per/V/2011 tentang Pedoman Penyehatan Udara dalam Ruang Rumah. http://repository.usu.ac.id/bitstream/123456789/37496/1/Appendix.pdf diunduh tanggal 22 April 2014S,
25. Istiqomah, S.,H.,Rahardjo, A., Fauzie, M.,M.,2007. Arang Aktif untuk menurunkan Kelembaban Kamar Tidur. Sanitasi Jurnal Kesehatan Lingkungan,Yogyakarta, Volume 1 No.1 tahun 2007.
26. Istianto, M., Muryati, 2014, Minyak Atsiri Jeruk : Manfaat dan Potensi Peningkatan Nilai Ekonomi Limbah Kulit Jeruk, Badan Penelitian dan Pengembangan Pertanian, Kementerian Pertanian.

O-12

STRENGTHENING SOCIAL CAPITAL ON MOSQUITO ERADICATION OF DENGUE HEMORRHAGIC FEVER IN BANTUL DISTRICT

Heru Subaris Kasjono[1], Subiyanto[2], Drajat Tri Kartono[3], Eny Lestari[4].

*[1] Graduate Student of Sebelas Maret University
**[2]Medicine Faculty of Sebelas Maret University
***[3]Social Politic Faculty of SebelasMaret University
****[4] Doctoral Program of Sebelas Maret University
*Corresponding Author:
Email: kherusubaris@gmail.com

ABSTRACT

Some the concept of promoting the health existing not emphasized on the social capital that clearly in underlying eradication dengue fever.The concept that have been developed inclined to conduct modification the behavioral changes in the community through extension activities and the mosquito eradication program dengue fever, without regard to social capital owned by the community so as to cause various intervention program has been given to the community did not sustainable.This condition that have caused the stop when of the programs conclusion and the community was unable to continued its existing. *Objective:* Formulate capital strengthening social model in mosquito nest eradication dengue fever*. Research method***:** Study design was cross sectional. Population study is community around Bantul district. Sample was collected as 600 house hold devide on two categories endemic and potential areas. Data was collected with interviews and observation. Data were analyzed with person corelation, confirmatory analyzedand path way analyzed. *Result:*Based on the results of the analysis, social capital more significant to affect participation mosquito eradication program of dengue fever in environment t=10.86 than perceptions of mosquito eradication program dengue fever (t=9.86). Perception counseling more significant to affect participation mosquito eradication programof dengue fever in households t=8.50 than participation mosquito eradication program of dengue fever in environment t=1.20.The mosquito eradication program dengue fever more significant to affect participation mosquito eradication programdengue fever in environment t=5.09 than participation mosquito eradication programdengue fever in households t=0.21. *Conclusion:*A method of strengthening capital social and the application of social capital in society need to be considered in an effort to sustainability a program reduction and prevention of dengue fever case with see ability or potential social capital in society.

Keywords: *social capital, mosquito eradication program, dengue haemorhagic fever*

INTRODUCTION

Indonesian government had made efforts to control dengue, such as spraying, larvaciding, eradicating dengue breeding place, eventhough the results are still not as expected [(1)]. The success of the program of elimination of mosquito breeding places is still low since there is no public participation effort in vector control. Therefore, reducing dengue related to community participation is one of the government's concerns.

The government of Indonesia had made dengue control programs which are related with community such as vector control with promotion aspects. But, none of the promotion programs involving community participation. Therefore, for the community, the programs are not interesting to be participated in. Community participation is main role of health program,

especially for dengue program. Public participation is a key factor for the programs to be success and sustainable among community proces[3]. Previous study was concluded that low public participation makes one particular program is not sustainable. Participation of public is the main key in community mobilization for dengue control program [4].

More strategies, approaches and other programs for controlling dengue was implemented, but it is difficult to be applied because of low community participation. Social capital can be built through the various levels, namely at the level of micro and macro. Previous study was stated that social capital becomes one of the alternatives to solve health, poverty, and economic problems[5,6].

Some the concept of promoting the health existing not emphasized on the social capital that clearly in underlying eradication dengue fever.The concept that have been developed inclined to conduct modification the behavioral changes in the community through extension activities and the PSN program dengue fever, without regard to social capital owned by the community so as to cause various intervention program has been given to the community did not sustainable.This condition that have caused the stop when of the programs conclusion and the community was unable to continued its existing.This study was aimed toformulate capital strengthening social model in mosquito nest eradication dengue fever

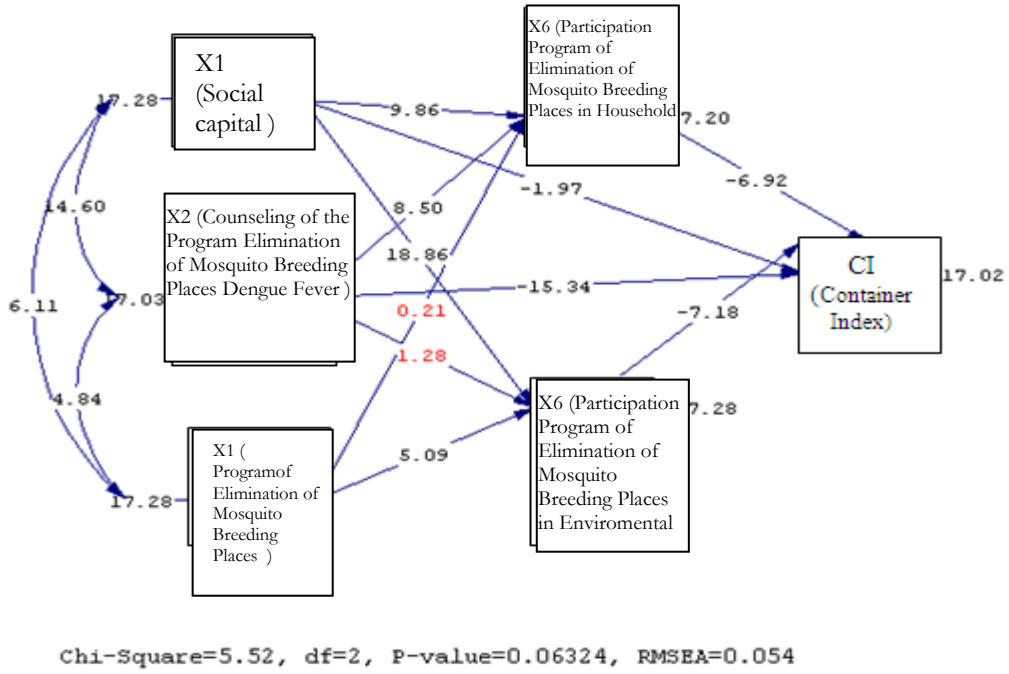
RESEARCH METHOD

Research was used cross sectional design. Population study is community around Bantul district especialy of house hold level as 254.149 house hold. Sample was collected with proporsive sampling as 600 house hold sampling devide on two categories first endemic areas and second potential areas.

Data was collected with interviews to house hold and observation. Instrument devides social capital, conseling, programs, house hold participation, environment participation, dengue density and container index. Instrument was test for validity and reliability befor applied on field. Validity and reliability was done for 225 subject. Data shown with table, and naration. Data were analyzed with person corelation, confirmatory analyzed and path way analyzed with significant level 95% convidence interval.

DISCUSSION

Based on the results of the analysis the as seen in figure follows:



A picture.1.The model the theoretical variable social capital, counseling and program.

Based on the results of the analysis the can be concluded that social capital more significant to affect participation PSN of dengue fever in environment t = 10.86 than perceptions of PSN dengue fever (t = 9.86).Perception counseling more significant to affect participation PSN of dengue fever in households t = 8.50 than participation PSN of dengue fever in environment t = 1.20. The PSN program dengue fever more significant to affect participation PSN of dengue fever in environment t = 5.09 than participation PSN of dengue fever in households t = 0.21. Based on the analysis of the can be concluded that social capital more effective to reduce CI through participation PSN of dengue fever in environment.Perception to these services PSN dengue fever more effective to reduce CI through participation PSN of dengue fever in households and the PSN program dengue fever more effective to reduce CI through participation PSN of dengue fever in environment.

There is a significant relation exists between social capital by participation individual (Drain, Close and Bury, abate, pet fish and waste management).This situation can be caused components who built social capital as the role of figures the community so individual terpangil to participate in preventing dengue fever as 3 M, pet fish and manage garbage. Components which is in social capital as the role of a community figure or social institutions cannot be separated from the role of in preventing dengue fever.Community leaders capable of mengerakkan the community and consequently they willing to participate in preventing dengue fever through 3Ms, abate, pet fish and waste management.

The result of this research in accordance with stated that the perception and society discipline to the environment relating to practice PSN-DBD.[7].The role of community figures very fundamental in an effort to the movement of public especially for preventive efforts dengue fever.The role of community figures not only men but women can as an agent the movement of the community.The survey results social capital of NorthernSweden[8], women

more likely to have access to bridge social network than with men.Social network may be the result of gender relations that is in the hope of being higher that women have to involved.

There is a significant relation exists between social capital by participation in the neighborhood.This situation can be caused by social capital owned a society as social capital cognitive of perception cognitive people feel something things in the community the.A member of the in trouble, a member of other communities to feel distress so that this situation is social capital for the to participate in an activity.The social capital in society is a driving realize efforts to prevent dengue fever through scaling citizen so that in environment numbers people free larva increased and container index so prose transmission of dengue fever did not happen because termination chains transmission of dengue fever.

Cognitive social capital tends to be not seen in its implementations in the social because social capital in the form of cognitive more perception, feelings and state of being equal in the public so that social capital cognitive tending to can form a norm, the belief or customs in a society.Describing cognitive social capital as the side of less reality of social capital, norms trust, solidarity, and reciprocal.[10], and interaction between the local custom and several aspects of psychology can unite as the principle of customs, the value of ethics and a norm of the teachings of Islam make a guide in the management of emotions so as to bring individual at of its characteristics[11].The state of this is a causing the community having similarity in interact in the community.

Trust, belief that is in the social can grow aa good idea especially the idea of health. The idea or ideas nice about efforts to prevent dengue fever is a financier for the community that in local community areas increase the free larva. That this confidence built on the idea that behavior healthy more determined by social identification collectively rather than by selection individual rational.[12].

Social capital that is to the community it is essential in the fight against dengue fever because dengue fever involving vector of disease carrier, to break the chain of transmission of is the best solution the eradication of dengue fever.Termination chains transmission of will more efficient if the as the subject directly involved and play an active role in the effort to eradicate.

Identification strength and weakness of the community is highly determine pattern eradication dengue fever.Social capital held by the play an important role in eradication dengue fever.In addition role of the government is important in the fight against dengue fever. Effort that is can be controlled in the prevention dengue fever such as population number, temperature, residential area, global climate change to involve the role of governments as regulator in the application of a policy of supporting eradication dengue fever[13].

There is a significant relation exists between social capital with withCI.This situation can be caused by social capital owned by the community could actively in an effort to management of the environment place life vector mosquito so transmission of the virus dengue disconnected.Efforts termination chains transmission of mosquito can be done by removing breading a place *Aedesaegypti* mosquito.This can be seen from the results of research shows that in the area non endemis the majority of the community participate in PSN dengue fever.The result of this research in accordance with research in the study social capital and self-rated health in England; aggression social trust, and community participation contribute to health autonomous society.[14].The state of this is in line with the situation in the study areas that got that in the area potential tending to social capital greater while in the area endemis.

Approach strengthening focused on assistance to the community to identify attention the community itself, strengthening in confidence and mengali the ability yourself their own and reach out for the ability and confident to act.This to be unique based on the bottom up and calls for a different capabilities of penggiat health.Their activities act like a catalyst, get something to do and then pulls of a situation.Strengthening focuses on strengthening strengthening own and strengthening community.Strengthening own used to to promote health based on counseling and use clients.It aims to increase control of the community towards own their own health.While strengthening of the community to change the fact community social.

The results of the analysis the showed that social capital and the PSN program dengue fever effective to reduce CI through participation environment.This situation can be caused by rerata in the area have the potential to higher like the education, welfare and socioeconomic.The state of this is a causing social capital significant to affect ci through participation the environment as public awareness high.This situation can be concluded that the public participation tends to be successfully through a method of social capital in bridging and lingking.Social capital in bridging involving the role of community figures.Social capital in lingking involving the role of institutions good formal institutions and non-formal in society.Reducing CI will be more effective if involving various sectors and cross program. Disease control program need a clear and integrated with community involvement strong.The princes communities is a channel whose effective to dispense news and educate people and encourage changes in the household level for change in a broader spectrum of people.[12].

The decline CIis more oriented towards in the individual and the family because the indicators used CI among other places breeding place that is at environment individual and the family.This is in line with the opinionswhich states that efforts relating to the state of the environment, approach more just in social cohesion while the efforts relating to individual and the family approach more precise with social network.On social cohesion the movement of the community resting on the the role and community leaders involved through network is in society while social network more resting on the role of individual and the family in an effort to the movement of the community[7].The state of this is a causing social capital more likely to have an impact on CI.

Based on the study theoretical relating to environmental factors can be concluded that social capital and the PSN program dengue fever through the environment in efforts sent down container index.The theory the health belief model associated with environmental factor is a factor enabling.Enabling factors had the strategic to influence environmental factors. Factors enabling involving cultural factors of society itself.The promotion health involve the agent of change associated with culture of society.Local culture that we can encourage or barrier the application of health.

Cultural factors of the local community can not be separated from the social network in a society itself to intervention in the area endemis and potentially important involved a number of elements that carries on change culture of society.Culture elements or norm that forms a society can not be separated from the network the development of itself.A network of social to simplify the promotion of health provided to the public from the government.Social network or the agent of change behavior to simplify the occurrence of a change behavior in the community.The a favorable reception provider by the community made a trust and this situation caused behavior in the community.

Compliance the rules of the community to cause of the increased participation the environment so as to cause a decline in a city.This condition can be caused by the presence

of the existing rules in communities tend to be followed by these communities.The rules and regulations in society can develop into a norm existing dimasyarakat so as to form culture of the people.There was a regulation relating to the prevention of disease causing the occurrence of dengue fever the participation of the community in the environment around the community and consequently they participate against the prevention of dengue fever.

Public participation in various preventive programs dengue fever cause program that has been given to the community can work itself.Sustainability government programs have been launched can be caused the social capital in society because the community have formed regulations to of value, a norm or regulations that is in the community.Strengthening self regulation in society could be set up by public figure or organizations that isin environment the community.

Based on the aspect of individual strengthening can be strengthening self estem that can be shaped positive perception of of behavior individual so as to cause suritauladan for individuals another especially in the prevention dengue fever.The level of individual strengthening self estem is the key to capital strengthening social at the level of individual[8] Active participation of the public related to prevention dengue fever cause in local community is free from vector *Aedesaegypti* mosquito.Participation is cohesion more has a effective than by participation who social.This is apparent from the results of the study that the rules in an environment the community tended to obeyed by a member of the community so approach cohesion more appropriate used compared to approach social network.Approach that is cohesion recognized much more difficult than with an approach that is social network but the success of approach that is cohesion better able to boost the problems that occur in the community.

This situation in line with the concept of[10], showed that capital social formed one of these rules in society. Rules in society can be threat if the people did not meet rules. Compliance community members of the existing can grow peace in society, this is capital for people to actively participate in various health program.Regulations obeyed in society that the community form a pattern order and discipline for what planned by the community.This is in line with the indepth interview showed that programs planned by the village, provided by all the elements of society and evaluated every two weeks to do with the monitoring PSN together.

Strengthening social capital in society can be increased input to the community as the provision of legislation and repair of tissue in the community especially in the area potential. In the area potential strengthening regulations the community is more effective in lowering CI because most in the area potential social capital tends to be better.Input social capital to the low caused various problems related to health.The results of the study before about capital strengthening social, and education, work, income, ethnic, social status and gender will form a culture and social value.Of the cultural good especially in obey of regulations in the community to be essential in the fight against dengue fever.The regulations is in the public related to social and political policies that develops in the community can affect culture and value in the community.[10].

Based on the evaluation of to capital social in the community got that program can work out if the program involving public participation actively good individual participation, the family and social.Strengthening program social capital for the can work out through of indicators 1.A program linked (lingking) to the objective that will involve society, individual and the family, 2) Formulate participation of the community to involved (involve the community).

Public participation not only in the short term but long-term, 3)Strengthening community s ability, 4) Program integrated by participation family and community, 5) Program connected with wide social environment, 6) Are involved organization in the community.

Virtue of several studies old got that people characteristics can affect status out come the community especially of the health.Factors status public among others community economic social status, the health services by the community and a factor of your own individuals like the education and socioeconomic status families[11].Capital strengthening social good can form a value in a society because the capital social is elements of the form culture of society. The change in value, a norm and rules in society that forms culture cause several programs done to the community more sustainable of concurrent who held by the in accordance with programs .

Capital strengthening social provide a leadership role important in effort to approach individual and the family.The role of individual and the family can be bonding, bridging and lingking and build confidence in society.A network of ofbonding.Bridgingand lingking and interlacing trust causes the formation of a social exchange who can form value, a norm and customs in society and the regulations in society. Structures of tissues formed because social exchange that form a network, norms and normal rules in the community so trained tissue strong impact the emergence of a norm justice[6].

Strengthening a network of information on health can be through some media communication between other education, media informal, media a gathering of television and in the community.Some previous studies conducted of public communications in preventing through the medium of education into the delivery of the message is very important in the context of behavioral change.[9].Behavioral change through the medium of education can form of value and belief in these communities.The change in the age of demanding the occurrence of various changes a method of behavior changes.Some reasearh findings earlier in the era prior 80s parents and public figures tend to be the agent of change behavior in the community, but in an era when this behavior changes more efficient through the medium of education or school children.

Capital strengthening social good can form a value in a society because the capital social is elements of the form culture of society.The change in value, a norm and rules in society that forms culture cause several programs done to the community more sustainable of concurrent who held by the in accordance with programs.Culture of society formed from the value, a norm and customs in the neighborhood the people who became legal based on the culture.In culture of society related two things important that is cultureconstract and the context culture in the community. Cultureconstract is form of culture and the context of culture are the contents of the cultural.[13].Cultural change need the time which long.Cultural change can pass conditions of the community social that will eventually become the culture of society[10].There are two a vital part that is affecting status health of the society structure from the social itself and factors between from the social.Factors a social structure covering the social context economic, political and social position community economic.Factors between from the social among others a health system in a society[10]..

Transitional changes culture could were conducted with various the situation and conditions of the community with read every condition appears in the community.Cultural change or transition culture can be described as into three who at the level of macro, the level of meso and levels of micro.Management transition culture involved a number of the level of the policy among others macro level, the level of meso and levels of micro.At the level of

macro is a condition global and regional situation the culture of society).At the level of meso is a condition community social and at the level of micro is the culture and transition culture[12]. Change at the level of macro could be done through policy interventions stakeholders at the central level, provincial and district.Change at the level of meso can be done by the at the community figures as religious figures and traditional leaders.Change at the level of micro can be done at the level of families (the family head and family members).

Based on the results of model overall the aspect of environmental play an important role in efforts to prevent dengue fever.In the without seeing the area potential or endemis modification intervention of a more right done to the environment.The state of is caused by model the transmission of disease through vector to interventions that environmental be a source of success in achieving its objectives eradication dengue fever.The efforts made by the related with modification environment.Modification environment can be achieved if the community was involved and play an active role in the fight against disease.On the situation this kind of community capital strengthening social especially on the cognitive much more efficient in efforts to improve resources in society.

The results of the study illustrate that capital strengthening social possible more sustainable in various programs health, especially dengue fever programs.The state of this can be viewed from the results of the analysis which indicates that social capital more effective to reduce CI through participation environment so intervention appropriate good in the area endemis and potential is strengthening the social capital.Sustainability program supported by offenders were own, in this matter is the community.Resources formed in communities is resources important for the sustainability of solving the problems faced by by the community.

Based on the concept of capital social on a system the implementation of the prevention dengue fever covering input, the process and out put into increase potential social capital to the community.The concept of used in capital strengthening social among other :

Tahap 1. Input

Input on capital social in society covering social capital owned by the community seberti value, a norm, education, socioeconomic, income, regulation .Intervention social capital in society is the basis strengthening in order sustainability a program health applied in society. Strengthening social capital to the community be a key the success of an health programs.

Strengthening the substance that builds social capital in the community can a determiner success of particular health program that have been undertaken in the community.Who developed the concept of community social capital related to an program included: : 1) A program linked (lingking) with a target that is community involvement, individual and the family2) Formulate participation masarakat to engage (involving community.The participation of the community not only in the short term but the long term 3) The strengthening of the ability of the community 4)Program participation integrated with thefamily and the community.5) Program environment connected with wide social 6)Organization are involved in society.There are two a vital part that is affecting public health status namely structure of social factors itself and factors between achievement of the social.Factors in the social structure covering the context of socio-economic and political and social position community economic.factors among of social factor among other health system that is in the community.

Input in program tending to given in the areas as seen from status areas.Status areas can be described as into areas endemis and potential.Strengthening program the community

is particularly in the area endemis.Strengthening based health program involved a number of inputkind of like an human resources, budget, proper facilities and social capital that is in society.Human resources has a role to play peting in the success of an health programs. Budget resources demonstrating ability an area in funding health programs.Support a source of budget is important in effort to the development of various activities.Facilities shows that the readiness from stakeholders on strengthening health programs.

Forms of promoting the health of an individual good, group and the require a budget that great that budget availability become a key factor in the success of promotion of health care for people in those promoting the health disease of dengue fever.The budget for promoting the health can not be separated from the fact that the commitment from the regional government in the form of advocacy.Advocacy trying to or process of that was strategically planned to get the commitment and support of related stakeholderdiscusssions.Advocacy directed to produce a support that policy was (for example in the form of legislation), funds, a means of, and others.

Step 2. Process

Process on social capital was more focused on the concept of the behavioral changes in a society forming a network in society.Process on the formation of social capital among other social support, the influence of social, social control, participation social and trust in the community.A process in social capital supported by 3 components the level of influence important that is at the level of macro, messo and micro.The transition process values change, a norm can be done by somewhere and condition of a community with read every condition appears in the community.Cultural change or transition culture can be described as into three who at the level of macro, the level of meso and levels of micro.At the level of macro is a condition global and regional situation the culture of society). At the level of meso is a condition community social and at the level of micro is the culture and transition culture. Change at the level of macro could be done through policy interventions stakeholders at the central level, provincial and district.Change at the level of messo can be done by the at the community figures as religious figures, adat leaders.Change at the level of micro can be done at the level of families (the family head and family members).

Three indicators among other things these cultural structure, the process of indicators behavior change, indicators outcome of behavior.The structure of the culture of other adoption, legislation, and exsistensi.To the process of indicators behavior such as the legalization of against the implementation of behavior that is practiced by the community.Come on out indicator is the result of the end of an action in society who have made the habit of conformity to rules.Processes that take place in the community can through receptive (of revenue), leadership, its sociocultural context, and the context of evaluation.

Process on the program is focused on aspects program, public participation and participation environment.The implementation of the program emphasizes how the implementation of a program can reach out put the program.Many obstacles faced in of program implementation as on the officers or of society itself.Health program can work conformable if the program involve the community as the subject. Public participation it is important in an effort tosustainability a program health.Public participation had an important role in the achievements of out put the program and sustainability health programs.

Participation environmental off of the value of, a norm or culture that is in society to participate of the program health.Participation environment can through some process as

receptive (of revenue), content leadership, its sociocultural context, and the context evaluation. Components receptive consists of physical revenue, social, culture, structure, system and social network.Components leadership related with a transformation of leadership in society, structure society organisations, the decision-making process in the community, the role of in society.Components include the value of culture and the belief in the community.

Capital strengthening social good can form a value in a society because the capital social is elements of the form culture of society.The change in value, a norm, rules in the community that forms culture cause several programs done to the community more sustainable of concurrent who held by the in accordance with programs.

The success of the health program especially program dengue fever can be influenced by strategy promotion in of program implementation as advocacy, social support, community empowerment, and partnerships.Advocacy could be conducted by stakeholders through policy regulations that is oriented in health.Support, social support may be conducted by community figures and organizations that are in environment of the community.For communityempowerment can be done by mengali capability owned by the community.

Step 3. *Out put*

In out put social capital that produced on social capital among others needs access, the behavioral changes healthy, increased knowledge health, participation environment, regulations that obeyed, and the dissemination of information.The result of capital strengthening social are the condition of the extent to which the establishment of the people from the input of social capital.Needs access points to the need the public about the required information.The behavioral changes show the extent to which the behavioral changes in a society to on conduct healthy.Increased knowledge show an increase capacity kongnitive the public about health information.Indicators increase out put can be seen from the contents of substance program that has been run by health department.Participation environment shows that the people have health care of the problems faced by environment so of the nature of individual slowly changed being of the nature of togetherness. Regulations that obeyed show the amount of obedience on the perceived value of the community and whose culture is there is in those societies.

In out put programs can according to the free larva and container index.Indicators that may indicate how big out put social capital related to the health which have been taken by the government areas such as CI.The achievement of indicators high is a step in break the chain of transmission of dengue fever.

CONCLUSION AND SUGGESTION

Model through the promotion of health in the program of mosquito eradication dengue fever that is effective in lowering container index (CI) by strengthening social capital through the family participation and participation in the environment.

A method of strengthening capital social and the application of social capital in society need to be considered in an effort to sustainability a program reduction and prevention of dengue fever case with see ability or potential social capital in society. A method of strengthening capital social can through strengthening the regulations is in the community and strengthening social network to support togetherness good in the face of trouble and other aspects.

Mosquito eradication of dengue hemorrhagic fever, that sustainable should include input, the process and out put into increase potential social capital to the community.Input on capital social in society covering social capital owned by the community seberti value, a norm, education, socioeconomic, income,regulation.Intervention social capital in society is the basis strengthening in order sustainability a program health applied in society.Strengthening social capital to the community be a key the success of an health programs.Process on social capital was more focused on the concept of the behavioral changes in a society forming a network in society.Process on the formation of social capital among other social support, the influence of social, social control, participation social and trust in the community.Inout put social capital that produced on social capital among others needs access, the behavioral changes healthy,increasing Health, participation environment, regulations that obeyed, and the dissemination of information.

REFERENCES

1. Bourdieu P. 1986.*The Forms of Capital. In: Richardson JG, ed. Handbook of Theory and Research for The Sociology of Education*. Westport, CT: Greenwood Press; pp. 241_58.
2. Campbell C, Jovchelovitch S. 2000. Health, Community and Development: Towards a Social Psychology of Participation. *J. Community ApplSocPsychol; 10: 255-70.*
3. Chan, W.I., Trimarchi, M., and Negreiros, J., (2011) Management Transition in South Korea; A Case Study, *Asian Journal of Business and Management Sciences* ISSN: 2047-2528 Vol. 2 No. 6 [53-68]
4. Edwards. 2004. Measuring Social Capital: an Australian Framework and Indicators. Australia: Australian *Bureau* of Statistics. ISBN 0 6642 47937 2.
5. Eriksson, M. 2010. *Social Capital, Health and Community Action – Implication for Health Promotion*.Sweden:Umea University.
6. ..... 2011. *Social capital and health implications for health promotion*. PhD Review. Department of Public Health and Clinical Medicine, Epidemiology and Global Health, Umea University, Umea, Sweden.
7. Eriksson, U. 2012. *Healt Outcomes among Swedish Children: the Role of Social Capital in the Family, School and Neighbourhood*. BMC Public Health 2013, 12:628 http://www.biomedcontrol.com/471248/19628
8. Harpham T, Grant E, Thomas E. 2002. Measuring Social Capital within HealthSurveys: key issues.*Health Policy Plan* 2002; 17: 106-11.
9. Krishna .A and Sharder. E. 2000. *Cross-Cultural Measures Social Capital: a tool and Results from India and Panama. Social Capital Initiative.*Working Paper N0.21. Washington D.C. The World Bank.
10. Målqvist, M., Hoa, D.T.P., and Thomsen, S., 2012. Causes and determinants of inequity in maternal and child health in Vietnam, *BMC Public Health 2012*, 12:641.http://www.biomedcentral.com/1471-2458/12/641
11. Nazareth T, Rosa Teodósio, Graça Porto, LuziaGonçalves, GonçaloSeixas, Ana Clara Silva and Carla Alexandra Sousa. 2014. Strengthenig the Perception-Assesment Tools for Dengue Prevention: a Cross Sectional Survey in a Temperate Region (Madeira, Portugal). *BMC Public Health*, 14:39. http://www.biomedcentral.com/1471-2458/14/39. Aksestanggal 12 Oktober 2012
12. Nadioo J. dan Wills. 1996. *Health Promotion. Foundation for Practice*. London: BaillereTindall.

13. Pasick, R.J Burke, N.J., Barker, J.C., Joseph, G., Bird, J.A., Otero-Sabogal, R., Tuason, N., Stewart, S,L., Rakowski, W., Clark, M.A., Washington, P.K., and Guerra, C., 2009. *Behavioral Theory in a Diverse Society: Like a Compass on Mars Health EducBehav*. 2009 October ; 36(5 Suppl): 11S–35S. doi:10.1177/1090198109338917.
14. Poortingga W. 2006. Social Capital: An Individual or Collective Resource for Health. *Social Science & Medicine*, 62(2), 292e302.

O-13

Use of Learning Media Campus Wall Mural (Mudik) Toward Achievement at Waste Management Subject of Students DIII Environmental Health Departement of Health Polytechnic of Health Ministry in Yogyakarta 2016

Bambang Suwerda

Environmental Health Departement, Health Polytechnic, Health Ministry of Yogyakarta, Jl. Tatabumi 3, Banyuraden, Gamping, Sleman, Yogyakarta 55293
Email : suwerda2006@yahoo.co.id

ABSTRACT

Learning is a process of communication and takes place in a system, determines the success of learning is the development of instructional media. Intended use of instructional media is to provide an incentive for the students to follow the lectures so as to motivate students to further develop themselves during the lecture. Campus wall mural (MUDIK) is one of the media that is designed materials meeting lecture is usually given in the classical style of each meeting shall be made in the form of visual media such as painting a picture of murals on wallof campus and students will learn at each meeting about the matter of waste management to interpret the image in question. Problems of garbage and various efforts to resolve the problems in the field of waste will be visualized in the form of murals. Selection of learning media wall north campus of Health Polytechnic of Health Ministry in Yogyakarta, with consideration of the walls are quite spacious, with a condition that mossy / not clean, and to support the realization of an environmentally friendly campus (green campus). The method used in this study is quasy experiment with Pre-Post with Control Group Design. Variables of research were MUDIK learning media and achievement of students of waste management subjects as well as a confounding variable were initial values students and locations of campus. Data is analyzed by Mann Whitney test. The difference of Pre-test score between control and treatment groups obtained the value of P-value of 0.001 and sig (2-tailed) 0.591, P-value of 0.000 and sig (2-tailed) of 0.000 for the difference in value Post- test in the control group and the treatment group, P-value of 0.077 and sig (2-tailed) 0.805 for the difference in value Pre and Post in the control group as well as the P-value of 0.002 and sig (2-tailed) of 0.000 for the difference in value Pre and Post groups Treatment. There are significant differences between the groups using “MUDIK” upon learning of Waste Management with the groups using the lecture method of teaching. There is no difference between the pre and post in the control group. There is a difference between the values of pre and post in the treatment group. There is no difference between the pre in the control group and the treatment There is a difference between the value of a post on the control and treatment groups.

Keywords: Learning Media , Mural, MUDIK, Waste Management

INTRODUCTION

Learning is a process of commu-nication and take place in a system. One factor of the critical success of learning is the development of instructional media. The use of interesting and fun learning media can help students to understand the material presented by the lecturers. It also aims to provide an incentive for the students to follow the lectures so as to motivate students to further develop themselves during the lecture. Learning media can provide a different atmosphere during the process of learning so that students do not get bored in studying subjects that are being taught.The media types of learning can be classified

into five groups of media-based human (teachers, instructors, playing the role and activity of the group), media-based visual (books, work tool, charts, maps, drawings, transparencies, slides), media based audio-visual (video, VCD, movies, tape slide programs, television) and computer-based media (computer-assisted instruction) The use of computer assisted learning media influence to pull dayar students in learning competencies taught[1)]. Lecturer must be able to choose one of the media that will be used in the learning process adapted to the material and learning objectives to be achieved.

The learning process is applied in the Environmental Health Department Health Polytechnic The Health Ministry of Yogyakarta using media audio, visual, and audio-visual media. Based on the preliminary survey conducted by researchers at September 2015 towards the use of a medium of learning in 10 subjects in the third semester of lectures 2014/2015 RPP compiled by reviewing each course lecturers mostly using visual media as indicated by the use of the LCD, with the lecture method lectures, class discussions, and practices that can be done in basic laboratory (chemistry, microbiology and parasitology), engineering laboratories, and field practices. Lecturers explain the lecture materials in the classroom in the form of a power point in laptops that display uses LCD, while the lecture material outside the classroom learning materials delivered in the form of lectures and group discussions.

Waste Management subject is one of the 10 courses that use visual media in the lecture where the material created by the lecturer in the form of power point and in the material contained pictures of waste. The learning process in the classroom, the students listened to the teachers about the waste material and look at the pictures in the slide, followed by a discussion / question and answer. The results of initial studies conducted by researchers of the Waste management RPP (plan of learning) in the third semester D3 Environmental Health Department of Health polytechnic The Health Ministry of Yogyakarta, Waste Management teaching learning process about 60% of the material is given in the form of power point, and students tend to passively accept the material. The learning method for students tend to be boring, and may affect the achievement of students. This is reinforced by the results of the Middle Semester Exam (UTS) Students of Semester III DIII Environmental Health Department of Health Polytechnic of Yogyakarta 2014/2015, an average of 77.47 and needs to be an effort to increase the value of the average of the student, by doing repair of the learning process. One that needs to be addressed is the use of learning media.

Based on the above, the researchers are interested in doing research by applying learning media mural wall of campus, so hopefully achievement of students increased. Mural Wall of Campus (MUDIK) is one of the media that researchers design where the material meeting the lecture which is usually given in the classical style of each meeting shall be made in the form of visual media such as painting a picture of murals on walls of campus and students will learn at each meeting about the matter of waste management using the image in question. Problems of garbage and various efforts to resolve the problems in the field of waste and visualized in the form of murals. Mural is how to paint or draw on the surface of a wall, a wall or a surface area that is permanent. The process of making, using media wall paint or paint wood paint or dye even anything like chalk or other device that can produce images.Visualization murals tend to occupy the space and sometimes high so necessary engineering perspective and distortion right[2)]. Selection of learning media wall north campus of Health Polytechnic of Health Ministry of Yogyakarta, with consideration of the walls are quite spacious, with a condition that mossy / not clean, and to support the realization of an environmentally friendly campus.

Formulation of the problem in this research is how much influence the media learned Mural Wall of Campus (MUDIK) toward the learning achievement of students at Waste Management subjects DIII Department of Environmental Health Health Polytechnic of Yogyakarta. The aim of the study was to know effect of the Mural Wall of Campus (MUDIK) toward learning achievement of Student DIII Environmental Health Department of Health Polytechnic Health Ministry of Yogyakarta.

METHOD

Research type used is quasy Experiment with Pre Post Test Control Group Design. The population in this study were all students Prodi D3 Department of Environmental Health Departement Health Polytechnic of Yogyakarta as many as 80 students (2 classes). The sample in this study is part of student in the Environmental Health Department Health Polytechnic Health Ministry of Yogyakarta as many as 40 people, as a comparison (control group) in this study were mostly students at the Respati University of Yogyakarta who received Waste Management subject as many as 40 people. Sampling is taken by purposive sampling, with the criteria of students who receive pre-test value <65, a sample of 40 students.

The independent variables in this study were learning media MUDIK. The dependent variable is the achievement of students subjects waste management. Confounding variable is the initial value (pre) students and location of campus.

The instrument used in this study is a test. The instrument is in the form of questions pre test and post tes to measure student achievement which is exactly the same problem. This is due to investigate the improvement of student learning outcomes before and after different treatment between the two groups.

The results of data processing were analyzed descriptively and analytically to determine the effect of media use mural wall of campus (MUDIK). Statistical analysis of the test data distribution normality using Shapiro Wilk and found that the data is not normally distributed. After that to know the difference between the pre and post in each group, to know there are differences in the pre in the control group and the experimental as well as to know the difference of the post in the control group and the experimental use of the Mann Whitney test.

RESULTS

This study was conducted to determine the influence of Mural Wall of Campus (MUDIK) toward the learning achievement of the students DIII Environmental Health Department of the Ministry of Health Health Polytechnic of Yogyakarta at waste management subjects. The activity of research include the implementation of pre-test and post-test to determine students' achievement of the subjects taught.

Research data can be illustrated by tables containing data on the value pretest control and experimental group in Table 1.

Table 1.
Number of Pre Test Respond Use of the Learning Media Mural Wall of Campus (MUDIK) toward the Learning Achievement Waste Management Subject

Variable	Control		Experiment	
	quantity	Percentase	quantit	Percentase
< 65	38	100%	38	100%
≥ 65	0	0%	0	0%
quantity	38	100%	38	100%
P-value Normalitas	0,001 (No Normal)			
Sig (2-tailed)	0.591 (Ho accepted dan Hα refused)			

Data Table 2. contains the value Pos test in the control group and the experimental.

Table 2.
Number of Post Test Respond Use of the Learning Media Mural Wall of Campus (MUDIK) toward the Learning Achievement Waste Management Subject

Variable	Control		Experiment	
	∑	%	∑	%
< 65	38	100%	19	50%
≥ 65	0	0%	19	50%
Control	38	100%	38	100%
P-value Normalitas	0,000 (no Normal)			
Sig (2-tailed)	0.000 (Ho refused and Hα accepted)			

Data Table 3 shows the results of the pretest and post test control group and the experimental group

Table 3.
Number of Pre Test and Post Test Respond Use of the Learning Media Mural Wall of Campus (MUDIK) toward the Learning Achievement Waste Management Subject

Variable	Control				Experiment			
	Pre		Post		Pre		Post	
	∑	%	∑	%	∑	%	∑	%
< 65	38	100	38	100	38	100	19	50%
≥ 65	0	0	0	0	0	0	19	50%
Jumlah	38	100	38	100	38	100	38	100%
P-value Normalitas	0,077 (Normal)				0,002 (no Normal)			
Sig (2-tailed)	0,805 (Ho accepted and Hα refused)				0.000 (Ho refused dan Hα accepted)			

The data in Table 3 normal distribution of data obtained in the control group to the treatment group and the data are not normally distributed data after the treatment in the test data normality using the Shapiro-Wilk on the results of the pretest and posttest respondents in the control group and the treatment group. While the relationship between the control group and the treatment group there are significant differences between the two groups.

DISCUSSION

Research about utilization learning media mural wall of campus (MUDIK) toward the learning achievement of waste management subject was held in June to August 2016. Selection of student respondents DIII Environmental Health Departement and Respati University of Yogyakarta because at the level of the respondents get subjects of waste management. Besides that selection of respondents control is students from Respati University of Yogyakarta in order to properly control group completely unaffected by Mural Wall of campus on the north wall Health Polytechnic of Yogyakarta. The use of instructional media aims to facilitate the learning process, improve the efficiency of teaching and learning, maintain the relevance of the learning objectives and helps concentration of students in learning.

The results showed there is a difference between the achievement of students in the subject of waste management using MUDIK media as well as students who do not use the media MUDIK. Academic achievement is one measure of the success or failure student after a learning activity in schools and to determine the level of success it is necessary to form test assessment [3]. The test is a tool or procedure used to determine or measure something, by the way and rules - rules that have been set[4]

Based on the results of the analysis showed that the use of media in teaching subjects MUDIK Waste Management who scored in the top 65 as much as 50%, while in the control group who did not use the media in learning MUDIK no scoring above 65 after the learning process. The use of a medium of learning by educators varied one using visual media to illustrate a point the subject of waste management in the walls of the campus where students always can see every student walking on campus side. The use of this medium is an aid educators in explaining the material relating to waste management. The use of learning media in accordance with the concept of material to help students understand the course materials Waste Management given by lecturers.

Media is anything that can deliver the message or information learned from the teacher to the student, which can stimulate student interest or learners. In the implementation of defense-distance courses waste management should use the media to the smooth process of learning. Efforts educators subjects waste management by utilizing instructional media in teaching waste management will greatly assist the smooth teaching and learning can improve the quality of waste management subjects. Ability absorption of different learners - different power requires students to select appropriate learning media so that material can be accepted by learners.

In this study, researchers focused on the utilization of instructional media in the course of waste management at the Health Polytechnic Ministry of Health of Yogyakarta. The results of this study are expected to provide feedback on all educators to utilize instructional media delivered by educators to be well received by learners.

The use of instructional media on Solid Waste Management also helps students in solving emerging problems and learning Waste Management subject. The benefits of

learning is a teaching medium will be quite vague so that it can be understood by students and allow students to better master the learning objectives[4]. The use of instructional media in teaching and learning can arouse desire and interest in the new addition to the motivational and stimulation of learning activities, and had an impact a psychological impact on learners. Media-based learning using visual media has proven there are significant and effective way to improve student achievement [5].

The results of the study are suitable with research by Rohmah (2011), showed a significant difference between the treatment group and the control group obtained results that by using media images in IPS learning can improve student learning outcomes[6]. The use of instructional media on learning orientation will greatly help the liveliness of the learning process and delivery of messages as well as learning content at the time of the material submitted. Media Learning biggest influence to the senses and better able to ensure understanding, people are listening alone is not the same level of understanding and long endure what is understood is also different when compared with those who view or view and listen to content directly.

The learning achievement is the ability of students in achieving high thinking. Learning achievement has three aspects: the cognitive and psychomotor affective. The learning achievement is the results achieved as well - good student in the learning process. The learning achievement is influenced by several factors, there are two factors that affect the internal factors and external factors. Where external factors that could affect one of which is a method of teaching educators at the time of the material.

In the experimental group, the intervention is done by using MUDIK as student learning media. Overview materials waste management subject as outlined in MUDIK contain about 7 (seven) aspects of waste management, namely the problem of waste and the impact of waste is not managed, waste management, waste management model in Indonesia, kind of waste management, recycling cork and plastics , composting and community participation in waste management. The material is poured on the walls of the campus to be drawn so as to attract students to look after the reading so that students can see a visualization of waste management contained in the community through MUDIK. In the process of learning useful as a media renderer stimulus (information, attitude and others) as well as increase the harmony in the reception of information. In terms of - certain things media useful for organizing steps progress and provide feedback. The use of instructional media in teaching and learning can generate motivation and stimulation of learning activities and bring a psychological impact on students.

Based on these descriptions, we can know that the use of learning media is a very important factor to improve the achievement of students in the learning process, because the learning media is a tool that is very supportive in the development of science possessed an educator. So that the campus should pay attention to and provide a complete learning media for the learning process in the classroom and outside the classroom to be effective. It caused that students are more motivated to learn if the lesson is explained by giving examples of images accompanied by one of them poured with MUDIK. Through these examples MUDIK students easier to understand the material when compared to listening to lectures, so that students easily answer every question that was given right at the time of the test. Lessons are also longer embedded in the memory of students.

CONCLUSION

There are significant differences between the groups using “MUDIK” upon learning Waste Management subject with the group that did not use the method MUDIK in improving learning achievement.

RECOMENDATION

Suggested for lecturer of Waste Management subject to use methods of visual MUDIK in teaching and learning process to improve learning achievement students of Environmental Health Department of Health Polytechnic of Health Ministry in Yogyakarta.

BIBLIOGRAPHY

1. Ali, M, 2009, Pengembangan Media Pembelajaran Interaktif Mata Kuliah Medan Elektromagnetik, UNY, Yogyakarta, Jurnal Edukasi@elektro Vol. 5 No 5 Maret 2009 pages 11-18
2. Syamsiar C, 2009, Bentuk dan Strategi Perupaan Mural di Ruang Publik, ISI Surakarta, Brikolase Volume 1 No. 1, Juli 2009
3. Lisnayanti, E, 2010, Pengaruh Pembelajaran Mind Mapping Bervisi SETS terhadap Hasil Belajar Kimia Sswa Untuk Pokon Bahasan Termokimia, Skrips, Unnes Semarang
4. Arikunto S., 2011 Dasar–Dasar Evaluasi Pendidikan. Bandung: Bumi Aksara.
5. Aji PS, and Suparman. 2013. Pengaruh Media Pembelajaran Menggunakan Macromedia Flash 8 Pokok Bahasan Internet pada Mata Pelajaran TIK terhadap Prestasi Belajar Siswa Kelas XI IPA SMA N 6 Purworejo. Jurnal Pendidikan Teknik Informatika Edisi 1.
6. Rohmah, UN, 2011, Meningkatkan Hasil Belajar IPS Melalui Media Gambar pada Siswa Kelas II SDN Turi Kota Blitar, Skripsi, Universitas Negeri Malang

O-14

DETECTION OF TRANSOVARIAL TRANSMITION ON DENGUE VIRUS IN *AEDES AEGYPTI* MOSQUITOE WITH SBPC IMUNOHISTOKIMIA TECHNIQUE

Siti Zainatun Wasilah[1], Siti Rahmah Umniyati[2], Tribaskoro TS[2]

[1 1]Medical Technology Laboratory, Health Polytechnic of Ministry of Health in Yogyakarta, Indonesia

[2] Department of Parasitology, Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta

ABSTRACT

BACKGROUND. Knowing virus serotypes that develops in a study site within a given time is very essential because one of the four serotypes of dengue virus can be risk factors for Dengue Hemorrhagic Fever and Dengue Shock Syndrome in case of Dengue virus infection with a different serotype. Dengue fever mostly occurs in densely populated cities (urban areas), but in recent years there has been outbreak of dengue fever in rural areas. The disease is commonly spread from the contaminated sources in the city which is eventually carried to the rural areas. Knowing the transovarial transmission of dengue virus in mosquitoes will become the basis of policy direction and projection of the incidence of dengue in the future.

AIM. To find evidence about any transovarial transmition on dengue virus in region of Gadingan of Wates Sentolo of Kulon Progo Regency.

METHOD. The research was conducted through observational descriptive experiement**.** The sample was taken through the installation of ovitrap in the endemic study sites. The method for taking the mosquito egg refers to the Entomological Survey Guidelines of Dengue Fever. Examination of the dengue virus in *Ae.aegypti* through SBPC immunocytochemistry using monoclonal antibodies anti-dengue DSSE10 as primary antibodies that recognize dengue-1, dengue-2, dengue-3 and dengue-4, preparations began by making head squash of *Ae. aegypti* preparations according to WHO criteria.

RESULT. Based on the examination of dengue virus in *Ae.aegypti* squash head preparation from the contaminated study sites using Immunohistochemistry SBPC and antibody using monoclonal anti-dengue DSSE 10 as the primary antibody with a magnification of 1000x it is revealed that *Ae.aegypti* positive dengue virus showed positive Immunoreaction

Conclusion. There were transovarial transmissions of dengue virus in Gadingan Wates region in 2013.

Key words : Dengue**,** immunocytochemistry, Transovarial

INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is one of the major health problems in Indonesia, triggered mainly by Dengue virus transmitted by *Aedes aegypti* and *Aedes albopictus* (female). Dengue virus is known to be divided into four serotypes (Denpasar 1, DEN-2, the Danish 3, DEN-4). All those four serotypes of the virus have been found in various regions in Indonesia. The study in Indonesia indicated that DEN-3 was strongly associated with the most severe cases of Dengue serotype and with the most extensive distribution, which is respectively followed by DEN-2, DEN-3, DEN-4.

There are three factors that play a pivotal role in the transmission of dengue virus namely infection, human, virus, and intermediary vectors. Dengue virus is transmitted to humans through the bite of *Aedes aegypti*.

Knowing virus serotypes that develops in a study site within a given time is very essential because one of the four serotypes of dengue virus can be risk factors for Dengue Hemorrhagic Fever and Dengue Shock Syndrome in case of Dengue virus infection with a different serotype. Dengue fever mostly occurs in densely populated cities (urban areas), but in recent years there has been outbreak of dengue fever in rural areas. The disease is commonly spread from the contaminated sources in the city which is eventually carried to the rural areas. Knowing the transovarial transmission of dengue virus in mosquitoes will become the basis of policy direction and projection of the incidence of dengue in the future.

MATERIAL AND METHOD

The research was conducted through observational descriptive experiement towards the region of Gadingan of Wates Sentolo of Kulon Progo Regency in 2014.

The sample was taken through the installation of ovitrap in the endemic study sites. The method for taking the mosquito egg refers to the Entomological Survey Guidelines of Dengue Fever according to WHO criteria (Table 1). At first, the researcher calculated the total number of homes at the sites. The recent number of house was obtained from the Central Bureau of Statistics of Kulon Progo matched with the data in the administrative village office of the urban / rural endemic areas chosen for the study.

The total number of installed ovitrap in Wates and Sentolo village was determined based on the number of buildings that exist in a region as defined by FUNASA (Fundacao Nacional de Saude) presented in Table 1.

Table 1. The Number of Ovitrap to be Installed to Collect *Aedes sp* Egg Mosquito

The number of existing building in the location	The number of ovitrap to be installed
< 60.000	100
60.000 – 120.000	150
120.000 – 150.000	200
>500.000	300

Source : Lima et al.,2003

The number of ovitrap to be installed in each house was determined based on FUNASA (*Fundacao Nacional de Saude*) by calculating <60.000 number of buildings using 100 ovitrap, 60.000 – 120.000 number of buildings using 150 ovitrap, 120.000–150.000 number of buildings using 200 ovitrap and >500.000 number of buildings using 300 ovitrap (*Fundacao Nacional de Saude*,1999 *cit* Lima*et al*., 2003). In this research, there were 212 installed ovitrap owing to the fact that the total number of building in Wates Sub District amounted to < 60.000. The installed ovitrap were 100 ovitraps (was accounted to be the minimum number). Thus, the totally installed ovitrap both inside and outside the house was accounted to be 212 ovitraps. The research subject was *Ae.aegypti* mosquito of colonization result from the egg sample taken from the study site based on the following criteria: male and female adult mosquitoes mean age of 7 days and have never sucked blood. The number of samples was calculated according to the following formula[1].

$$n = \frac{(Z_{1-\alpha/2})^2.P.(1-P)}{d^2}$$

n = number of samples needed
P = proportion of Dengue virus in *Aedes aegypti* inYogyakarta (19,95%)
Z 1-α/2 = Z Statistics on the standard normal distribution, at significance level α = 0.05 for two-way test was 1.96
d = precision values of 5%
So the amount of sample required was:

$$n = \frac{(1,96)^2(19,95\%)(1-19,95\%)}{(0,05)^2}$$

$$= 245$$

The amount of *Aedes aegypti* egg sample origin from Wates village was accounted to 245 mosquitoes. The researcher colonized the mosquitoes from egg to adult in order to obtain adult mosquitoes in which afterwards were processed for virDen detection and virDen serotype. *Ae.aegypti* colonization was conducted by ovistripping what was resulted from the dried-soaked field into a plastic tray containing water wells based on the location of the egg by first labeling it. Then, they were stand for 1-2 days until they hatch into larvae. To make them survive, they were fed by chicken liver as much as 0.5 grams on the first day and thereafter, from the first day until the fifth day or before they growth into perfect pupa, they were fed by chicken livers of 1 gram each day. Beforehand, the fed water must be replaced of 2-3 times a week. The larva to pupa transition approximately took place within 4-5 days[2]. The pupae were collected from breeding trays by using a pipette and were put into a plastic cup or a paper cup filled with water wells and then covered with gauze. Adult mosquitoes would appear after 2 days. Furthermore, to make them survive, they were fed with a solution of 10% sugar water with axis made of cotton. Adult mosquito species were then identified to distinguish between the males and females of *Ae.aegypti* and they were labeled according to the study site.

The male and female *Ae.aegypti* that were placed in the paper cup were inserted into a box and allowed to stand for 7 days. Afterwards, they were transferred to effendorf tubes and stored at - 80 0C. The researcher used immunocytochemistry Streptavidin Biotin Peroxidase Complex (SBPC) method, which has been standardized[3].

The identified *Ae.aegypti* were taken their heads and were made into head squash preparations to determine the existence of dengue virus using Immunocytochemistry *Streptavidin Biotin Peroxidase Complex* (SBPC). Meanwhile, their thoraxes were inserted into *effendorf* tubes. Each *effendorf* tube was fulfilled with 10 mosquito thoraxes and stored into a temperature below -80^{0}C. Thereafter, they were used to determine the serotype of Dengue virus.

Examination of the dengue virus in *Ae.aegypti* through SBPC immunocytochemistry using monoclonal antibodies anti-dengue DSSE10 as primary antibodies that recognize dengue-1, dengue-2, dengue-3 and dengue-4, preparations began by making head squash of Ae. Aegypti preparations.

To make *Ae.aegypti* head squash preparations, the researcher prepared the seven day *Ae.aegypti* which were frozen to death. Their wings and feet were cleaned with a pincer. Then, their caput and thorax were separated by a cuter knife. 10 heads of *Ae.aegypti* were put on a glass object that had been coated with *Poly Lysine*.

Glass cover preparations used measuring of 24 mm x 50 mm were placed on a glass object, which contained 10 heads of mosquitoes. Then, the parts containing mosquitoes'

head were pressed using the tip of a surgical needle mosquitoes. Glass cover was removed afterwards and their coarse tissue was discarded. Then, head squash preparations were dried at room temperature.

Head squash preparations were fixed with cold methanol (-20 0 C) for 10 minutes and then washed with PBS. Head squash Preparations were dripped with peroxidase blocking solution of 50 mL, then they were allowed to stand for 15 minutes at room temperature. It aims to eliminate endogenous peroxidase activity. Subsequently, head squash preparations were washed with running water. 50 mL Background Sniper (protein blocking solution) was added to the head squash preparations and incubated for 15 minutes at room temperature.

The primary antibody of a monoclonal antibody anti-dengue DSSE10 which are familiar with dengue-1, dengue-2, dengue-3, dengue-4 production UGM (1:10) 50 mL was added to the head squash preparations and positive control preparations. On the other hand, the negative control preparations were only given PBS. All preparations were incubated in plastic trays of moist and at room temperature for 60 minutes or overnight in the refrigerator. Head squash preparations were washed with PBS 3 times, each of which for 2 minutes, then they were drained. Secondary antibody (Biotinylated secondary antibody) was added to the head squash dosage of 50 mL, then incubated at room temperature for 20 minutes. Head squash preparations were washed with PBS three times each for 2 minutes, then drained, 50 µl of secondary antibody (Biotinylated secondary antibody) was added to the head squash preparations. Then, they were incubated at room temperature for 20 minutes. Head squash preparations were washed with PBS for three times each for 2 minutes, after that they were drained, 50 µl of Conjugate streptavidin-peroxidase was shed and was incubated for 10 min at room temperature. Head squash preparations were washed with PBS three times, each for 2 minutes, then they were drained.

In subsequent, the DAB chromogen substrate solution was prepared as follows:

1µl chromogen (Betazoid DAB chromogen) was mixed with 600µl of substrate buffer until it became homogeneous. Head squash preparations were dripped with newly prepared 50 mL DAB chromogen substrate solution, then they were incubated for 5 min at room temperature. Head squash preparations were washed with distilled water, 50µl Mayer Haematoxylin (counterstain) was dropped on the head squash preparations which were then incubated for 1 minute, drained, and washed with tap water.

The head squash preparations were dipped into 96% alcohol 3 times to remove the residual water and were dipped into xylol to clear them, then they were dried at room temperature. Entellan was dropped on the head squash preparations that had been dried, then it was covered with a long glass deck of 24 mm x 50 mm and dried.

Once dry the head squash preparations were ready to be examined under a light microscope at a magnification of 400x and 1000x. Head squash preparations showing brown color were considered as a positive control, meaning that dengue antigen is positive, whereas preparations that show blue or pale were considered as a negative control meaning that they do not contain dengue antigens.

Whenever the researchers did the coloring, they must be accompanied by a positive control and a negative control. In this examination *Ae.aegypti* derived from the Laboratory of Parasitology of the Faculty which had never sucked blood were used as positive controls. Then, they were injected with dengue virus 3 and incubated for 7 days. Furthermore, the mosquitoes were made into head squash preparations. Negative controls were made from *Ae.aegypti* which were not injected with dengue virus and had never sucked blood.

RESULT AND DISCUSSION

Ovitrap Index (OI)

Installation of ovitrap in this study was based on the location of dengue cases found in the study site of Gadingan, Wates. From each location of dengue cases as a starting point, the houses were chosen intermittently until a radius of 100 m towards the west, north, east and south. More detail is illustrated in Figure 1.

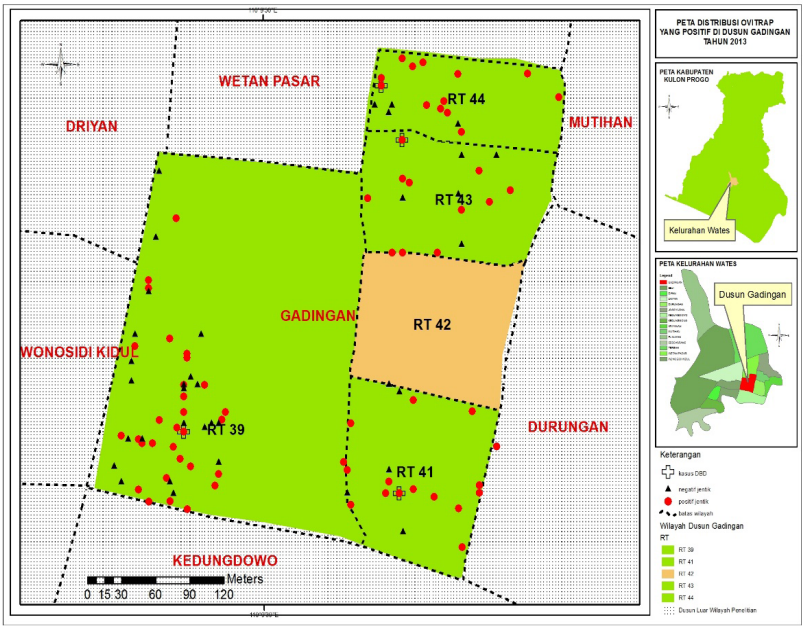


Figure 1. Map of ovitrap position based on the location of dengue cases with a distance of 100 m in the study site of Gadingan Wates, 2013

The total number of homes surveyed in the study site of Gadingan, Wates was 106 houses located in 4 neighborhoods. There were 212 research ovitrap installed in this research. During the installation of ovitrap in the study site of Gadingan, the number of positive ovitrap eggs in the house (indoor) was 58 houses (54.72 %) of the total 106 ovitrap, while the number of negative ovitrap eggs in the house (indoor) was 48 houses (45.28%). The number of positive ovitrap egg outdoors (outdoor) was 37 homes (34.91%) of 106 ovitrap, while the number of negative ovitrap egg outdoors (outdoor) was 69 houses (65.09%).

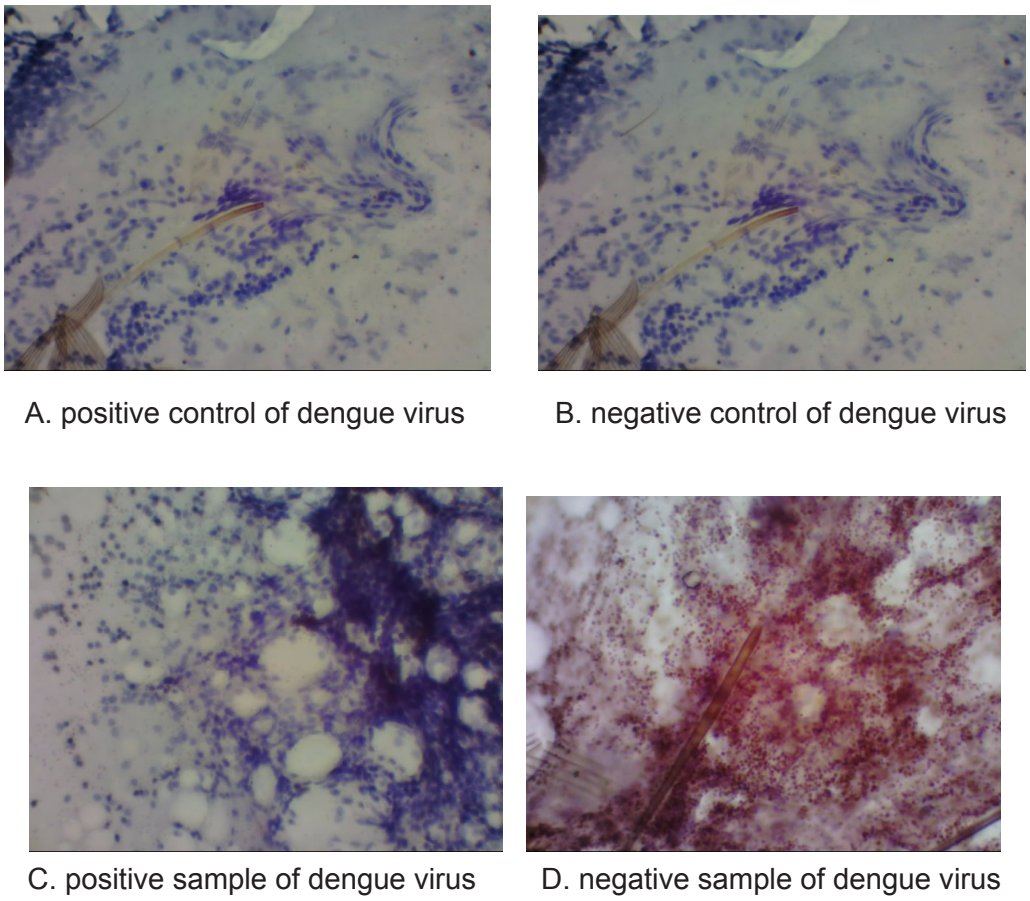
Table 2. *Ovitrap Index* (OI) in the study site of Gadingan, Wates 2014

No	RT	∑ ovitrap	*Indoor*				*Outdoor*				Ovitrap +	OI (%)
			+	-	∑ ovitrap in	% OI *in*	+	-	∑ ovitrap out	% OI *out*		
1	39	104	28	24	52	53.85	13	39	52	25	41	39.42
2	41	42	14	7	21	66.67	7	14	21	33.3	21	50
3	43	32	6	10	16	37.5	9	7	16	56.3	15	46.88
4	44	34	10	7	17	58.82	8	9	17	47.1	18	52.94

Total	212	58	48	106	54.72	37	69	106	34.9	95	44.81

Table 2 indicated that the highest Ovitrap index in the study site of Gadingan which was 66.67% took place in 41 neighborhood and the lowest ovitrap index was at 43 neighborhood amounting to 37.50%. Overall indoor OI in the study site of Gadingan was higher than the outdoors.

The inside Ovitrap Index in the study site of Gadingan was higher than the outside. This is highly possible because there were more mosquitoes in the house than outside the house, which indicates the high rates of dengue fever in the study site. This study revealed that there was an infection of transovarial VirDen in *Ae.aegypti* mosquitoes, whose infection could be determined by calculating the index transovarial Infections (ITT). The result of the head squash preparation of *Ae.aegypti* male and female mosquitoes capturing can be seen in Figure 2 below:



A. positive control of dengue virus B. negative control of dengue virus

C. positive sample of dengue virus D. negative sample of dengue virus

Figure 2. Micoscopic illustration of head squash preparation of positively contaminated *Ae aegypti* by dengue virus (in brown) and those uncontaminated (in blue) derived from the study site with SBPC immunohistochemistry with 1000 x maginification. Positive control of Dengue virus is shown in brown color (A), negative control is shown in blue (B), the head squash preparation of dengue virus positive samples is shown in brown color (C), and head squash preparations of negative Dengue virus is shown in blue (D)

Based on the examination of dengue virus in *Ae.aegypti* squash head preparation from the contaminated study sites using Immunohistochemistry SBPC and antibody using monoclonal anti-dengue DSSE 10 as the primary antibody with a magnification of 1000x it is revealed that *Ae.aegypti* positive dengue virus showed positive Immunoreaction. It is as indicated by brown and negative dengue virus showing negative Immunoreaction as presented in blue. The microscopic examination on head squash preparations of positive males and females *Ae.aegypti* with a magnification of 1000X SBPC Immunohistochemistry method derived from Gadingan study site has the highest ITT value in the RT 43 neighborhood ie 16.67%, while the lowest ITT is in RT 39 neighborhood accounted to 6.93% as presented in table 35 below.

Table 3. Results of microscopic examination on head squash preparations of positive male and female *Ae.aegypti* of eggs origin with Immunohistochemistry method SBPC 1000X magnification from endemic study sites of Gadingan, Wates 2014

No	The Location of *Ae.aegypti*	Dengue Virus			ITT
		sample	Positive	Negative	(%)
1	RT 39	101	7	94	6.931
2	RT 41	66	9	57	13.64
3	RT 43	42	7	35	16.67
4	RT 44	36	5	31	13.89
	Total	245	28	217	11.43

Table 4. Index of virDen Transovarial Transmission of males and females *Ae.aegypti* in the study site of Gadingan, Wates in 2014

No	RT	Total sample	Males				Females			
			post	neg	Total	(%)	pos	neg	Total	(%)
1	39	101	3	45	48	6.25	4	49	53	7.547
2	41	66	4	30	34	11.76	5	27	32	15.63
3	43	42	3	18	21	14.28	4	17	21	19.05
4	44	36	2	13	15	13.33	3	18	21	14.29
Total		245	12	106	118	10.16	16	111	127	12.6

Based on the foregoing table, the ITT of *Ae.aegypti* female mosquitoes which accounted to 12.6% is higher than the 10.16% male mosquitoes. The complete illustration is as depicted in Figure 3 below:

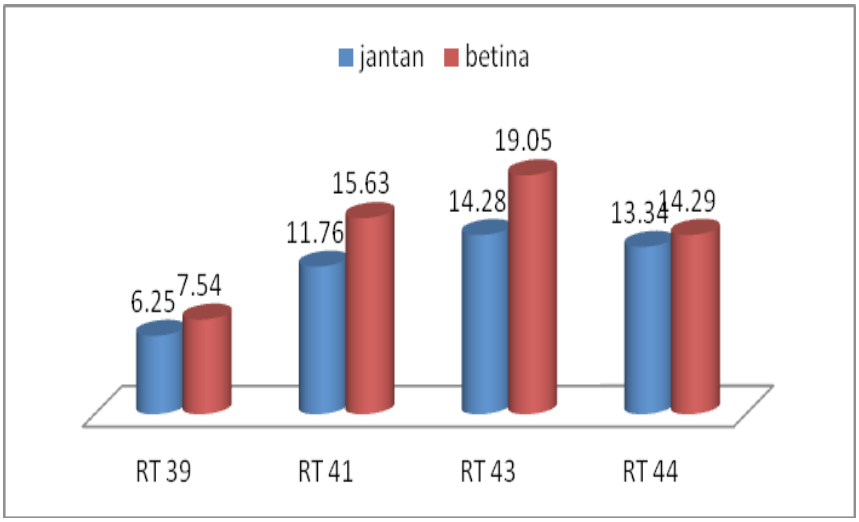


Figure 3. Index of VirDen Transovarial Transmission in *Ae.aegypti* males and females in the region of Gadingan, Wates 2014

CONCLUSION

7. There were transovarial transmissions of dengue virus in Gadingan Wates region in 2013.

RECOMMENDATION

It is highly recommended that the stake holders strengthen vector surveillance system by examination of larvae periodically to monitor the risk of the spread of dengue disease. The objective of this is to conduct a precise control and in order that the virus surveillance could be used as an early warning (early warning system) to predict the onset of the epidemic.

REFERENCES

1. Notoatmodjo, S (2010). *Metodologi Penelitian Kesehatan.* Rineka Cipta. Jakarta.
2. Limsumawan, S., Rongsriyam, Y., Kerdpibule, V., Apiwathnasorn, C., Chiang, GL., & Cheong, W.H (1997). *Rearing Techniques for Mosquito.* MRC-Tropmed. Thailand. pp.53-54,
3. Umniyati,S.R., (2004), Prelimenary investigation on the transovarial transmission of dengue virus in the population of *Aedes aegypti* in the well. *Dalam Seminar Hari Nyamuk* IV; 21 Agustus 2004, Surabaya.

O-15

PERIODISITY OF MICROFILARIAE MALAYI AT CENTRAL BORNEO PROVINCE

Budi Setiawan[1*], Tri Baskoro[2], Soeyoko[2]

[1]Medical Technology Laboratory, Health Polytechnic of Ministry of Health in Yogyakarta, Indonesia

[2] Department of Parasitology, Faculty of Medicine, UniversitasGadjahMada, Yogyakarta

***Corresponding** author e-mail: budisetiawantropmed@gmail.com

ABSTRACT

BACKGROUND.Lymphatic filariasis(LF) is one of the major public health problems in Indonesia. All three types of lymphatic parasites namely *Wuchereriabancrofti, Brugiamalayi* and *Brugiatimori* are prevalent in Indonesia. An estimated 125 million people are at risk of filariasis infection, in 337 endemic districts. In Kota BesiSubdistrict there was 51 cases mfpositif, two of them less than 15 years old. Distribution of the disease tends to spread in rural areas and epidemiological dataesspecialy periodicity is needed to eliminated this disease.

AIM. The research aims to find the periodicity of microfilariae in human patients.

METHOD. This research conducted in Kota Besi Sub District, KotawaringinTimur District, Central Borneo Provoince. This is Observational Study with 386 sampel. Examination parasite with Thick blood smear technique and blood is taking at night (08.00 pm– 06.00 am). If a sample positifmicrofilaremia a respondent blood will be taken again to know the periodicity of microfilariae in their blood. Determining of periodicity with Aikat and Das method to calculate a peak of microfilaremia density.

RESULT.Four person of 386 is mf-positive were examined by the fingerprick method. *Brugiamalayi* was found in four person mf-positive, microfilariae periodicity in this location isnocturnal periodicwith harmonic waves and nocturnal sub-periodic with the non harmonic waves.

Conclusion. Lymphatic Filariasis in Kota Besi caused by *Brugiamalayi*and periodicity is nocturnal and sub periodic nocturnal. Sub-periodic nocturnal is zoonosis so the elimination is different with the anotherspesies of filariae helminth.

Keywords: *Brugiamalayi,* Lymphatic filariasis, Periodisity.

INTRODUCTION

Filariasisinfects 120 million people in 83 countries worldwide and one fifth of world population or 1.3 billion people in 83 countries are at filariasisrisk[1]. This disease is one of the major health problems in Southeast Asia with more than 60% area of the infected population, while 30% occurs inAfrica[2].

The Ministry of Health Indonesia reported, filariasiscasesincrease every year.In Borneoregion in 2008 the highest prevalence was in East Borneo Province with 409 cases. South, West, and CentralBorneo Province were 385, 253 and 225 respectively[3].Central Borneo province consists of 14 districts. Based on health profile of Central Borneoin 2007 there were 254 cases. Seven out of 14 districtsare endemic for filariasiscases. Those are157 case in East KotawaringinDistrict, 28 case in West Kotawaringin, 27 case in Seruyan, 25 case in Kapuas, 10 case in South Barito, 4 case in Gunung Mas, 2 case in Katingan and the last 1 case in Sukamara[4].The highest microfilariae rate was in Kota Besisubdistrict in EasrKotawaringin district[5].

Filariasis mostly found in Pamalian Village in Kota Besisubdistrict. There was 51 filariasis cases, two of them less than 15 years old. This is probably related to environmental conditions of such spot which is a devious village in the forest and there are many marshes overgrown with water plants. A successsfilariasiselimination program requires accurate identification of infection transmission, a comprehensive surveillance strategy to detect the source of infection, and mass treatment campaigns through cultural approach and education. This study aims to find out the microfilariae periodicity in Kota Besisubdistrict

METHOD

This study was a descriptive observational study conducted in Pamalian village, Kota Besisubdistrict, East Kotawaringin. Five hundred person were examined by the fingerprick method (20 mm^3 blood)[6] but the field study obtains only 386 samples who are willing to respondent and to have blood drawn.

The periodicity of *B.malayi* from several endemic areas ofIndonesia was reinvestigated. Blood samples werecollected from known microfilaria (mf) carriers every 2 h fora 24-h period. Blood film were air dried for at least 48 hbefore being processed and other necessary precautions weretaken to prevent loss of mf. Blood collection, staining of blood films, andmf counts were performed by the same person throughoutthe study. Mathematical methods were used to characterizethe periodicity patterns of mf. The peak hour was calculated by the methodof Aikat and Das[7]. To investigate the stability of periodicity patterns it's not be done.

RESULTS

*Brugiamalayi*was found on four people at night capillary blood survey among 386 people. *Microfilariae*(Mf) *rate* was 1.04%. These results indicate thatPamalian village is an endemic lymphatic filariasis.

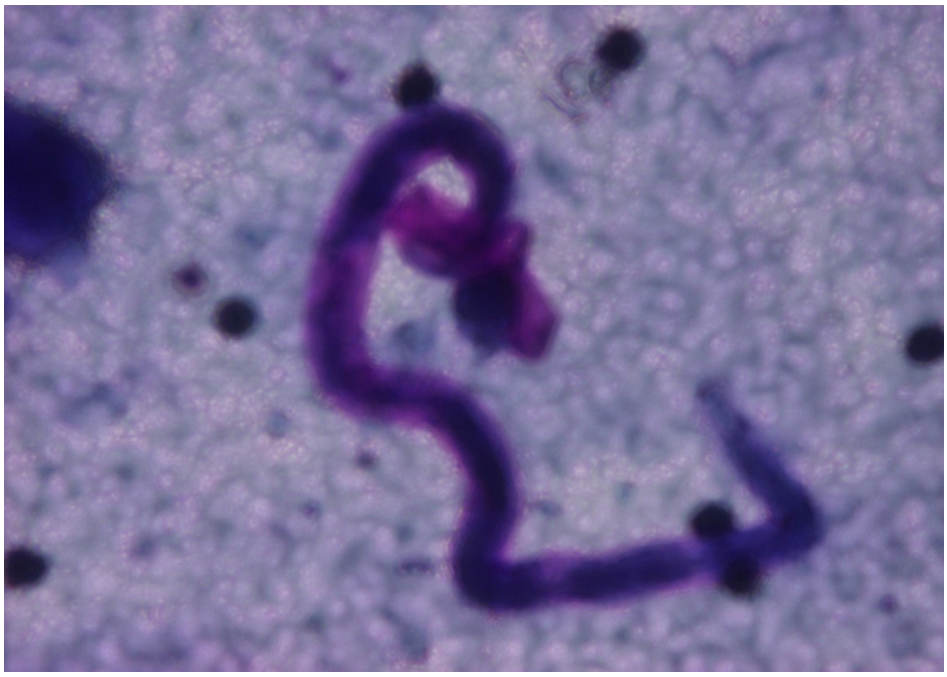


Figure 1.Microfilariae in a Patient Blood.

Periodicity of microfilaria was observed from four patients. The peak of microfilaria was at 10 pm (Figure 2). Periodicity examination was doneonly once.Theresult shows of the presence of microfilariae in capillary blood which is not always found at any time during the 24-hour observation.

Figure2shows that the overall number of microfilariae in a row from mf-positive patient.

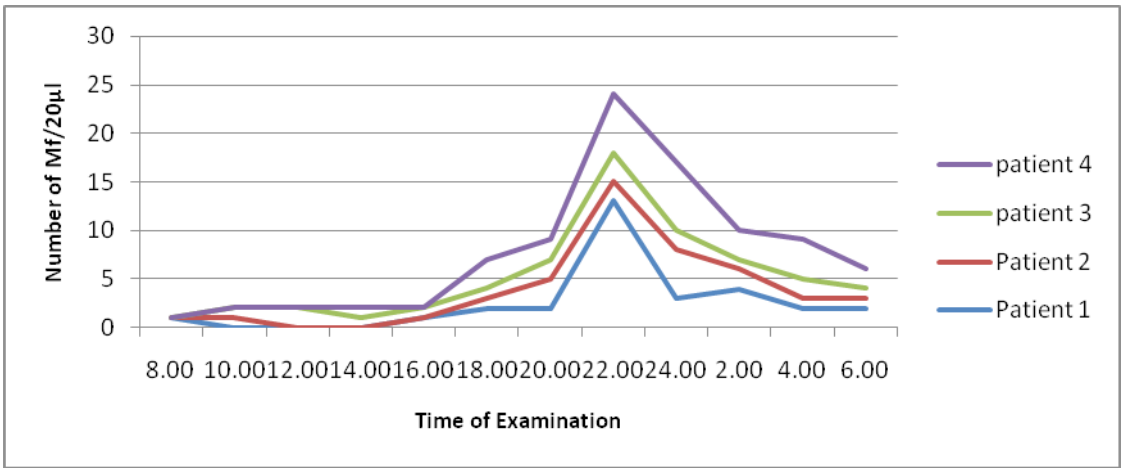


Figure 2. Peak Density Fluctuation of Microfilariae (*Brugia malayi)* in the Periphery BloodOver 24 Hours Examination in Pamalian Village

In table 1 convey the following statistical calculations microfilaremiawith fourpatients.

Table 1.Statistical Analysis of Microfilariae Periodicity Examination in Four Patients in Pamalian Village.

Statistical Analysis	Microfilaremiae			
	Patient 1	Patient 2	Patient 3	Patient 4
Y	30	16	17	28
Y^2	212	46	31	128
Y cos 15h	18,722	9,598	3,232	16,928
Y sin 15h	-4,5	-1,232	-1,866	-1,268
m	2,5	1,33	1,42	2,33
b	3,12	1,59	0,54	2,82
c	-0,75	-0,21	-0,311	-0,211
a	3,21	1,60	0,62	2,83
K	24.09′60″	24.05′20″	24.23′20″	24.04′40″
F	4,08	6,48	-2,41	6,98
D	128,40	120,30	43,66	121,45

Table 1, shows peak density of microfilariae the first patient is at 24.09′60″. D value indicates the periodicity of microfilariae are nocturnal, while the value of F is less than 5% indicates the characteristicsof the non-harmonic wave.There is onepatient who hassubperiodic periodicitycharacter of the patients to the three waves with non harmonic.Patient one, two, andfour show periodic nocturnal with harmonic wave in the second and fourth patient.

DISCUSSION

Distribution of *Brugiamalayi* are mostly located in tropical regions, although can be found also in the sub-tropics. The research location are located in East Kotawaringindistrictat 107º15'30'' East Longitude - 110º29'30'' East Longitude. The nature conditon in general in East Kotawaringinconsists of a lowland swamp, forests and hilly areas and beach. This conditionmay be supports a development of the vector of *Brugiamalayi*.

Based on research conducted, the characteristics of microfilariae in the research location are nocturnal periodic and nocturnalsubperiodic. Periodicity of the microfilariae for this mechanism is not clearly known, but there are several factors that may play a role in the mechanism, such as the adaptation of microfilariae by mosquito feeding habits, O_2 pressure difference between venous and arterial blood, as well as hospes activity[8]. In addition to this opinion there are other opinions that affect the periodicity of microfilariae is associated with the hormone melatonin on host.

Melatoninhormone (N-acetyl-5-methoxytryptamine), is a neurotropic hormone with indolamina antioksidant group, which is synthesized by the pineal gland located in the brain of aminotriptofan acid compound. The process of synthesis and release of melatonin production distimulus by darkness and suppressed by light. This shows the role of melatonin in circadian rhythm (the body's natural rhythm)[9].

To maintain its existence, the filarial worms need to ensure that the density of microfilariae in peripheral blood remains high by 1) producing microfilariae as much as possible, thus increasing the overall density in the blood combined with 2) the behaviour adaptation of microfilariae of bitingbehaviour vector mosquitoes[10].

The Government of Indonesia has decreed filariasis elimination as one of national priorities communicable diseases and agreed to participate in the international goal to eliminate LF as a public health problem by 2020. The LF program's objectives in Indonesia are to reduce and eliminate transmission of LF by MDA, and to reduce and prevent morbidity in affected persons. In 2009, MDA with diethylcarbamazine (DEC) + albendazole covered more than 19 million people in 30% of the endemic districts, with an average program drug coverage rate of 66.5% of the at-risk population in those districts. According to the 2011-2014 National Plan for LF, the central government is responsible to ensure the procurement of drugs and provide[11], using special population groups named TPE (Tenaga PelaksanaEliminasi) were to distribute the drugs either door-to-door or at community congregations. Lack of socialmobilization and advocacy for MDA along with paucity of funds and pooraccessibility of some regions were some of the constraints faced by theprogramme. In addition delays in the procurement of drugs and fear of sideeffects adversely affected the implementation of MDA[12].

The success of a program is the interaction of various factors that complement each other as a unit. The good behaviour of people in the Pamalian village and good treatment will not be able to show optimal results without the support of other factors, such as the environment. Poor physical environment in the Pamalianvillage is a threat and could be always there as a transmission of lymphatic filariasis medium.There are not many houses using mosquito proofin the Pamalianvillage and is one risk factor for transmission of this disease. The determinant in the success of elimination programs in a region / country influenced by 1) the initial endemicity level of lymphatic filariasis zone, 2) the effectiveness of the vector (mosquito), 3) the rules / procedures of mass treatment, 4) compliance of the residents[13]. Need to be followed by further examination by another study, whether or not in 2 or 3 more years, *mf rate, ACD, CDR,* and the density of microfilariae in the blood of residents in the Pamalian village will still show a low rate in thenext year. When the environmental factors are

not modified to reduce the risk of filarial infection, may be people with positive microfilariae will still foundin this village.

CONCLUSION

Microfilariae malayiperiodicity in this location isnocturnal periodicwith harmonic waves and nocturnal sub-periodic with the non harmonic waves.*Brugiamalayi*sub-periodic nocturnal is a zoonosis disease, *Presbytiscristatus,Macacafascicularis*, *Feliscattus*can be a natural host be side a human.

SUGGESTION

Elimination project for filiariasismalayi, especially caused by *Brugiamalayi*sub-periodic nocturnal not only to find and give a medicine to infected people, but it also to protect human from mosquiotoesbitting like using repellent during sleeping or working in a jungle, and using bed net is important to. We can't give a treatment to animal, so the one we can do only protecting human from bitting and improve an environment sanitation.

REFERENCES

1. World Health Organization, *The Regional Strategic Plan for Elimination of Lymphatic Filariasis 2010-2015.* Regional Office for South-East Asia (2010).
2. Gill, Geoff., Beeching, Nick. *Lecture Note: Tropical Medicine,* 6th Ed, Wiley-Blackwell, West Sussex (2004).
3. Depkes RI,. Profil Kesehatan Indonesia Tahun 2008 (2009).
4. Dinkes Kalimantan Tengah. Profil Kesehatan Kalimantan Tengah Tahun 2007 (2007).
5. Mastur. *Angka Minum Obat Filariasis di Kotim di Bawah Standar:* http://www.news.id.finroll.com/home/archive/247748-angka-minum-obat-filariasis-kotim-bawah-standar.html
6. Depkes RI. *PedomanPenentuandanEvaluasi Daerah EndemisFilariasis.* Jakarta, (2006)
7. Aikat, T. K. &Das., M.. A modifiied statistical method for analysis of periodicity of microfilaria. Fik 76.142, pp. 1-12. Geneva: World Health Organizationunpublished document (1976).
8. Joseph, Hayley Melissa. "Lymphatic Filariasis Elimination: Residual Endemicity, Spasial Clustering and Future Surveillance Using The New Filariasis Celisa Diagnostic Assay" *Ph.D Thesis* in The School of Public Health, Tropical Medicine and Rehabilitation Sciences, James Cook University of North Queensland, Australia: http://eprints.jcu.edu.au/12000. (2010).
9. McGreevy, P.B., Bryan, J.H., Oothuman, P., and Kolstrup, N. The Lethal Effects of TheCibarial and Pharyngeal Armatures of Mosquitoes on Microfilariaee. *Trans. Roy. Soc. Trop. Med. Hyg.* 72(4): 361 – 368. (1978)
10. Sudjadi, F.A. "Filariasis di Beberapa Daerah Endemik di Kalimantan Timur: KajianInfraspesifik*Brugiamalayi*PenyebabPenyakitdanBeberapaSegiEpidemiologinya", *Disertasi.* FakultasKedokteranUniversitasGadjahMada, Yogyakarta. (1996).
11. Ministry of Health Indonesia and WHO. *Neglected Tropical Diseases: An Integrated Plan of Action.* Jakarta (2010).
12. World Health Organization. Regional Programme Review Group (RPRG) For Eliminationof Lymphatic Filariasis in South-East Asia Region. Jakarta (2010).

13. Kylem, Dominique., Biswas, Gautam., Bockarie, Moses.J., Bradley, Mark.H., El-Setouhy, Maged., Fischer, Peter.U., *et al*. Determinants of Success in National Programs to Eliminate Lymphatic Filariasis: A Perspective Identifying Essential Elements and Research Needs. *Am. J. Trop. Med. Hyg.* 79(4): 480 – 484. (2008).

O-16

Stressors Analysis in UNRIYO Students as A Basic to Develop Mental Health System in University

Rochdiat, Wahyu[1]; Setiawan, Deden Iwan[2]

e-mail: dhionawesome@gmail.com

Abstract

University is no longer a non-stressful environment. Previous research shown that the stressors in college students consists of: academic, interpersonal, intrapersonal, and environmental stressors. UNRIYO (Universitas Respati Yogyakarta) has three faculties (Health Science, Social Economics Science and Science and Technology). Each faculty has its characteristics (eg learning process, faculty, and environment) that can trigger different stressors in students. The first phase of this multiyear study aimed to analyze the factors causing stress in UNRIYO students so at the end study, we could develop mental health system for college students to manage stres and prevent mental disorders. This research is a combination of qualitative-quantitative design that conduct Focus Group Discussion (FGD) at first and then followed by questionnaires distribution using accidental sampling technique. To determine the most influential stressors, researchers used multiple linear regression with 95% CI. The rank order of stressors in UNRIYO students: academic stressors (B: 1.359), intrapersonal (B: 1.146), environment (B: -0.700) and interpersonal (B: 0.420). Academic stressors have the greatest effect compared with other stressors. The second stressor was followed by interpersonal stressors, interpersonal and environmental stressors. With these results, it is advisable to be able to build mental health system on UNRIYO ranging from identification / early screening, prevention, and stress management that involves all parties.

Keywords: Stress, stressors, college students

Background

Previous research results shown that the sources of stress in college students consists of: 63% of academic stressors, 17.5% interpersonal stressors (relations between individuals), 13% stressors intrapersonal, 2.5% environmental stressors and 3.5% did not reports stress. The study revealed that the external conditions trigger more stress on college students[1].

Academic stressors consist of a task that piled up, examination and education system[1]. Most study program in UNRIYO already implementing the Student Centered Learning (SCL) in the learning process. With its characteristics, SCL's method gives flexibility to the student's self-learning so that students get more tasks than the other methods. It is perceived by students as a source of major stress due to the inability of students compensate for the task.

Lecturers is one of the college student's interpersonal stressors in which their characteristics can be the main interpersonal stressors. Interpersonal stressors can also be derived from the relationship of college students with educational personnel (eg, laboratory assistants, librarians) and non-academic personnel (such as cleaning services, security guard or employee in the finance department). During the learning process in college, the student would have to meet and connect with lecturer and non-academic personnel. The quality of these relationships also affect the mental condition of the college students[1]. Environmental stressors also cause stress in college student. Environmental conditions often expressed by UNRIYO's students include classrooms and parking. All of that stressors can trigger stress

on the college student that cause health problems (difficulty sleeping and depression) so can reduce their achievement[2].So it can be concluded that the college students have a high vulnerability to the occurrence of stress during their study process.

Purpose

The purpose of this study was to determine factors cause stress on UNRIYO students and intends to create a mathematical model of the factors causing stress on UNRIYO students.

Method

This research was a combination of qualitative and quantitative design. Qualitative design using phenomenology while quantitave design using a cross-sectional. Collecting data in this study conducted on UNRIYO's first campus and second campus in June until October 201

Qualitative research carried out at the beginning so that the researcher selected key informants from college students in three faculties to do Focus Group Discussion. Researchers conducted Focus Group Discussion (FGD) to 6 students. Four students of the Faculty of Health Sciences (FIKES), 1 student of the Faculty of Science and Technology (FST) and the first students of the Faculty of Social Economy (FISE). These six students were chosen as participants because according to the researcher they can provide much information about academic stress.

The next stage is to conduct quantitative research. Researcher took the data on 377 UNRIYO's student. The number of respondents considered to meet the minimum number of samples with 95% Confidence of Intervals (CI). The sampling technique used was accidental sampling on UNRIYO's first campus and second campus with the help of seven assistants.

In qualitative research, the researcher is the main instrument. Lead researcher have done a qualitative study using in-depth interviews and focus group discussions, so that the lead researcher can become an instrument for collecting data when exploring factors that cause stress on UNRIYO students. While doing this research, lead researcher used tools such as voice recorder, FGD question guide and field notes to collect data from key informants.

At the second phase, a team of researchers conducted a quantitative study using questionnaires. Questionnaire about stress on respondents adopted by researchers from DASS 42 by simply taking 14 items related stress alone statement. Stress category by using DASS 42 are if the value of: 1) 0-14: normal stress, 2) 15-18: mild stress, 3) 19-25: moderate stress, 4) 26-33: severe stress and 5) 34 or more: very severe stress. Students stressors questionnaire modified from the Academic Stress Scale[3]

Results and Discussion

Participants of the FGD was considered to represent from each faculty and each semester. This can be seen from the characteristics of the participants in table 1.

Table 1. Focus Group Discussions's (FGD) Participant Characteristic

Participant	Faculty	Year	Reason chosen as a participant
P1	Science and Technology	Third year	Can provide information regarding the causes of stress: early learning as a student, teaching and learning in the Science and Technology Faculty and the additional load as a student organization committee
P2	Social Economics Science	Third year	Can provide information regarding the causes of stress: early learning as a student, the learning process in the Social Economics Science Faculty and an additional load as a student organization committee
P3	Health Science	Third year	Can provide information regarding the causes of stress: early learning as a student, teaching and learning in Health Science Faculty and an additional burden as a student organization committee
P4	Health Science	Fourth Year	Can provide information about the causes of stress: early learning as a student, teaching and learning in Health Science Faculty, making final project
P5	Health Science	Fisrt Year	Can provide information about the causes of stress: environmental differences, learning, and culture between high school and college
P6	Health Science	First Year	Can provide information about the causes of stress: early learning as a student, teaching and learning in Health Science Faculty, making final project

Table 2. Analysis of College Student's Stress in UNRIYO 2016 (n = 377)

Variable	n	*Mean*	Med.	SD	Min-Max	95% CI
Stress	377	13,60	13,00	4,89	1-35	13,10 – 14,90

Results on UNRIYO student's stress is quite surprising because the average value of the stress are still within the range of normal stress (0-14). This is possible because the range of a minimum value to a maximum value was so far (1-35 points). Value of 35 indicates that the student suffered severe stress (1 respondent). If seen from the standard deviation and the value of 95% confidence interval (CI), UNRIYO students have the most stress distribution in normal stress levels to mild stress.

Results on UNRIYO student's stress is quite surprising because the average value of the stress are still within the range of normal stress (0-14). This is possible because the range of a minimum value to a maximum value was so far (1-35 points). Value of 35 indicates that the student suffered severe stress (1 respondent). If seen from the standard deviation and the value of 95% confidence interval (CI), UNRIYO students have the most stress distribution in normal stress levels to mild stress.

The results of this study differed from previous studies that claimed that most students experienced negative stress [2, 4]. Stress can be positive and negative effect. Stress that has negative effects make the patient complained of physical abnormalities (eg, dizziness, indigestion and the like) and cognitive and social impaired. Usually negative stress is at stress levels of moderate to very severe. Normal stress and mild stress have a positive effect. Although stress also raises some physical problems but these symptom are still within normal limits. Furthermore, positive stress would increase a person's cognitive abilities to solve problems [5].

Another cause that UNRIYO students had an average stress in the range of normal stress was probably because the time of respondents filled the questionnaire. It conducted at the beginning of the year so that students do not feel the stress because of having the annual holiday. The next researcher shall investigate stress by using serial data retrieval time, which means more than one time to see the college students's stress throughout one year.

The results showed that the UNRIYO students had normal-mild stress. It meaning that UNRIYO students ready to attend the learning process. Normal-mild stress stimulate the brain's ability to create and improve the perception of the students so that the students can think of various solutions to deal their stressors.

The results of the quantitative method was similar with FGD that UNRIYO students's stress were in moderate to severe levels of such these statements:

> *"Sometimes i did not eat until two days...so i fainted"* (P3)
> *"Anyway i felt restless, the body feels uncomfort, i did not know what to do, really stressfull..."* (P6)
> *"I ended up crying alone in the room, all my duties couldn't finished, because my mind was so disturbed"* (P4)

From these statements, UNRIYO should anticipate the stressful conditions so that students do not fall into a state of moderate to very severe stress. This can be done by optimizing the role of Academic Advisor, increasing the role of the UNRIYO Bureau of Students and provides consulting room with a certified psychologist. When student goes to a moderate stress conditions and is not addressed immediately, it can be mentally illness [6]. Therefore, UNRIYO obliged to think of the right system to help students manage stress and cope their stressor.

Questionnaires were distributed to UNRIYO students also identified some of the causes of stress / stressors in students. Causes of stress in this study were divided into four groups:

academic stressors, interpersonal stressors, intrapersonal stressors and environmental stressors. Analysis of stressors in UNRIYO students is showed in the following table:

Table 3. Analysis of College Student's Stressor in UNRIYO 2016 (n = 377)

Variable	*Mean*	Med	SD	Min-Max	95% CI
Academic Stressor	2,10	2,12	0,61	0,18 – 3,65	2,04 – 2,16
Interpersonal Stressor	2,34	2,40	0.72	0 - 4	2,27 – 2,41
Intrapersonal Stressor	1,97	2,00	0,83	0 - 4	1,89 – 2,05
Enviromental Stressor	2,53	2,55	0,75	0,18 - 4	2,45 – 2,60

From Table 3, it can be concluded that the UNRIYO students considered environmental stressors is the greatest stressor (mean = 2.53), followed by interpersonal stressors (mean = 2.34), academic stressors (mean = 2.10), and intrapersonal stressors (mean = 1.97). The results of this study differ from previous study that stated that the source of stress in students consists of: 63% of academic stressors, 17.5% interpersonal stressors, 13% stressors intrapersonal, 5% environmental stressors and 3.5% did not report stress[1].

UNRIYO is a private college that is only 13 years old and still continues to transform itself, so naturally when students feel they have paid expensive for studying at private colleges calls for an increase of infrastructures quality. This has led to the highest stressors for UNRIYO students as examples of statements following participants:

> *"There is no AC in Technique Faculty, so it is so hot when I'm studying in classroom" (P1)*
> *"But there are some classes that do not have the AC, so I'm lazy when studying at campus II that only has air conditioning on fourth and fifth floors. Even though we often had lecture on the 3rd floor which sometimes feels hot because it only have the fan. We often scramble to sit near the door or window so do not feel hot. We also want UNRIYO have gazebos to perform tasks such as other campuses. Wifi quality should also be accessible on mobile phones not only in laptops alone, the speed is also increased. If for CCTV may be reproduced again, so also electric plug that exists outside." (P3)*
> *"Moreover, in the cafeteria...UNRIYO's cafetaria are less neglected, because less of the concern of the manager, and also the cleanliness of the canteen is very less, I feel uncomfortable when I see that. Maybe it could be increase in number for computer facilities on the first floor, the computers that has exist are mostly dead or damaged." (P6)*

Academic, interpersonal and intrapersonal stressor have long time concluded to be the cause of stress that is most often reported by college students. College students attacked by various personal and social learning stressors continuously. Specific stressors include, but are not limited to, interpersonal relations, setting daily living, personal finance, experience repeated failure and a decision about the future [7, 8]. As a college student, the change from adolescence to adulthood can cause students to experience the challenges and obstacles that may increase stress [9, 10]. Stress in college students is a condition that can not be avoided.

From 42 statement in questionnaire about stressors, the top 10 stressor that has the highest value of the first rank are as follows: Hot class, the quality of practices / thesis guidance is not good, tuition, obscurity practice / thesis counseling time, slow internet connection, unclear financial information, hectic class schedules, uncompleted tasks, do not have laptop or another study equipment and dirty infrastructure. It appears from the top 10, that environmental stressors dominate, followed by interpersonal stressors and academic stressors.

Different results showed when variables entered into the multivariate analysis. Table 4 shows that each of these stressors have a significant relationship to stress scores (p-value <0.05) when tested bivariate using Spearman rank test. Judging from the amount of p-value, it can be concluded that academic, interpersonal and intrapersonal stressors has the same effect stronger than the environmental stressors. From Table 4 can be prepared a model as follows:

$$\mathbf{Y = 9{,}274 + 1{,}359X_1 + 0{,}420X_2 + 1{,}146X_3 + (-0{,}700)X_4}$$

Note: Y = Stress Score

As it shown in the multivariate model, it was concluded that academic stressors have the greatest effect compared with other stressors. The second stressor was followed by interpersonal stressors, interpersonal and environmental stressors. These results are consistent with previous research which stated that the academic stressors are the number one cause of stress in students[1]

Table 4. Multivariate Analysis of Stressors to College Students's Stressor in UNRIYO 2016 (n=377)

Variable	p-value	B	Constanta	R	R^2
Academic Stressor (X1)	0,000	1,359	9,274	0,305	0,093
Interpersonal Stressor (X2)	0,000	0,420			
Intrapersonal Stressor (X3)	0,000	1,146			
Enviromental Stressor (X4)	0,013	-0,700			

College student's negative stress can trigger anxiety and depression. Stress will also cause a negative reaction to physical, emotional, behavioral, and cognitive changes in college students who ultimately lowering the academic achievement [11]. Impairment of academic will become the new stressors that add old stressors and will always continue to be repeated. If that cycle does not stopped then the college students will experience a bad outcome such as mental disorders, drop out or do violent behaviour.

Research showed that stress in college students tend to decline as the period of study except in the last year because college students are faced with the final project. Stress also tends to be higher in female students [12]. Therefore, because of the pattern that so obvious, UNRIYO should be able to build a mental health system that serves to prevent the students experienced prolonged negative stress.

UNRIYO able to identify at the beginning when the student enters. Because education is a right of all people, UNRIYO can identify the personalities prone to stress without rejecting their student. With a capital data is the student's personality, the Student Council in cooperation with courses through Academic Advisors can continue to monitor all students, especially at high risk of negative stress

UNRIYO can identify at the beginning when the college student entered UNRIYO. UNRIYO can identify the personalities prone to stress without rejecting them to be UNRIYO's students. With the student's personality data, the UNRIYO's Student Council can cooperate with Academic Advisors through study process so they can monitor all students's health mental, especially them who at high risk of negative stress.

Study programmes can also implementing a creative and fun learning programs for college students without eliminating the learning objectives or student competence. In addition, college students as teenagers usually prefer storytelling with their peers. UNRIYO can train multiple students to conduct screening, simple counseling and give some minor therapy to cope with stress before refer to professional nurse or psychiatrist. Those students are to be ambassadors of mentally healthy life for his friends.

Conclusions and Recommendation

1. Academic stressors have the greatest effect compared with other stressors. The second stressor was followed by interpersonal stressors, interpersonal and environmental stressors.
2. UNRIYO should be able to build a mental health system that serves to prevent the students experienced prolonged negative stress
3. For psychiatric nurse, they should have continous programs to do screening, training for some college students and make peers group to help another friends to cope stres and can be referrence to give therapy for some college students that have a high risk to stress before they have mental disorder.

Reference

1. Ong, B., Cheong, K.C. (2009). Sources of stress among college students – The case of a credit transfer program. *College Student Journal*; 43, 4.
2. Ablanedo-Rosas, JH, Blevin, RC, Gao, H, Teng, WY, White, J. (2011). The impact of occupational stress on academic and administrative staff, and on students: an empirical case analysis. *Journal of Higher Education Policy and Management*, Vol. 33, No. 5, October 2011, 553–564.
3. Xiao, J. (2013). Academic Stress, Test Anxiety, and Performance in a Chinese High School Sample: The Moderating Effects of Coping Strategies and Perceived Social Support. Counseling and Psychological Services Dissertations. Georgia State University
4. González, L.1, Hernández, A.2 & Torres, M.V. (2015). Relationships between academic stress, social support, optimism-pessimism and self-esteem in college students. *Electronic Journal of Research in Educational Psychology*, *13*(1), 111-130. ISSN: 1696-2095. 2015, no. 35
5. Hawari, D. (2011). *Manajemen Stres, Cemas dan Depresi*. Jakarta : FKUI.
6. Stuart, GW. (2013). *Principles and Practice of Psychiatric Nursing, 10th Edition*. Philadelphia: Elseiver, Inc.

7. Adler, A., Conklin, L., & Strunk, D. (2013). Quality of coping skills predicts depressive symptom reactivity over repeated stressors. *Journal O f Clinical Psychology*, 69(12), 1228-1238.
8. Keith, T. (2010). Depression and its negative effect on college students. Undergraduate research. *Journal for the Health Sciences*, 9 [online series].
9. VanKim, N. A., & Nelson, T. F. (2013). Vigorous physical activity, mental health, perceived stress, and socializing among college students. *American Journal o f Health Promotion*, 28(1), 7-15.
10. Thurber, C. A., & Walton, E. A. (2012). Homesickness and adjustment in university students. *Journal Of American College Health*, 60(5), 415^119
11. Saravan, C; Wilks, R. (2014). Medical Students' Experience of and Reaction to Stress: The Role of Depression and Anxiety. *The Scientific World Journal* volume 2014, Article ID 737382, 8 pages
12. Abdulghani, HM; AlKanhal, AA; Mahmoud, ES; Ponnamperuma, GG; Alfaris, EA. (2011). Stress and Its Effects on Medical Students: A Cross-sectional Study at a College of Medicine in Saudi Arabia. *J Health Popul Nutr*, 2011 Oct;29(5):516-522

O-17

DEPRESSION AMONG ADOLESCENT IN BOGOR

Ice Yulia*, Kartikaweni, Tantri Widyarti***, Ria Utami**

*Faculty of Nursing University of Indonesia, Department of Mental Health Nursing, Depok, West Java, Indonesia

**Faculty of Nursing University of Indonesia, Depok, West Java, Indonesia
***Health Ministry State Polytechnic, Department of Mental Health Nursing, Bandung, West Java, Indonesia
Email: iceyulia@ui.ac.id

ABSTRACT

Background: Depression is a common mental disorder. The prevalence continues to increase every year. Adolescents, as a period of transition from childhood to adults, will encounter some obstacles in problem solving. This was due to the immaturity of emotional development. Furthermore, the accumulation of emotional disturbance may result depression. If it occurs, it can be the cause of other mental disorder and lead to suicide.**Purpose:** the aim of this study is to describe the prevalence of depression among adolescent in Bogor.**Method:**this research is a quantitative research with a sample of 324 adolescents in Bogor, consist of 187 junior high school students, and 137 senior high school students. The data obtained using Beck Depression Inventory, which consist of 24 questions. Each point has a value to determine which category of depression suffered. **Result and Discussion:** the result showed that the adolescents in Bogor suffer moderate depression (48.5%) and severe depression (51.5%). This is happen due to a variety factors. **Conclusion:** this study recommends the importance of the implementation of effective parenting methods for adolescent.Implementation of open communication methods will be effective for them. So that, psychosocial problem among adolescent will decrease.

Keywords: adolescent, depression, mental health

BACKGROUND

Province in Indonesia which has the largest mental emotional disorder (anxiety and depression) is CentralCelebes (11.6%) and West Java (9.3%) while the lowest is the Lampung (1.2%) (1) . In 2014, an estimated 2.8 million adolescents aged 12 to 17 in the United States suffering from depression in the past year. This amount represents 11.4% of the adolescent population aged 12 to 17 (2)The data shows us that west java ranks second after Central Celebes. Bogor as a part of West Java, need to see deeply to know how the depression happen, especially in adolescents.

Depression is a severe mood disorders identified through intense, usefulness, perseverance, and impaired social functioning and physiological (3). Depression is a mood disorder characterized by a loss of self-control and the subjective experience of suffering severe. Mood is a pervasive internal emotional state of a person, and not the effect, that is, from the expression of the emotional content of the time (4).

Depression is more common in girls than boys and stress in the family causes teen depression (5). In a 11-year longitudinal study of 550 rural youth, adolescents experience a lot of stress during the life although girls and boys did not differ in the number of events that cause stress to life during early adolescence (ages 12-13) and young adults (ages 22-23) (6).

Signs and symptoms of depression according to (7) was to appear sad, upset, crying, changes in appetite, decreased interest in youth activities that are fun, decreased energy, difficulty concentrating, feelings of guilt, worthlessness / no helpless, major changes in sleep habits, complaining of boredom, talk of suicide, Withdraw from school activities, school performance deteriorated.

PURPOSE

This study can describe prevalence of depression among adolescent in Bogor (which generally second rank in Indonesia who suffers mental emotional disorder). This is also identified depression early among adolescent, because furthermore it can lead to a serious mental health problem.

METHOD

This study is a quantitative study with descriptive design. Respondent in this study is adolescents who study in junior and senior high school in Bogor, West Java. Total respondent are 324 adolescent, which consist of 187 are juniors and 137 are seniors. The data was obtained using Beck Depression Inventory which has 21 questions, and each question has a grade to determine the category of depression suffered. The result explain by using table of frequency, this is use to know the characteristic of respondent and to explain depression happened based on gender and school grade/class.

RESULT

Total respondent on this study are 324 adolescent which got from random sampling method. The characteristic of respondent explain on table 1, depression category in all respondents on table 2, the description of depression also will explain by gender (table 3) and class (table 4).

Characteristic of the respondents, describe by age, gender, and class of school. Most respondent age is 13 years old, more than a half is female, and are un the 8th grade, which is in junior high school.

The incidence of depression shows that the adolescent suffers moderate depression (48.5%) and severe depression (58.5%). While, based on gender male suffers moderate depression 51.7% and severe depression 48.3%. Female suffers moderate depression 45.8% and severe depression 54.2%. Based on this result, the data shows us that female suffers depression more than male (177 compared by 147 from the total of respondents).

This study also describes depression based on school grade/ school. From the data, we can see that the moderate depression mostly happened on adolescent at the 11th grade of school (second years on senior high school), while severe depression suffered on 12thgrade of school (last year on senior high school).

Table 1.Distribution of Respondent based on Age, Gender, and Class (n=324)

Variable	Frequency	Percent (%)
Age		
- 11	4	1.2
- 12	55	17
- 13	73	22.5
- 14	58	17.9
- 15	41	12.7
- 16	63	19.4
- 17	30	9.3
Total (n)	324	100
Gender		
- Male	147	45.4
- Female	177	54.6
Total (n)	324	100
Class		
- 7	58	17.9
- 8	70	21.6
- 9	59	18.2
- 10	38	11.7
- 11	59	18.2
- 12	40	12.3
Total (n)	324	100

Table 2.Depression Category (n=324)

Variable	Frequency	Percent (%)
Depression		
- Mild Depression	0	0
- Moderate Depression	157	48.5
- Severe Depression	167	51.5
Total (n)	324	100

Table 3. Depression Category Based on Gender (n=324)

Gender	Depression Category				Total	
	Moderate Depression		Severe Depression			
	n	%	n	%	n	%
Male	76	51.7	71	48.3	147	100
Female	81	45.8	96	54.2	177	100
Total (n)	157	48.5%	167	51.5	324	100

Table 4. Depression Category Based on Class (n=324)

School Grade	Depression Category				Total	
	Moderate Depression		Severe Depression			
	n	%	n	%	n	%
VII	27	46.6	31	53.4	58	100
VIII	37	52.9	33	47.1	70	100
IX	28	47.5	31	52.5	59	100
X	18	47.4	20	52.6	38	100
XI	32	54.2	27	45.8	59	100
XII	15	37.5	25	62.5	40	100
Total (n)	157	48.5	167	51.5	324	100

DISCUSSION

The study findings revealed that all adolescent in Bogor suffers depression, especially in moderate depression till severe depression. More than half of adolescents suffer severe depression (51.5%). This situation also can show that many problems/ pressure happened to adolescent such as try to make a new friend/ relationships, participation on school activities, join organizations, etc. (8). Adolescents who suffers depression can feel many sign and symptoms such as low self-esteem, changes in sleep pattern like insomnia (inability to sleep), hypersomnia (excessive sleep) or broken sleep, changes in appetite or weight, inability to control emotions such as pessimism, anger, guilt, irritability and anxiety, sense of hopelessness, social isolations and dropping out of usual activities, reduce capacity to experience pleasure, poor concentration and memory, reduce motivation to carry out usual task, and lowered energy levels. (9) (10). All of this condition can affect academic performance, and become academic stress (11).

Based on gender, this study were consistent with the previous study(5)(12). The result shows that female suffers depression more than male (177 respondents or 54.6%). The previous study revealed that this condition cause by the differences of coping mechanism has been used. Men's have greater tendency to express depression rather than correspond to the symptoms itself (12).

In Indonesia, adolescents has many activities in school such as doing organization, some sports, art, or another activities that can improve ability and performance. This role, mostly do by student who are in the second year of school (8^{th} grade on junior high school or 11^{th} grade or senior high school), (9). This study revealed that the second year student suffers more depression than the others, based this activities burden. But based on the academic burden, the last year student suffers severe depression more than others. It may be cause by many exams will happen to last year student such as national, school, and university exam. This result consistent by the previous study that showed there is significant correlation between academic stress and depression among adolescent (11).

The current study is limited because of other factors that can cause depression incomplete state on the questionnaires. Even though, this study shows us that depression greatly happen on adolescent in Bogor, if it is not identified and treated well, it can lead to a serious mental health problem, further suicide can happen (13). Student should be counseled for stress factors.

CONCLUSION

Adolescence is a period of transition, many changes both psychologically and physically, and the transition from childhood to adulthood. It can create stressful conditions and trigger deviant behavior in adolescents. One of the mental health problems in adolescence are depression. All of adolescent in Bogor suffers depression, more than a half are suffers severe depression (51.5%). Female suffers depression more than male, and last year student in senior high school suffers severe depression more than other student.

RECOMMENDATION

Depression can be a serious mental health problem if it is not identified and treated well. Therefore, collaboration between mental health provider such as nurse, teachers (school) and parents, urgently needed to solve this problem.

REFERENCES

1. RisetKesehatanDasar. *Hasilrisetkesehatandasartahun 2013*. http://www.depkes.go.id/resources/download/general/Hasil%20Riskesdas%202013.pdf, [Accessed 5 June 2016]
2. NIMH. *Major depression among adolescents*. Available from:http://www.nimh.nih.gov/health/statistics/prevalence/major-depression-among-adolescents.shtml [Accessed August 2016]
3. Stuart, Gail W. *Principles and Practice of Psychiatric Nursing 10th Edition*. Missouri: Mosby; 2013
4. Kaplan HI, Sadock BJ, Grebb JA. SinopsisPsikiatriIlmuPengetahuanPerilakuPsikiatriKlinis. Tangerang (Indonesia): BINARUPA AKSARA; 2010
5. Brown G. W. ,& Harris T. O. Depression and the serotonin transporter 5-HTTLPR polymorphism: A review and a hypothesis concerning gene-environment interaction . *Journal of Affective Disorders*, 2008; 111 , 1 -12 .18534686
6. Ge X. ,Natsuaki M. , & Conger R. *Trajectories of depressive symptoms and stressful life events among male and female adolescents in divorced and nondivorced families* . Development and Psychopathology, 2006; 18 , 253 -273 .16478562
7. AACAP. *Depression in children and teens*. Available from: http://www.aacap.org/ AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/The-Depressed-Child-004.aspx [Accessed August 2016]
8. Mental Health America. *Depression in teens.* Available from: http://www.mentalhealthamerica.net/conditions/depression-teens [Accessed 19th October 2016]
9. Black Dog Institution. *Depression in adolescent and young people.* Available from: http://www.blackdoginstitute.org.au/docs/DepressioninAdolescentsandYoungPeople.pdf [Accessed 19th October 2016]
10. Adolescent Depression Awareness Program (ADAP). Adolescent depression: what we know, what we look for, and what we do. David Raymond Price Foundation. 2007. Available from: http://www.hopkinsmedicine.org/psychiatry/specialty_areas/moods/adap/docs/adap-booklet_final.pdf [Accessed 19 October 2016]
11. Jayanthi, Hirunavukarasu, Rajkumar. Academic stress and depression among adolescents: a cross-sectional study. *Indian pediatric.* 2015; 52. Available from: http://medind.nic.in/ibv/t15/i3/ibvt15i3p217.pdf [Accessed 19 October 2016]
12. Addis. *Gender and depression in men*. Worcester: Wiley Periodical; 2008. Available

from: http://www.economicgeography.org/faculty/addis/menswellbeing/pdfs/genderanddepressioninmen.pdf [Accessed 19 October 2016)
13. American Assotiation of Suicidology. *Depression and suicide risk.* 2014. Available from: http://www.suicidology.org/portals/14/docs/resources/factsheets/2011/depressionsuicide2014.pdf [Accessed 19 October 2016)

O-18

THE INFLUENCE OF THE SAFE COMMUNITY OF PREGNANCY TRAINING TOWARD THE KNOWLEDGE AND ATTITUDE OF HEALTH VOLUNTEERS OF COMMUNITY HEALTH CENTER IN THE PRIMARY HEALTH CARE CENTER OF LANGSAT PEKANBARU RIAU INDONESIA

Sri Utami, Ganis Indriati

Maternity and Child Of Nursing Departement University Of Riau
Email: t4m1_psik@yahoo.co.id

Abstract

Pregnancy is the period that starts at the moment of conception to the birth of a fetus. Length of Inormal pregnancy is 280 days. The General high risk symptom among pregnancy women can effect to maternal morality. Indonesia was ranked the highest in ASEAN, exactly 3-6 times larger than the ASEAN countries. The goal of the research is early detection of high risk pregnant women in the primary health care center of Langsat, Pekanbaru, Indonesia. The method of this research is experimental, and research in the primary health care center of Langsat, Pekanbaru, Indonesia.

The results showed that the influence of the safe community of pregnancy training toward the knowledge and attitude of health volunteer's of community health center in the primary health care center with statistical tests independent sample t test obtained ($p<0.001$) Thus, it can be concluded that the safe community of pregnancy significantly could increase the knowledge and attitude of health volunteer's of community health center in Langsat, Pekanbaru, Indonesia.

Keyword : attitude, knowledge, safe community of pregnancy training, the health volunteers of the community health center

INTRODUCTION

One of the indicators of the health of a nation is the maternal mortality (AKI) it had described that maternal mortality (AKI) is currently in Indonesia was ranked the highest in ASEAN, exactly 3-6 times larger than the ASEAN countries. Demographic Health Survey Indonesia in 2007, maternal mortality (AKI) in Indonesia 228 per 100,000 live births, in 2011 reaches 307 per 100,000 live births, in 2012 maternal mortality (AKI) reached 359 per 100,000 population of around 57 percent or increased when compared with conditions in 2007, and it is certainly Indonesia targets to lower the maternal mortality (AKI) to 102 per 100,000 thousand births in line with Government's Millennium Development Goals (MDGs), may not be achieved, because the data is soaring at the maternal morality (AKI) in 2012. Where the causes of the high maternal mortality (AKI) in Indonesia was due to 38% of haemorrhage, 24% of preeclampsia and 11% of infections.

High risk pregnancy provides high contribution to the occurrence of maternal mortality (AKI) in Indonesia. Three main determinant problem maternal mortality (AKI) can result from high risk on an unknown pregnancy and handled quickly and appropriately. The dangers of high risk in pregnancy can be high risk in pregnancy is a sign or symptom that shows that mothers and babies that they contain in a State of danger (Saif, 2007). As a consequence will be fatal where the mother or her baby could be challenged, injury to death. Could even be at once both the mother and her baby died when handling late or not timely.

Based on the data of the Central Java Health Office, maternal mortality (AKI) after giving birth is still high. Maternal mortality (AKI) in 2009 as much as 117,02/100,000 live births. This has increased when compared to the maternal morality (AKI) in 2008 amounted to 114.42/100,000 live births, and in 2007 amounting to 116.34/100.000 live births.

The incidence of maternal death is the most abundant at the time of parturition 49.12% followed by a later on-time delivery of 26.99% and pregnant at the time of 23,89%. The cause of death was internal bleeding of 22.42%, amounting to eclampsia of 28.76%, infection of 3.54% and others of 45.28% (Ayudea, 2010).

According to data from the City Health Office Pekanbaru maternal mortality (AKI) in Riau Province, recorded still high until it reaches 161 cases originating from 12 counties and cities. Maternal mortality of 161, it is the amount of AKI in 2011 are still high despite of 2010 recorded 173 cases (Health Office Pekanbaru, 2012).

The phenomenon of maternal mortality are still high that belongs to one of these can be caused by a low knowledge and attitude to pregnant women against pregnancy danger signs. Domain knowledge is very important for the formation of a person's attitude. Knowledge is very closely related to education where someone with higher education, then that person will be more extensive knowledge and getting right in determining attitudes. In this case pregnant women who are highly educated will have broader knowledge and a good attitude about the danger signs of pregnancy (Ruswana, 2006).

Efforts to bring about a decrease of maternal mortality (AKI), a variety of programs can be implemented, including the utilization of health volunteer of community health center in the community. The program established the mission of health development, among others, increase the degree of public health through the empowerment of the community, including the private sector and civil society; protect the health of the community by guaranteeing availability of health plenary efforts, prevalent, quality and fairness; ensure availability and equitable distribution of health resources. A healthy human resources and quality, is the main capital in health development. (1) the success of the Indonesia health development is inseparable from the active participation of the community. One of the active role of the community and the private sector in implementing public health efforts are realized through a variety of efforts which started from yourself, your family up to the efforts of the health community (UKBM) sourced. On the program, it is very important the health volunteer of community health center include because cadres is someone who has always been active in helping the smooth running of medical services at the community health center. In addition, the existence of health volunteer of community health center is often associated with routine services at community health center, thus health volunteer of community health center were recruited from, by and for the community. Health volunteer of community health center is also the extension of the hands of health workers (health centers), so that mothers are closer to health volunteers. Then with the proximity it is expected to able to help handle the health volunteer of community health center and find suitable solutions to handling health problems to nourish the mothers in the community.

But when health volunteer of community health center knew the high risk pregnancy in early is important, so that this type of high risk pregnant mothers could be recognized as early as possible so that when discovered these high risk pregnant women can be reported to clinics for further care and management. Therefore, it is important to carry out this study entitled " The Influence of The Safe Community of Pregnancy Training Toward The Knowledge and Attitude of Health Volunteer's of Community Health Center in The Primary Health Care Center of Langsat"

The Purpose

The purpose of this research is to examine the influence of pregnancy training toward the knowledge and attitude of health volunteer's of community health center in the primary health care center of Langsat".

A. Theoretical Review.

Training

According to Noe (2003). Training is a planned effort of an organization in facilitating the learning of employees linked to the competencies they have in completing the task and his work. The competency in question include knowledge. The ability/skill and behavior that is essential for the success of the role of the employee. Training intended to strengthen the competencies of employees in terms of knowledge, abilities/skills, and behavior are given on the training program so that it can be applied to the activities of the completion of the task. In addition to gain a competitive edge by involving more than just development basic capabilities. The safe community of pregnancy training is short term education process systematic and organized to achieve maximum knowledge about Safe Community Pregnancy, ways of handling while cases high risk pregnancy before the referenced heading health workers (midwives, general practitioners and obstetrician or clinics and hospitals) by the health volunteer's of the community health center, health promotion, and the detection of high risk pregnancy.

The purpose

The purpose of the safe community of pregnancy training is to (1) encourage community self-reliance for healthy life, (2) increase the empowerment of individuals, families, and communities in high risk pregnancy handling efforts.

Golstein and Buxton in the Mangkunegara

(2003) says that the training evaluation is one component in the training program is based on several criteria in as the size of the training success criteria among others opinion, learning criteria, criteria of conduct, criteria and results. The criteria are based on opinions the opinions of participants regarding the training program that has been done. This can be expressed by using the questionnaire regarding the implementation of the training. How the opinions of participants regarding the material provided, training, methods used and the training situation.

Safe Community of Pregnancy Safe community of pregnancy is a way to understand or comprehend cases of high risk pregnancy

Understanding of The Risk

a. Risk is a measure of the statistics of opportunities or possibilities for the occurrence of a State of unwanted attention in the future, such as the occurrence of death, pain or deform in the mother and her baby (SMF Obstetrics Gynecology – Anesthesia Reanimation. Faculty of Medicine UNAIR/RSU Dr. Sutomo Surabaya, 2008).
b. Risk is the possibility of emergencies unwanted childbirth complications resulting in death/ pain/disability/discomfort and discontents in the mother/baby new born. (Guidelines for Monitoring Local Area KIA Health Department, 2007).

c. Risk is a measure of the statistics of opportunities or possibilities for the occurrence of a State could not later be wanted (Rocjati P, 2008)

Understanding of Pregnancy With High Risk Factors

Pregnancy with high risk factors is a pregnancy that has certain circumstances causing the increased risk during pregnancy. As for the high risk factors in pregnant women, among others, are:

High Risk of Pregnancy

High Risk of Pregnancy is pregnancy where the expectant mother or fetus that it contains are in the risk of death or pain during her pregnancy, birth and after the birth (post!) High risk pregnancy incidence figures approximately 20% of all pregnancies.

High Risk of Pregnant Mothers

Namely pregnant women with one or more risk factors either maternal or her fetus which can give less favorable impact for the mother or her fetus.

The Risk Factors

Risk factors can be distinguished into two, namely:

1. Risk factors from the mother, include:
   a. age of mother:
      The mother's age is less than 16 years. Maternal age 35 years or more
   b. Fertility:
      New mother pregnant after 4 years of marriage Pregnant again where the smallest child was born 10 years ago
   c. Grande Multipara:
      Number of children over 4 (have 5 or more children)
   d. Mother less than 145 cm
   e. (Habits):
      Heavy smokers, drug addicts, drinkers of alcohol
   f. History of obstetric/Delivery are ugly:
      Abort, premature Labor History, Labor History, long Operating History Labor History Cesar, with the help of Forceps delivery or vacuum
   g. History of illness suffered:
      Hypertension, Diabetes, heart disease, kidney disease, lung disease, Coagulation Disorders, Anemia, severe Infections such as AIDS.
   h. history of previous Trauma and Surgery:
      Pelvic Trauma, Myomectomy
2. Risk factors of Fetal, include:
   a. Malpresentation and malposition
   b. Twins
   c. The antepartum Haemorrhage.
   d. Congenital Abnormalities
   e. Serotinus (post date)
   f. Polihidramnion dan Oligohidramnion
   g. Makrosomia

h. Intrauterine Growth Restriction.
i. Fetal death in womb

The dangers that arise due to pregnant women with high risk.
The dangers that can arise as a result of pregnant women with high risk, among others:
1. Miscarriage (Abort)
2. Babies born prematurely
3. Low birth weight (less than 2500 g)
4. Dead Babies in the womb
5. Baby with congenital defects
6. The mother experiencing bleeding that can result in maternal death
7. The mother experiencing pregnancy poisoning (Toxemia gravidarum)
8. Mother's illness becomes more severe (father of the heart up to heart failure, asthma, weight diabetes mellitus etc.)
9. Labor long and or crashes
10. Emergency so that the baby must be born by caesarean section (Score card Poedji Rochjati, 2008)

Knowledge

a. Definition
According to Notoatmodjo, (2010),

knowledge is the result of people do know after sensing against a particular object. Sensing happens through the five senses of human beings, i.e. the sense of sight, hearing, smell, taste and feel. Most human knowledge is obtained through the eyes and ears.Based on Notoatmodjo, 2010 that knowledge is information or information which is known or understood by a person. Knowledge is not limited to descriptions, hypotheses, theories, concepts, principles and procedures in Bayesian Probability is true or useful.

According to the constructivist approach, knowledge is not the fact of a reality that is being studied, but rather as a person's cognitive construction against an object, experience, or environment. Knowledge is not something that is already there and available and while others lived to accept it. Knowledge is as a continuous formation by a person who at any time are experiencing a reorganization because of an understanding-new understanding.

In another sense, knowledge is the variety of symptoms that are found and retrieved by observation of the human intellect. Knowledge comes when someone uses their characters to recognize certain events or objects that have never been seen or felt before. For example when someone tastes acquaintance, he will gain knowledge about the shape, taste, and aroma of the dishes.

Factors that affect the level of knowledge

1. Education

   Education is an attempt to develop the personality and ability on the inside and outside of school and last a lifetime. Education affects the learning process, the higher a person's education is the easier one to receive information. With higher education then a person will tend to get information, either from others or from the mass media. More and more health information that goes more and more also knowledge gained about the

health of a person. Knowledge is closely associated with education which is expected of a person with a college education, then that person will be more widely also knowledge. But it needs to be emphasized that an educated low does not mean absolute knowledgeable low anyway. Increased knowledge is not absolute obtained in formal education, but can also be obtained on the non formal education. A person's knowledge about something object also contains two aspects, namely the positive and negative aspects. The second aspect is what ultimately will determine the attitude of a person towards a particular object. The more positive aspects of the object is known, will foster a positive attitude towards the object gets worse.

2. Information/Mass Media

   Information obtained from both the formal and non formal education can influence short-term (immediate impact) so that it generates a change or increase in knowledge. Its advanced technologies available all kinds of mass media that can affect public knowledge about new innovations. As a means of communication, the various forms of mass media such as television, radio, newspapers, magazines, and others have had a major influence on the formation of opinion and credibilty of people. In the submission of information as the task anyway, the mass media also carried messages containing suggestions that can drive a person's opinion. The presence of new information about something it gives new cognitive Foundation for the formation of knowledge.

3. Socio-cultural and economic

   Customs and traditions do people without going through reasoning what do good or bad. Thus, a person will increase his knowledge of the US that is necessary for a particular activity, so that socio-economic status this will affect a person's knowledge.

4. Environment

   The environment is everything that exists around the individual, whether biological, physical, environmental and social. The environment influence on the process of entry into the knowledge of individuals who are in the environment. This occurs due to the interaction of reciprocity or which will be responded to as knowledge by each individual.

5. Experience

   Experience as a source of knowledge is a way to gain knowledge of truth by way of looping back knowledge gained in solving problems encountered in the past. A learning experience in the work being developed provide professional knowledge and skills as well as learning to experience for work will be able to develop the ability of taking a decision that is the manifestation of Alignment of scientific reason and ethics who traveled from real problems in the field of work.

6. Age

   Age affects the capture and power against one's mindset. Growing age will also capture power growing and he thought patterns, so that the knowledge that he is getting better. At the age of Vice, the individual will be more plays an active role in society and social life as well as doing more preparations for the sake of the success of efforts to

adapt towards old age, besides people age associate going to more use of a lot of time to read. Intellectual ability, problem solving, and verbal ability are reported almost no decline at this age.

Two traditional attitudes regarding the course of development over the life:

1. The older the more thoughtful, the more information that you found and the more things are done so that adds to the knowledge.
2. Not able to teach new cleverness to people who have been old because the decline either physical or mental. It can be estimated that the IQ will decrease in line with increasing age, especially in some other skills such as vocabulary and general knowledge. Some theorists argue it turns out a person's IQ is going downhill pretty quickly in line with increasing age.

The Attitude

Definition

According to (the goddess, 2012) identifies an attitude as a willingness to react (disposition to react) positively (favorably) or negatively (unfavorably) against a particular object – object. Kusmiyati (2008) argues that attitude as an organization that is settled from the motivational, emotional, perceptual, and cognitive about aspects of the world of the individual.

More Poerwadarminto, (2003) provides the definition of the attitude is the view or feelings that accompanied the tendency to act against certain objects. The attitude always directed toward something that means nothing without the attitude object. Attitudes directed towards objects, people, events, views, institutions, norms and others.

Although there are some differences of understanding attitude, but based on the opinions of the above then it can be inferred that the attitude is a State of self in man that moves to act or do in social activities with particular feelings on the situation or object in response to conditions in the surrounding environment. In addition to this attitude also gives the readiness to respond to a positive or negative nature toward an object or situation.

The factors which influence the attitude

1. Personal experience

   To be the Foundation of attitudes, personal experience of having to leave a strong impression. Therefore, the attitude would be more easily formed when personal experience the emotional factors involved. In situations involving emotions, appreciation will experience will be more profound and longer trace.

2. Culture.

   Azwar, (2010) emphasizes the influence of the environment (including culture) in shaping one's personality. Personality is nothing other than a consistent behavior patterns that describe the history of reinforcement (reinforcement, rewards). Reinforcement of patterns of behavior and attitudes to society These, not for attitude and behavior of others.

3. Others considered important.

   In General, the individual being a conformist or in line with the attitude of those who he deems important. This tendency among others, motivated by a desire for affiliated and a desire to avoid conflict with those that are considered important.

4. The Mass Media.

   As a means of communication, a variety of mass media like television, radio, had a major influence in the formation of opinions and beliefs of the people. The presence of new information about something it gives new cognitive Foundation for the formation of attitude towards it. Suggestive messages brought that information, if strong enough, will give basic effective in perceive and judge something so resulting in the direction of a certain attitude.

5. Educational institutions and religion.

   As a system, educational institutions and the religion has a strong influence in the formation of attitude because they both laid the foundations of understanding and moral concepts in the individual. The knowledge of good and bad, the dividing line between something that should and should not do, is obtained from the education and religious center as well as from his teachings.

6. Emotional Factors among pregnancy women.

   Not all forms of environmental situation is determined by the attitudes and personal experience of a person. Sometimes, a form of attitude is a statement based on emotion that serves as a sort of channeling frustration or transfer forming the ego defense mechanism. Such attitudes are temporary and soon passed so frustrating has been lost but can also constitute a more persistent stance and more durable. Example of this form of attitude based on the emotional factor is prejudice.

Research Methods

1. Research Design

   The design of researh in this study is quasi experiment by used control group. The intervention group got health education about safe community pregnancy.The health education provide in two time. Before and afer health education the respondent were evaluate their knowledge and attitude. The strategi to measure control and experiment group were disparate. The evaluate was started from experiment group follow by control group.

Sample

The total sample in this reaserch is 68 respondet with divided in 36 for experiment group and 32 respondent for control group. The respondent was taken by purposive sampling with chreteria inclusion health crade is active and work as poluntair more than 5 years.

Research Results

On the results of research that has been done from 68 respondent in experiment and control group.

1. The safe community training Influences the Pregnancy toward their knowledge and attitude of health volunteers of the community health center in Langsat.

In this study to find out the safe community training influences the Pregnancy

against the knowledge and attitude of health volunteers of the community health center in Langsat in comprehending, understanding and handling are health volunteers in a way to distinguish the difference in the knowledge of average respondents from experiments and control groups. Based on independent sample t test to see that the value of the variable is the knowledge of significance (p: 0000) or can be said to be much smaller than the level of accuracy of 0.05. As for knowing the influence of training the safe community of pregnancy health volunteers of the community health center in Langsat prior to training and after 2 times training meetings the test statistic is to the independent sample t test and obtained (p: 0000) or can be said to be much smaller than the level of accuracy of 0.05.

As for knowing the safe community training influences the pregnancy toward the attitude of health volunteers of community health center before training and training meetings 2 times is by statistical tests independent sample t test and obtained (p: 0000) or arguably is also smaller than the level of accuracy of 0.05. Thus, it can be concluded that there is a significant difference on the knowledge and attitude of health volunteers of community health center who followed training with training that does not follow or it can also be said that the training of safe community of pregnancy effect significantly to knowledge and attitude of health volunteers of the community health center in Langsat.

The form of relationships and the influence of the indicated variable training to knowledge can be seen from the mean of the variable knowledge to the respondent who got training and received no training.

In the output indirectly also illustrates the value of actual data. Thus, the mean can be considered as the average value of the variable knowledge to the respondent who followed training (2.19) is also larger than the mean 92 respondents who do not attend training (0.38).

So is the influence of variable training to knowledge on training sessions between the 2 respondents who received training and received no training can be demonstrated by test results t independent mean on respondents with training (1.89) and (0.28) on respondents who do not attend training. While the form of relationships and the influence of the indicated variable attitude towards training 2 training sessions can be seen from the mean behavior of variables for respondents who received training and received no training. The value of the mean on respondents with training (12) and on the respondents who do not follow the training is as big (0.09). Thus, the training proved to be significantly and in statistics “has fulfilled the original purpose of the research is to study the influence of training the safe community pregnancy toward their knowledge and attitude of health volunteers of community health center and also empirically proves the hypothesis that there is a corresponding influence on the training of safe community pregnancy toward the increase in knowledge and attitude of health volunteers of community health center. In line with the opinion Simamora (1997) States that the purpose of organized training include: (1) improve knowledge and response (2) upgrading the skills of the participants with the advancement of technology, (3) make participants become competent in the job, (4) prepare for promotion. Appropriate research (Endah, 2012) entitled the mother’s level of knowledge about cervical cancer in Karanganyar, Margoyoso

with a category of knowledge is quite as much as 64 respondents (71,1%), because the results of this research the results of top rated with enough knowledge.

Notice of information through education and training will increase your knowledge, would give rise to consciousness and eventually someone will do a practice match with the knowledge societies, which certainly requires a long time. Before a person adopt practices, he must first

know what is the meaning and benefits of the practice for him. Once a person learns, will further assess or behave. In theory, changes in practice or adopt new practices that follow the change process, knowledge, attitude, and practitioner (PSP). Experience and research also proves that the practice based on knowledge will be more lasting than practices that are not based on knowledge.

Azwar (2003) says that attitude affect the practice through a decision-making process that is thorough, reasoned, and its effects are limited which means that someone will do an act when he looked at the deed it is positive and if he believes that other people want him to do it.

Research results in accordance with research of Seftia 2011, entitled knowledge level and attitude of respondents about the danger signs of pregnancy and birth signs in subdistrict of Mekarwangi Ibun, Bandung, after counseling is increasing i.e. the knowledge and attitude of mother of 14 to 25 people.

According the statement (Sheikh, 2008), that with an attitude of curiosity by way of reading, seeking knowledge, someone will be more able to determine the attitude of the next what will be done. In line with the above opinion is the opinion of Noe (2003), which stated that the training was planned efforts of an organization in facilitating the learning of employees linked to the competencies they have in completing the task and his work. The competency in question include knowledge, abilities/skills, and behavior that is essential for the success of the performance of the employee. The training is intended to strengthen the competencies of employees in terms of the knowledge, abilities/skills, and behavior given a training program so that it is able to be applied on the completion of the task. It is also in line with the opinion of the Green (1980) which 94 States that the attitude and behavior of individuals and communities can be modified through the giving of information followed by exercises.

The level of effectiveness of training towards the level of knowledge and attitude happens in the stages of implementation of training are met. According to Werther and Davis and Gary Dessler in Sugiarno (2002) the stages of training is (1) needs assessment, (2) goal-setting exercises and development, (3) the determination of the content of the program and the principles of learning, (4) the implementation of actual program, (5) know the skills, knowledge, and abilities of employees, (6) evaluation. While according to Cheesway in John Greenwood (1997), the training includes (1) analysis of training needs, (2) the proposed training program, (3) the implementation of training programs, (4) evaluation of the effectiveness of training.

The effectiveness of training on the implementation of the training also occurs because of the way the submission of material in addition to the lectures is also interspersed with question and answer so that participants not only passively receiving information but stimulated to critical thinking that can make it easier for participants to understand the given material. It is in line with the opinion Mujiman (2007) that the success of a learning process among other things because of the input of such instrumental material, curriculum, teaching methods, facilitator, and means. According to the opinion of the Tall and Hall (in Irianto, 2002) From the urian above it can be concluded that training the safe community of pregnancy is beneficial and effective in enhancing knowledge and attitude of health volunteers of community health center, Langsat.

In accordance with the opinion of the Siswindari (2008), training and education program is said to be effective if the program is able to generate changes desired by the Organization's external environment in particular and generally neither today nor in the future.

A. This research conclude two things:
   1. The training of safe community to increase knowledge of the health cadres of health volunteers of community health center in Langsat (p: 0000), as well as 2 training meetings (p: 0000).
   2. Training the safe community of pregnancy able to improve the attitude of the health volunteers of the community health center in Langsat (p: 0.000)

B. Implications

To the Government of the Regency of Riau, Pekanbaru the point of manifesting the accomplishment, training for health volunteer of community of health center in Langsat is necessary as a means to equip health volunteers of the knowledge and skills in safe community of pregnancy system the health of the village. Because the health volunteer of community of health center need to gain the skills that have not been obtained at the time of education as the stock plunged in the community.

Table 1
a. characteristics of the Age of the respondents

Age	Experiment	Control	Total	%
<25	9	5	14	20,59
26-30	21	20	41	60,30
31-35	6	7	13	19,11
Total	36	32	68	100

the results showed that the characteristic of aged health volunteers of community health center on the highest experimental and control is age 26 – 30 years i.e. 60.30%

Table 2
The Distribution Of Respondents According To The Old Work

Length of working	Experiment	Control	Total	%
< 5	18	21	39	57,35
5 - 10	18	11	29	42,65
Total	36	32	68	100

The result of the research showed that based on length of working of health volunteers of community health center on experiment group same height as on age of group that is 18, while on the highest control group is on group that is less than 5 years that is 21 person.

Table 3
The Distribution of respondents based on their education

Education	Experiment	Control	Total	%
Senior High School	29	26	55	80,89
Undergraduate	7	6	13	9,11
Total	36	32	68	100

The result showed that the highest education on health volunteers of community health center on the experiment group and control is senior high school that is 29 and 26 health volunteers (80.89%).

Table 4
Assessment of knowledge of before, after and 2 times of training meeting

Time	Experiment			Control		
	n	mean	SD	n	mean	SD
Before	36			32		
After	36			32		
2 times of training meeting	36			32		

Table 5
Assessment of attitude, before and 2 times meeting

Time	Experiment			Control		
	n	mean	SD	N	mean	SD
Before		36			32	
2 times meeting		36			32	

Table 6
The result of analysis on the differences of mean changes in health volunteer's education before and after training, between experiment group and control group.
Mean Changes on health volunteer's education before and after training

Time	n	Mean	SD	t	p
Experiment	36	2.19	1.22	6.93	0.000
Control	32	0.38	0.91	-	-

The result showed that test result of statistical about the differences of mean changes of attitude before training and after 2 times training meeting between experiment group and control group.

The average of improvement of attitude is higher than experiment group. That differences in statistical is significant with (p.< 0.000).

The Discussion

1. The influence of the *safe community of pregnancy* training toward the knowledge and attitude of health volunteers of community health center in the primary health care center in Langsat, Pekanbaru, Indonesia.

The purpose of this research is to know the influence of the safe community of pregnancy training toward the knowledge and attitude of health volunteers of community health center in the primary health care center in Langsat to comprehend, understand and handle health volunteers in a way to distinguish the difference in the average respondent experiments and knowledge control. Based on statistical tests independent sample t test to see that the value of the variable is the knowledge of significance (p: 0000) or can be said to be much smaller than the level of accuracy of 0.05. As for knowing the influence of training the safe community of pregnancy health volunteers of the community health center in Langsat prior to training and after 2 times training meetings the test statistic is to the independent sample t test and obtained (p: 0000) or can be said to be much smaller than the level of accuracy of 0.05.

As for knowing the safe community training influences the pregnancy toward the attitude of health volunteers of community health center before training and training meetings 2 times is by statistical tests independent sample t test and obtained (p: 0000) or arguably is also smaller than the level of accuracy of 0.05. Thus, it can be concluded that there is a significant difference on the knowledge and attitude of health volunteers of community health center who followed training with training that does not follow or it can also be said that the training of safe community of pregnancy effect significantly to knowledge and attitude of health volunteers of the community health center in Langsat.

The form of relationships and the influence of the indicated variable training to knowledge can be seen from the mean of the variable knowledge to the respondent who got training and received no training. Mean in the output indirectly also illustrates the value of actual data. Thus, the mean can be considered as the average value of the variable knowledge to the respondent who followed training (2.19) is also larger than the mean 92 respondents who do not attend training (0.38).

So is the influence of variable training to knowledge on training sessions between the 2 respondents who received training and received no training can be demonstrated by test results t independent mean on respondents with training (1.89) and (0.28) on respondents who do not attend training. While the form of relationships and the influence of the indicated variable attitude towards training 2 training sessions can be seen from the mean behavior of variables for respondents who received training and received no training.

The value of the mean on respondents with training (12.53) and on the respondents who do not follow the training is as big (0.09). Thus, the training proved to be significantly and in statistics has fulfilled the original purpose of the research is to study the influence of training the safe community pregnancy toward their knowledge and attitude of the health

volunteers of the community health center and also empirically proves the hypothesis that there is a corresponding influence on the training of safe community pregnancy toward the increase in knowledge and attitude of the health volunteers of the community health center. In line with the opinion Simamora (1997) States that the purpose of organized training include: (1) improve knowledge and response (2) upgrading the skills of the participants with the advancement of technology, (3) make participants become competent in the job, (4) prepare for promotion.

Appropriate research (Endah, 2012) entitled the mother's level of knowledge about cervical cancer in Karanganyar, Margoyoso with a category of knowledge is quite as much as 64 respondents (71,1%), because the results of this research the results of top rated with enough knowledge.

Notice of information through education and training will increase your knowledge, would give rise to consciousness and eventually someone will do a practice match with the knowledge societies, which certainly requires a long time. Before a person adopt practices, he must first know what is the meaning and benefits of the practice for him. Once a person learns, will further assess or behave. In theory, changes in practice or adopt new practices that follow the change process, knowledge, attitude, and practitioner (PSP). Experience and research also proves that the practice based on knowledge will be more lasting than practices that are not based on knowledge.

Azwar (2003) says that attitude affect the practice through a decision-making process that is thorough, reasoned, and its effects are limited which means that someone will do an act when he looked at the deed it is positive and if he believes that other people want him to do it.

Research results in accordance with research of Seftia 2011, entitled knowledge level and attitude of respondents about the danger signs of pregnancy and birth signs in sub district of Mekarwangi Ibun, Bandung, after counseling is increasing i.e. the knowledge and attitude of mother of 14 to 25 people.

According the statement (Sheikh, 2008), that with an attitude of curiosity by way of reading, seeking knowledge, someone will be more able to determine the attitude of the next what will be done. In line with the above opinion is the opinion of Noe (2003), which stated that the training was planned efforts of an organization in facilitating the learning of employees linked to the competencies they have in completing the task and his work. The competency in question include knowledge, abilities/skills, and behavior that is essential for the success of the performance of the employee. The training is intended to strengthen the competencies of employees in terms of the knowledge, abilities/skills, and behavior given a training program so that it is able to be applied on the completion of the task. It is also in line with the opinion of the Green (1980) which 94 States that the attitude and behavior of individuals and communities can be modified through the giving of information followed by exercises.

The level of effectiveness of training towards the level of knowledge and attitude happens in the stages of implementation of training are met. According to Werther and Davis and Gary Dessler in Sugiarno (2002) the stages of training is (1) needs assessment, (2) goal-setting exercises and development, (3) the determination of the content of the program and the principles of learning, (4) the implementation of actual program, (5) know the skills, knowledge, and abilities of employees, (6) evaluation. While according to Cheesway in John Greenwood (1997), the training includes (1) analysis of training needs, (2) the proposed training program,

(3) the implementation of training programs, (4) evaluation of the effectiveness of training. The effectiveness of training on the implementation of the training also occurs because of the way the submission of material in addition to the lectures is also interspersed with question and answer so that participants not only passively receiving information but stimulated to critical thinking that can make it easier for participants to understand the given material. It is in line with the opinion Mujiman (2007) that the success of a learning process among other things because of the input of such instrumental material, curriculum, teaching methods, facilitator, and means. According to the opinion of the Tall and Hall (in Irianto, 2002).

From the explanation above it can be concluded that training the safe community pregnancy is beneficial and effective in enhancing knowledge and attitude of the health volunteers of the community healh center in Langsat.

In accordance with the opinion of the Siswindari (2008), training and education program is said to be effective if the program is able to generate changes desired by the Organization's external environment in particular and generally neither today nor in the future.

A. Conclusions

This research conclude two things:

1. The training of safe community to increase knowledge of the health volunteers of the community health center (p: 0000), as well as 2 training meetings (p: 0000).
2. Training the safe community pregnancy able to improve the attitude of the health volunteers of the community health center (p: 0.000).

B. Implication

1. To the Government of the Regency of Riau, Pekanbaru the point of manifesting the accomplishment, training for health volunteer of community of health center in Langsat is necessary as a means to equip health volunteers of the knowledge and skills in safe community of pregnancy system the health of the village. Because the health volunteers of community of health center need to gain the skills that have not been obtained at the time of education as the stock plunged in the community.

Acknowledgments

The authors would like to thank the University of Riau for supporting this work
through TSCPTTKAHVCHCP-Ut 2016

References

1. Arikunto, Suharsimi. 2006. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta
2. Adi, 2003. *Pemdampingan Masyarakat menuju Sukses*. Jakarta.
3. Aillen, 1998. *Empowering people*. Jogyakarta.
4. Ardani dan Rahayu, 2004. *Observasi dan Wawancara.* Bayumedia Publising Malang.
5. Azwar, 2003. *Sikap Manusia Teori dan Pengukurannya*. Yogyakarta : Edisi Pustaka Pelajar Offset.
6. Boxton dan Golstein, 2003. *Measurenment Empowering people.*
7. DepKes RI, 1992. *Pedoman Pelayanan Kesehatan Dasar Puskesmas*. Jakarta.
8. _____, 20001 , . *Pembinaan Posyandu.* Jakarta

9. _____, 20002 , . *Pembinaan BAPE. JPKM.* Jakarta
10. _____, 20003 , . *Pendekatan Kemasyarakatan.* Jakarta
11. _____, 20032 , . *Pedoman Umum Pengelolaan Posyandu.* Jakarta
12. *Petunjuk Teknik dan Penyelenggaraan Poskesdes.* Jakarta
13. _____, 20062 , . *Pedoman Pelaksanaan Pengembangan.* Jakarta.
14. _____, 2007. *Peningkatan Peran Batra dalam Pembangunan Kesehatan.* Jakarta
15. _____, 2001. *Program Pelatihan* dan *Pengembangan Karyawan.* Jakarta
16. _____, 20061 , . *Pedoman* dan *Opersional bagi Petugas Kesehatan.*
17. Handoko, 1997. *Pendidikan* dan *Pelatihan Model Belajar Mandiri.* Jakarta. Offset.
18. Hasibuan, 2000. *Pendidikan Dasar untuk Semua.* Jakarta Offset.
19. Lily, 2003. *Manajemen Perencanaan.* Jakarta.
20. Mangkunegara, 2003. *Evaluasi Belajar*. Dirjen Tinggi Jakarta.
21. Martoyo, 1997. *Pendidikan dan Pelatihan Kerja bagi Karyawan.* Jakarta Offset.
22. Moekijat, 1991. *Pelatihan dan Pengembangan Keahlian.* Jakarta.
23. Mujiman, H. 2007. *Manajemen Pelatihan Berbasis Belajar Mandiri.* Pustaka Pelajar. Yogyakarta.
24. Murti, B.1994. *Penelitian Epidemiologi.* Gajah Mada University Press. Jogyakarta.
25. _____, 19951 , . *Penerapan Statistik Non Parametrik bidang Ilmu Kesehatan.*Gajah Mada University Pres. Jogyakarta.
26. 20061, . *Desain dan Ukuran Sampel untuk Penelitian kuantitatif dan* Notoatmojo, S. 2003. *Pendidikan Kesehatan.* EGC Jakarta.
27. _____, 2005. *Pendidikan dan Perilaku.* EGC Jakarta.
28. Ruki, 1990. *Pendidikan dan Pelatihan menuju Kemandirian.* EGC Jakarta.
29. imamora, 1991. *Pelatihan untuk Karyawan.* Jakarta.
30. Sirait, 2006. *Program Pelatihan dan Pengembangan Karyawan.* Jakarta.
31. Siswindari, 2008. *Total quality management*. Surakarta
32. Soetrisno, 2001. *Pemberdayaan Masyarakat dan Upaya Pembebasan.*
33. _____, 20042 , . *Pemberdayaan Masyarakat dalam Program Kesehatan ibu anak.*
34. WHO, 2003. *Community capacity Measurement*. New York.

O-19

The Relationship between Grade of Dyspnea with Quality of Life Patients with Tuberculosis

Siti Rahmalia[1], Elza Oktalista[2], and Veny Elita[3]

School of Nursing
Riau University
Email : lia_dmk@yahoo.com

Abstract

Pulmonary tuberculosis is an infectious disease directly caused by mycobacterium tuberculosis. The purpose of study is to identify the correlation between grade of dyspnea and quality of life among patients with pulmonary tuberculosis in Arifin Achmad Government Hospita Privince Pekanbaru. Thestudyre was designed by descriptive correlation with retrospective.The total sample of this study is 66 respondents that was selected based on inclusion criteria. The data was collected by using questionnaire. The questionnaire is adapted from Modified Medical Research Council (MMRC) to measure grade of dyspnea and WHOQOL-BREF to measure quality of life. The questionnaire for quality of life was tested the validity (r = 0.497-0.785) and reliability test with Cronbach Alpha's = 0.947. The data was analyzed by ANOVA test and the result showed that the higher grade of dyspnea will make lower quality of life with Pulmoary Tuberculosis and there is correlation between garde of dyspnea and quality of life in pulmonary tuberculosis patients withp value (0.004) <α(0.05).Based on the results of this study that the nurses need provide health education about brething exercise to prevent exacerbation dypnea and to increase quality of life pulmonary tuberculosis patients.

Keyword: Grade of dyspnea, tuberculosis, quality of life

INTRODUCTION

Pulmonary tuberculosis is an infectious disease that is directly caused by TB germs (Mycobacterium Tuberculosis), most of these germs attack the lungs, but can also be on other body organs (of health RI, 2011). Pulmonary Tuberculosis in all of the country each year is increasing. New cases of Pulmonary TB SMEAR positive (BTA +) in Indonesia by 2013 as much as 196,310 cases (Kemenkes RI, 2014). According to the World Health Organization (WHO) globally on 2015 that the number of new cases of Pulmonary Tuberculosis 9.6 5.4 million were female, and 3.2 million 1.0 million are children. The country became a High Burden Country (HBC) are India, China, and Indonesia (WHO, 2000).

New cases of Pulmonary TB data BTA + in Riau Province reached 67% by number 60.9 notification per 100,000 inhabitants (Kemenkes RI, 2014). New Pulmonary TB sufferer BTA +, according to the Depkes Kota Pekanbaru in the last three years i.e. in 2013 reaches 599 people, by 2014 reach 1618 people and the response by 2015 up to October reached 1661 person. (The data obtained from the province HOSPITAL Arifin Achmad Riau Province number of Pulmonary TB sufferer BTA + in Poly a lung in the last three years i.e. in 2013 origin 2884 people, by 2014 the 1934 men and origin by 2015 response 886 people (Medical Record Provincial Hospital Arifin Achmad, 2015).

The germ mycobacterium tuberculosis if inhaled by people who get into the lungs and can achieve a alveolu will reaction to antigens-antibodies and inflammation has occurred and can develop into fibrosis. This will cause fibrosis formed in lung tissue scarring, and results

in pulmonary tissue rigid and not elastisitas. This situation will cause the diffusion process is impaired oxygenation or gas exchange (oxygen and carbon dioxide) so that the compensation body is increasing the respiratory movement and will cause dispnea or shortness of breath (Price & Wilson, 2006). Dispnea was the difficulty or discomfort in breathing (Kozier, Berman, & Snyder, 2010).

Prolonged or repeated Dispnea on Pulmonary TB sufferer will effect conferring against the body's cells, the supply of energy in aerobic will turn into anaerobic lactic acid that will result. This lactic acid that will cause pain in people with Pulmonary TB (Price & Wilson, 2006). Dispnea also leads to ineffective breath pattern so that the oxygen will be interrupted and the oxygen carries energy throughout the entire body being reduced and will lead to fatigue. Pain and fatigue are some of the signs of a declining quality of life (Kozier et al., 2010).

Quality of life is one's perception about the condition of his health that affect health in General in the implementation of the role and function of the physical as well as the State of the body (Raudatussalamah & Fitri, 2012). Quality of life is a health-related quality of life describe the individual's quality of life after, and or are experiencing something that gets a disease management (Suhartono, 2005). Pulmonary TB sufferers feel a significant change in life that require different adjustments depending on the perceptions, attitudes and personal experience related self-acceptance to changes that occur. This will affect the quality of his life in terms of physical health, psychological, social conditions and the environment. This condition will affect the quality of life of sufferers of pulmonary TB (Fitriani & Ambarini, 2012).

The physical conditions in people with Pulmonary TB are usually distracted like the onset of fatigue, the reliance on materials for medical or medical aid, pain, and discomfort. Pain and discomfort described the extent to which the individual perceived feelings of disquiet against a things that cause individuals to feel ill that will interfere with daily activities which will then make the quality of life of sufferers of Pulmonary TB be decreased (Sekarwiri, 2008). Pulmonary TB sufferers often experience rejection and social isolation from society that causes sufferers to feel depressed and obscured so withdraw from the social environment (Courtwright & Turner, 2010). This has an impact on their psychological condition that causes stress and depression that affect the success of treatment and decreases the quality of his life (Ratnasari, 2012).

The primary social support comes from family support played an important role in the life of Pulmonary TB sufferers who are struggling to recover, think ahead and make her life more meaningful (Melisa, 2012). Pulmonary TB sufferers are usually isolated and shunned by family, friends and the people around him because of the fear of contracting by the ailment. Due to the lack of social support from family and environment on psychological disorders cause tuberculosis sufferers include depression, adjustment disorder, ansietas, loss of purpose in life, weakening productivity and phobias that will cause the quality of life is declining (Ginting, 2008). Paasien TB also frequently in trouble with the environment, financial resources, freedom, physical safety and security, health care and social care, the home environment, the opportunity to acquire new information and skills. TB patients rarely participate and not have a chance to do a leisure or fun activities (Sekarwiri, 2008). The physical condition of an unhealthy home environment such as lack of sunlight into the House, frequently closed window tend to create an atmosphere that is moist and dark, this condition causes the germs can survive for days to months in the House as well as the density of occupants, the condition of house is one of the causes of the occurrence of the recurrence of Pulmonary TB sufferers are thus causing decreased quality of life (Cory, Greetings, & Novianry, 2014).

The results of the preliminary study through interviews against Pulmonary TB patients 7 persons committed researchers on 30 December 2015 in Poly Lung HOSPITALS Arifin Achmad Riau Province retrieved 5 respondents stated complaints often felt was blown and shortness of breath from day to day more weight. Patients say the last 2 months often feel shortness of breath and fatigue after the activity so that it should be treated in the hospital. The average patients already hospitalized 2-3 weeks, the family says that the patient while in the hospital with oxygen dependent. Patients say the activity is interrupted due to perceived shortness of breath so that the activities carried out should be helped by the family. This makes the family being the difficulty in treating patients because the family had other activities such as work so the family did not bisa24 hours accompanied the patient in the hospital. In addition, families are less comfortable and bored in the inpatient room because the room is narrow and almost all patients cough. This is the same condition that occurs in the home of the patient, where the patient and family says their home state of narrow, less clean, ventilation is rarely opened and the number of occupants of the House quite a lot.

Based on the above reasons background researcher interested in doing research to find out if there is a relationship of the degree of quality of life of sufferers dispnea against Pulmonary TB

RESEARCH OBJECTIVES

This research aim to find out relationship degrees dispnea against Pulmonary TB sufferer's quality of life in the regional General Hospital Arifin Achmad.

THE BENEFITS OF RESEARCH

The results of this research can be used as input for the regional hospital of Arifin Achmad Riau Province in improving the quality of life in people with Pulmonary TB and can deal with Pulmonary TB sufferers in dispnea.

RESEARCH METHODS

This research uses descriptive correlation design research, with a retrospective approach. The population in this research is the entire Pulmonary TB sufferers in Poly Lung Hospitals Arifin Achmad province of Riau in the last 3 months from October to December 2015 which totaled 198 people. The sample in this research is the entire Pulmonary TB sufferers are included in the criteria of inclusion with purposive sampling with 66 total sample of respondents. Data collection tools using a questionnaire that was adopted from ModifiedMedical Research Council (MMRC) to measure the degree of WHOQOL-BREF dispnea and modified by researchers by conducting test validity and reliability to measure quality of life.

Analysis of the data used, namely analysis and analysis of univariate statistical tests with bivariat frequency distribution and ANOVA.

RESEARCH RESULTS

Research results are made against respondent in 66 Poly Lung HOSPITALS Arifin Achmad Riau Province can be seen: sebaderikut

A. A univariate Analysis.

1. Characteristics of respondents

1. Respondent Characteristics

Table 1
Distribution characteristics of respondents based on age, gender, education, occupation, and long suffering Tuberculosis (n = 66)

Characteristics	Frequency (f)	Persentage (%)
Old		
Productive(15-54 years old)	56	84,8
Non Productive(>54 years old)	10	15,2
Total	66	
Gender		
Men	43	65,2
Women	23	34,8
Total	66	
Educatin Level		
No school		
Elementry	1	1,5
Junior school	18	27,3
High School	19	28,8
College	24	36,4
	4	6,0
Total	66	
Jobs		
Unemployment	10	15,2
House wife	17	25,8
Self employed	18	27,3
Private Staff	3	4,5
Government Others	5	7.5
	13	19,7
Total	66	
Long Suffering TB		
More 6 months	11	16,7
Less than 6 month		
	55	83,3
Total	66	100

Table 1 shows that of the 66 respondents, the majority of the age of respondents was productive at the age that is as much a 84.8% (56 people). The majority of respondents-sex man with percentage 65.2% (43). Respondents largely educated high school with a final percentage of 36.4% (24 people). The work of the majority of the respondents i.e. self-employed with a percentage as much as 27.3% (18 people). The majority of the long suffering from Pulmonary tuberculosis that is less than 6 months with a percentage as much as 83.8% (55).

2. Gradation of Dyspnea

Table 2
Distribusi frekuensi responden berdasarkan derajat dispnea (n=66)

Gradation of dyspnea	Frequency (f)	Percentage (%)
grade 0	11	16,7
grade 1	6	9,1
grade 2	16	24,2
grade 3	13	19,7
grade 4	20	30,3
Total	66	100

Table 2 shows that of the 66 respondents most besarderajat dispnea i.e. gradations 4 (shortness of breath if mild activity) as many as 20 respondents (30.3%).

3. Quality of Life Patients with Tuberculosis

Table 3
Frequency distribution of respondents based on quality of life (n = 66)

QoL	Frequency (f)	Min-Max	Mean	SD	SE
Gradasi 0	11	42,00-73,75	55,52	8,96	2,70
Gradasi 1	6	46,75-58,75	54,91	4,28	1,75
Gradasi 2	16	37,50-66,00	50,56	8,05	2,01
Gradasi 3	13	36,00-66,00	47,07	8,16	2,26
Gradasi 4	20	21,75-64,00	43,95	9,02	2,22
Total	66				

Table 3 shows that the average of the highest quality of life is 55.52 on gradations 0 and the average of the lowest quality of life is 43.95 on gradations 4.

Table 4
The relationship of the degree of dyspnea with quality of life patient with Tuberculosis

QoL	f	Mean	SD	95% CI	*p-value*
Grade 0	11	55,52	8,96	49,49 - 61,54	0,004
Grade 1	6	54,91	4,28	50,41 - 59,41	
Grade 2	16	50,56	8,05	46,27 - 54,85	

Grade 3	13	47,07	8,16	42,14 - 52,00
Grade 4	20	43,95	9,92	39,30 – 48,59
Total	66			

Table 4 show the results of the analysis of the relationship of degree of dyspnea with quality of life TB patients. The highest quality of life is 55.52 on gradations 0 and the lowest quality of life is 43.95 on gradations 4 Based on the results of statistical tests that use the ANOVA test obtained p value (0.004) < α (0.05), which means there is a relationship between the degree of dispnea with quality of life in patients with Tuberculosis.

DISCUSSION

A. Characteristics of respondents

1) Age

Based on the results of research conducted against 66 respondents in Poly Lung Hospitals Arifin Achmad province of Riau, the obtained results show that the majority of the cities of respondents is in range (15-54 years) that as many as 56 people (84.8%), belongs to the productive age. According to (WHO,2013) in terms of the economic age classed up the productive age groups, 2 (15-54 years) and age of non productive (> 54 years). The same thing happened in 2015 in which Pulmonary TB cases in Indonesia more going on because at the age of productive age are productive people tend to have higher mobility so that the chances for exposure to TB germs are greater (Kemenkes, 2015). Pulmonary TB patients is dominated by the productive age because age of productive play an important role in the economic needs of productive age so in highly risky to have Pulmonary Tuberculosis.

2) gender

Based on the results of research conducted against 66 respondents in Poly Lung HOSPITALS Arifin Achmad province of Riau, the obtained results showed that the majority of the respondents gender male with percentage 65.2% (43). Indonesia health profile 2014 also pointed out that according to gender, the prevalence of Pulmonary TB in males is higher i.e. of 0.4% compared to women who amounted to 0.3%. Another research shows that a high number of Pulmonary TB sufferers are male because male groups usually come out the House with a living out of the House more often so that it can be possible of contracting TB germs.

3) Final Education

The results of the research conducted in the respondents 66 against Poli Lung Hospitals Arifin Achmad province of Riau, the obtained results showed that the majority of the last respoden education is High School with percentage of 36.4% (24 people). This is in line with the research Astuti (2013) that the majority of the respondents i.e. Pulmonary TB last education Senior High School as many as 39 people (65%). Research results Zuliana (2009) indicates that a person's education level will affect

a person's knowledge, among others, about health, so with enough knowledge then someone will strive to have healthy lifestyles. Results of the study, Gandau and Margareth Dotulong (2015) says that people who are highly educated (High School) usually have a better job so that it will be busy with her work and more bereiko for Pulmonary Tuberculosis due to exposure to the germs associated with TB sufferers.

Based on the results of research conducted against 66 respondents in Poly Lung Hospitals Arifin Achmad province of Riau, the obtained results showed that the majority of work respondents were self-employed with a percentage as much as 27.3% (18 people). This is in line with data from the Central Bureau of statistics the town of Pekanbaru (2014) stating that as much as 44.5% Riau society profession as self-employed. Risk factors determine the kind of work that has to be faced by each individual. Working the dusty surroundings, exposure to dust particles will affect the onset of disorders of the respiratory tract. Chronic exposure to contaminated air can increase morbidity, especially the occurrence of respiratory tract disease including Pulmonary TB disease is (Rini, 2013). The level of a good job, then someone will try to get a better health service, in contrast to people who have low employment rates which are more thought about how to meet the needs of daily (Cider, Ali & Nahariani, 2012).

4) Long Suffering Pulmonary Tuberculosis

Based on the results of research conducted against 66 respondents in Poly Lung Hospitals Arifin Achmad province of Riau, the obtained results show that the majority of the long suffering from Pulmonary Tuberculosis As much as that is less than 6 months with a percentage as much as 83.8% (55). Pulmonary TB treatment process takes a minimum of 6 months (Health, 2008). Hasilpenelitian Unalan, et al., (2008) shows that long has menjalanipengobatan positively correlated to the quality of life of patients with tuberculosis ($p < 0.05$). This means that patients who have undergone the treatment longer had a better quality of life than patients who underwent a new treatment (Unalan, et al., 2008).

B. Description of degrees dispnea respondents

According to the results of research conducted against 66 respondents in Poly Lung Hospitals Arifin Achmad Riau Province obtained the result that the majority of respondents who have experienced degrees dispnea i.e. gradations 4 (shortness of breath if mild activity) as many as 20 respondents (30.3%). Dispnea often referred to shortness of breath, short breath, breathlessness or shortness of breath. Dispnea was subjective symptoms that require effort to get more air to breathe or commonly referred to as shortness of breath. Dispnea which more weight the more difficult getting the air to breathe. Dispnea was one manifestation

Conclusion

Based on the results of research on the relationship of the degree to the quality of life of sufferers dispnea TB of the lungs can be concluded that the description of the data demographics characteristics of respondents obtained the majority age of respondents was productive at the age that is as much a 84.8% (56 people). The majority of respondents to the last High School education with the percentage of 36.4% (24 people). The majority of the respondents i.e. self-employed occupations with a percentage as much as 27.3% (18 people). The majority of the long suffering from Pulmonary Tuberculosis that is less than 6 months with a percentage as much as 83.8% (55).

The majority of degrees dispnea i.e. gradations 4 (shortness of breath if mild activity) as many as 20 respondents (30.3%). The average quality of life gradations 55.52, 0 is the average quality of life 1 is 54.91 gradations, the average quality of life 2 is 50.56 gradations, the average quality of life 3 is 47.07 gradations, and the average quality of life 4 are gradations 43.95. The average of the highest quality of life in gradations 0 a total of 11 people and the average of the lowest quality of life 4 gradations as many as 20 people.

Based on statistical tests the degree of quality of life of sufferers dispnea against Pulmonary TB retrieved the value of the p value (0,004 < α 0.05). ANOVA test results the higher degrees dispnea then the low quality live shows there is a significant relationship between degrees dispnea against Pulmonary TB sufferer's quality of life.

References

1. Courtwright, A., & Turner, A. N. Tuberculosis and Stigmatization: Pathways and Interventions. Public Health Reports, 2010: 125 (4), 34 – 42.
2. RI Department Of Health. (2008). the health profile of Indonesia 2008. Availabe at http:// www.depkes.go.id. Accesed July 7, 2016.
3. RI Department Of Health. National strategy for controlling TB in Indonesia 2010-2014. Jakarta: Direktoral General of disease control and the environment. 2011.
4. Health Services The City Of Pekanbaru. recapitulation of data discovery of tuberculosis disease. The City Health Office: Soweto Soweto. 2013.
5. Health Services The City Of Pekanbaru. Recapitulation of data discovery of tuberculosis disease. The City Health Office: Soweto Soweto. 2014.
6. Health Services The City Of Pekanbaru. Recapitulation of data discovery of tuberculosis disease. The City Health Office: Soweto Soweto. 2015
7. Dotulong, J.F., Margareth, R., & Gandau, G. D.. The relationship of risk factors of age, gender and a density of occupancy with the genesis of pulmonary tb disease in the village of wori subdistrict wori. 2015; Journal of Tropical Medicine and the Community: Faculty of medicine, University of Sam Ratulangi.
8. Fitriani, N.A., & Ambarini, T.K. Quality of life in people with cervical cancer undergoing radiotherapy treatment. 2012: Available at: Journal of clinical psychology and Mental health. http://journal.unair.ac.id/filerPDF/110810265_11v.pdf. Acesed on December 22, 2015
9. Ginting, TThe factors that have an effect on the incidence of disorders of the pulmonary tuberculosis sufferers in adults in hospital friendship. Journal of Indo-European Respir 28.No. Volume was 1. Jakarta: Faculty Of Medicine University Of Indonesia. .2008.
10. Kozier, B., Erb, G., Berman, A., & Snyder, S. Fundamentals of nursing. Jakarta: EGC. 2010.
11. Ratnasari. The relationship of social support with quality of life in people with tuberculosis of the lungs (pulmonary tb) in the porch of the treatment of pulmonary disease (bp4) Yogyakarta minggiran unit. 2012: Available at Journal of tuberculosis in Indonesia. Volume 8 URhttp://lib.fkm.ui.ac.id/file8. Acesed on December 25, 2015.
12. Somantri, I. The nursing care of clients with disorders of the respiratory system. Salemba Jakarta Medika. 2009.
13. The WHO. International standard for tuberculosis care, 3rd edition. 2013: Available at http://www.who.int/tb/publications/ISTC_3rdEd.pdf. Acesed on January 7, 2016 from
14. The WHO. Global tuberculosis report, 20th edition. 2015:
15. Available at http://apps.who.int/iris/bitstream/10665/191102/1/9789241565059_eng.pdf. Acesed on December 1, 2015.

O-20

Stimulation Model Growth And Fine Motor Skills Development Of Children Autism In Health Promotion

Atik Badi'ah[1], Ravik Karsidi[2], Ahmad Arman Subijanto[3], Diffah Hanim[4]

Extension Study Program Development / Community Development Interests Health Promotion. Graduate program Sebelas Maret Surakarta University

ABSTRACT

Background : Autism is a developmental disorder caused organic brain damage, difficulty communicating verbal, nonverbal. Need supervision and parental attention. The stimulation helps stimulate the brain to produce hormones in its development. **Purpose :** (1) analyze the internal factors, external influences growth and fine motor skills development and sensory integration of children autism (2) analyze the relationship between nutritional status and the growth and fine motor skills development and sensory integration of children autism (3) analyze the effect of stimulation of the growth and fine motor skills development and sensory integration of children autism (4) formulate a model of growth and fine motor skills development and sensory integration of children autism in health promotion. **Method :** Quantitative research, quasi experimental method, time series design. The study was conducted in 7 autism school in Yogyakarta. The total sample of 90 children with autism. Conducted in November 2015 and April 2016. Data were analyzed using multiple linear regression, ods ratio, Mann Whitney and Wilcoxon. **Results :** (1) external factors (race) affects Weight (BB) and external factors (genetic) influence the growth and fine motor skills development and sensory integration of children autism p <0,05, (2) there is a relationship with the nutritional status the growth and fine motor skills development and sensory integration of children autism p <0,05, (3) there was an effect of stimulation of the growth and fine motor skills development and sensory integration of children autism p <0,05, (4) the drafting of a model manual stimulation of the growth and fine motor skills development and sensory integration of children autism **Conclusion :** Establishment of stimulation model of growth and fine motor skills development and sensory integration of children autism in the form of manual stimulation of growth and fine motor skills development and sensory integration of children with autism in health promotion.

Keywords : Stimulation model, growth, autism

1. Student Extension Study Program Development / Community Development Interests Health Promotion. Graduate program Sebelas Maret Surakarta University
2. Lecturer/Rector in Sebelas Maret Surakarta University
3. Lecturer in Sebelas Maret Surakarta University
4. Lecturer in Sebelas Maret Surakarta University

A. Background

Health development is very important in improving the quality of human resources of a nation as it has been formulated in the Millennium Development Goals (MDG's). Health development should be directed to the development of quality human resources both physically, mentally and socially, so that economically and socially productive. In connection with the increase of quality human resources, the role of health promotion is very important (Departemen Kesehatan RI, 2004)[1].

Autism is a developmental disorder caused by organic damage to the brain. Generally, children with autism have difficulty communicating both verbal and non-verbal, when they want something, the way he is tugging at the hands of others to get attention and in addition they are also very rigid with their regular activities as if they are undergoing certain rituals. Attitudes such as withdrawing, not weaven communication, talking to himself, singing alone, crying for no reason, circling without reason, it can even lead to the aggravation of the people around him.

Children with autism have the ability and different characteristics from each other, so that a different way to interact with themselves and the environment and make an autistic child as a unique person (Ginanjar, 2007)[2]. Children with autism is one of a group of children with special needs are less able to organize anything, less planning something, have difficulty finding a solution and less flexible tasks. Children with autism can not show an affectionate relationship. Stimulus sensor autistic children are processed in a different way with a normal child, resulting in children with autism have difficulty in express his affection in a manner commonly done by normal children.

Growth and fine motor skills development and sensory integration of children autism whether physical, emotional, intellectual, or psychosocial problems resulting in delays in growth and development of children achieving level appropriate for their age (Narendra, 2005)[3].

If the disorder persists then it will be a permanent disability in children, but if early growth disorders has been detected, it can be done a stimulation in accordance with the needs of children. Through stimulation that's done early child development at a later stage can walk better.

Impaired growth and fine motor skills development and sensory integration of children autism is a problem that is prevalent in society, so it is essential that all the components involved in the development of children with autism that parents, school teachers with special needs and people can work together in stimulating growth and development of fine motor skills and sensory integration of children autism by using the guidelines easy, inexpensive but accurate (Ismail, 2007)[4].

Stimulation was very helpful in stimulating the brain to produce hormones needed in development. The stimulation can be provided in various forms are simple and easy to do. The stimulation can be a genuine warmth and love that parents can afford. In addition, parents can provide direct experience with the use of the five senses (sight, hearing, taste, touch and smell). Interaction between children and parents through touch, a hug, a smile, singing and listening attentively is also a form of early stimulation. When a child who is not able to speak babble, babble, it is necessary to get a response as a form of speech stimulation (Edi. 2003)[5].

Parents should encourage early conversing with a soft voice and give a sense of security to children. When born, the child's brain already has billions of nerve cells that had the numbers, but the number that many are missing after birth. When the brain is getting a new stimulus, the brain will learn something new. The stimulus will cause the nerve cells to form a new connection to store information. The cells are used to store information expands, while rarely or unused would be destroyed. This is where the importance of a stimulation routinely given. Stimulation is constantly given routinely would strengthen links between nerve that has been formed so that the automatic functions of the brain will become even better (Kuntz. 2007)[6].

Problems disability in children is a fairly complex problem both in quantity and quality, given the various types of disability has its own problems. If the problems of disabled children is treated early with good and improved their skills according to their interests, then the burden on families, communities and countries can be reduced. Conversely, if not

addressed properly, then the impact will aggravate the burden of the family and the state. It is therefore necessary stimulation model of growth and fine motor skills development and sensory integration of children autism in health promotion in the form of manual stimulation of growth and fine motor skills development and sensory integration of children autism that can be used by parents at home, teachers in special needs schools.

The development model of stimulation of growth and fine motor skills development and sensory integration of children autism in health promotion can provide services to children with autism who qualified with easy access to the community. Parents can be given the knowledge to do the stimulation of growth and fine motor skills development and sensory integration of children autism at home in the relief efforts on the rehabilitation of children with autism.

Stimulation model of growth and fine motor skills development and sensory integration of children autism in health promotion to enhance the knowledge and parenting skills be able to work more effectively, prepare autistic children for the challenges that can not be avoided and can perform the stimulation of growth and fine motor skills development and sensory integration of children autism (Gamayanti, IL, 2007)[7]. Until now the development model of stimulation of growth and fine motor skills development and sensory integration of children with autism in health promotion in order to overcome the problems in social interaction, communication / language, limited interest / fine motor skills and talent / gross motor skills yet. It is therefore necessary stimulation model of growth and fine motor skills development and sensory integration of children autism can be done by parents, school teachers with special needs and the community through community empowerment to family and special school children with autism using a guide book to be effective and efficient in improving the knowledge and skills parents and teachers in monitoring uprooted and promotions (*Growth monitoring and promotion*) (Notoatmodjo. 2007)[8].

Based on preliminary studies were conducted in January 2014 by interviewing the parents' school partially Autism Yogyakarta showed that parents have never got a special material on the growth and fine motor skills development and sensory integration of children with autism and not knowing how to stimulate growth and fine motor skills development and sensory integration of children autism growth and fine motor skills development and sensory integration of children autism. Hence the need for stimulation model of growth and fine motor skills development and sensory integration of children autism in health promotion in the form of guide books for parents and teachers of children with autism to be able to stimulate growth and fine motor skills development and sensory integration of children autism.

B. Research Objectives

Generally, this research aims to create a stimulation model growth and fine motor skills development and sensory integration of children autism in health promotion.

Specifically, the study aims to:

1. Analyzing the factors that affect the internal and external growth and fine motor skills development and sensory integration of children autism.
2. Analyze the relationship between nutritional status and the growth and fine motor skills development and sensory integration of children autism.
3. Analyze the effects of stimulation of the growth and fine motor skills development and sensory integration of children autism.
4. Formulate stimulation model of growth and fine motor skills development and sensory integration of children autism in health promotion.

C. Methods

This type of research is quantitative research. The study design using quasi experimental methods, the research aimed to explain the influence and examine the influence between variables through hypothesis testing. Research design form time series design is the design of serial time doing repetitive measurements, before and after the experiment or treatment (Brown C and Lilford. 2006)[9]. This type of research is quantitative research. The study design using quasi experimental methods, the research aimed to explain the influence and examine the influence between variables through hypothesis testing. Research design form time series design is the design of serial time doing repetitive measurements, before and after the experiment or treatment (Murti B. 2010)[10].

The population of this research is all autistic children, all parents who have children with autism in the region of Yogyakarta province, with a population (n = 90 children with autism). A sample of 90 children with autism and parents of autistic children were taken by total sampling of 16 weeks (4 times observation growth and fine motor skills development and sensory integration of children autism.

The statistical test used is multiple linear regression analysis and path analysis (path analysis), Mann Whitney, Wilcoxon and Ods Ratio.

D. Results and Discussion

Factors internal and external factors that affect the growth of children with autism (Weight Loss/BB, Height/TB, Round Head/LK, Upper Arm Circumference/LLA, Bust/LD and Abdominal Circumference/LP is the external factors (race) affects weight Board (BB) children with autism with p value (significancy) is 0,034. Means no influence of external factors (race) on the growth of children with autism with p <0.05. External factors (genetic and gender) and internal factors (prenatal, intranatal and postnatal) does not affect the affect the growth of the p value (significancy) is>0,05. External factors (genetic) influences affect fine motor development and sensory integration with p value (significancy) is 0.006. Means no influence of external factors (genetic) to growth and fine motor skills development and sensory integration of children autism to fine motor skills development and sensory integration of children autism with a value of p <0,05.

According Handojo (2004)[11] stating the cause of autism can occur during pregnancy. In the first trimester, triggering factor usually consists of infection (toxoplasmosis, rubella, candida), heavy metal poisoning, additives (MSG, preservatives, dyes), or drugs other woods. In addition, the excessive growth of fungi in the intestines of children as a result of excessive use of antibotic, can cause intestinal leaks (leaky-gut syndrome) and incomplete digestion of casein and gluten. Increased frekuensi high of autism disorders in children with congenital, rubella, herpes simplex encephalitis, and cytomegalovirus invection.

In children who were born during the spring with their mothers suffer from influenza winter when they are in the womb, has led researchers to suspect a virus infection is one of the causes of autism. The nutritional status of children in the months to one, two and three mostly normal total of 44 children (48,9%). Meanwhile, in the fourth with a normal nutritional status of 48 children (53,3%). In the fourth month of nutritional status is very thin already have an increase of 2,2% to no. Skinny on the nutritional status of the fourth month also increased from 10% to 4,4%.

Weight loss is one measure that provides an overview tissue mass, including body fluids. Weight loss is very sensitive to sudden changes either because of infectious diseases as

well as decreased food consuption. Height gives an overview function of the state of growth seen emaciated and little short. Height is very good to see the nutritional state of the past, especially with regard to the state of low birth weight and malnutrition in infancy.

Child development is influenced by three main factors that work in stimulants, namely: (1) Hereditary factors, the nature or congenital conditions inherited from parents; (2) The growth and physical maturation, influenced by the consumption of food (nutrient intake), health care, and child care in general; (3) environmental stimulation. This factor depends on the extent to which parents and the environment around the child provide psychosocial stimulation or learning processes that encourage child development.

In childhood, the growth and fine motor skills development and sensory integration of children autism occurs very rapidly, if the food does not contain enough nutrients needed, and this situation lasts long, it will cause changes in brain metabolism.

Fine motor skills development and sensory integration compared to the Body Mass Index (BMI) months to 1 until to 4 in autistic children at school autistic DIY province can be seen in Table 1 below.

Table 1
Fine motor skills development and sensory integration compared to the Body Mass Index (IMT) months to 1 until to 4 in children with autism in the province of Yogyakarta autism school

NO	Variat	Month to 1	Month to 2	Month to 3	Month to 4
1.	Picked up a pencil	0,407	0,428	0,610	0,354
2.	Write	0,200	0,175	0,254	0,169
3.	Taking the finger	0,454	0,351	0,304	0,365
4.	Rip	0,521	0,479	0,610	0,676
5.	Draw a circle	0,276	0,225	0,262	0,251
6.	Figure quadrilateral	0,306	0,241	0,249	0,250
7.	Images of people	0,326	0,326	0,265	0,250
8.	Choosing toys	0,406	0,299	0,344	0,382
9.	Banging two cubes	0,581	0,414	0,561	0,405
10.	Develop cube	0,576	0,365	0,521	0,486
11.	Wiggle the thumb	0,638	0,699	0,844	0,759
12.	Body Massage	0,564	0,489	0,756	0,538
13.	Storking/brushing	0,499	0,440	0,487	0,657
14.	Vestibuler	0,499	0,431	1,250	1,378
15.	Deep Touch Pressure	0,499	0,359	0,369	0,311

From Table 1 above it can be seen that fine motor skills development and sensory integration compared with a Body Mass Index (BMI) months to 1 sd to 4 in autistic children at school autism Yogyakarta province with results ODS ratio that has increased is the vestibular (1,378), While variat else no improvement.

Effect of stimulation of fine motor skills development and sensory integration with Wilcoxon test data analysis can be seen in Table 2 below.

Table 2
Influence on the fine motor skills development and sensory integration of test wilcoxon data analysis in children with autism in the province of Yogyakarta autism school

No	Variat	Z	*p value (significancy)*
1.	Picked up a pencil	-1,457	0,145
2.	Write	-2,241	0,025
3.	Taking the finger	-0,815	0,415
4.	Rip	-1,858	0,063
5.	Draw a circle	-1,352	0,176
6.	Figure quadrilateral	-1,348	0,178
7.	Images of people	-2,397	0,017
8.	choosing toys	-2,124	0,034
9.	Banging two cubes	-2,420	0,016
10.	Develop cube	-1,946	0,052
11.	Wiggle the thumb	-3,354	0,001
12.	Body Massage	-4,996	0,000
13.	Storking/brushing	-2,826	0,005
14.	Vestibuler	-6,235	0,000
15.	Deep Touch Pressure	-2,531	0,011

From Table 2 above it can be seen that the fine motor skills development and sensory integration effect of stimulation and sensory integration with Wilcoxon test data analysis in children with autism in the province of Yogyakarta autism school obtained p value <0,05 is writing p = 0,025, draw people p=0,017, choosing toysp = 0,034, banging two cubes p = 0,016, wiggle the thumb p = 0,001, body massage p = 0,000, storking / brushing p = 0,005, vestibular p = 0,000 and deep touch pressure p = 0,011.

Behavioral therapy helps change behavior repeated, inappropriate and aggressive. This therapy is done to help autistic children develop the skills necessary to be able to blend with the surrounding environment. Various methods are used to cope with autism, both carried out simultaneously or separately. Applied behavior analysis by dividing skills in several stages and then teach it to children with autism. Giving gifts whenever children are able to perform a certain stage will help autistic children to learn to imitate (imitation).Therapy sensory integration focuses on sensory stimulation through exposure to the taste, sound, or a different texture. Another method used is play therapy, where emotional development focus. This therapy is usually done by playing roles between adults and children, as well as trying to develop social skills and social interaction (Kenny S. 2006)[12].

Intervention for children with autism / autism infantile form of stimulations for the child showed a response. Actually, before the child is enrolled in a treatment program that is being followed, parents should give him endless stimulation at home so that children do not drown in his own world. Do not leave children alone and preoccupied with the interests and activities that rigid, for example, turn on and turn on the lights, amazed watching the fan spins and no other important activities. Always try there are always people who accompany children for no sleep (Bitterman et al, 2008)[13].

Inviting children two-way communication both verbal and non-verbal. Do not allow children engrossed with television or other games that are unidirectional and damaging his

eye contact. Early moments do not expect children to respond to an invitation to communicate given to him. most of the child's responses ignorant, not understanding that the communication addressed to him or if it was aware of possible child will respond negatively as crying out loud because he felt disturbed (Erfandi. 2009)[14].

Stimulation can also form taking children singing, clapping, imitating the movement or play a game together. In some children with autism, ability imitate or humming sound better than communication. It can be used as an entrance into the world of children. Although parents also should beware because children are invited easement humming continues then his communication skills are not developed (Danuatmaja. 2003)[15].

Simple games are also good for children as game ci stimulation boo. Moreover, this game requires the presence of others. With this game parents can introduce to children with the people that is around. This kind of game can and should be done by the whole family. With performed by different people, children are given the opportunity to experience the same stimulus in different settings (playing with her mother in the room, along with his father on the porch, etc.)

Sensory integration activities that can be done for children with autism, among others, with handicrafts, such as molding clay with a variety of different shapes or paint by holding the child's hand and taught how to paint until then the child is able to paint itself. Some toys should be provided for children with autism, for example, a rocking chair, scooter boards, glider rockers, swings and more. While playing, children with autism learn to form a sensation of balance and body movements (Karen et al. 2005)[16].

Children with autism are sensitive to the smell and trouble connecting something to smell, can get many benefits through aromatherapy. One of the activities that can be done is by candlelight aromatherapy in the room where the children with autism were asked to sit down. Aromatherapy is proven to have therapeutic properties to soothe and relax the nerves of children with autism. The next activity is the activity of tactile (Tactile Activities) is to give an autistic child tactile sensations, sand and water into a toy ideal for children with autism is to give a few buckets of sand plus water and let the kids put their hands into the bucket so that it can feel what was inside bucket.

D. Conclusion

1. Internal and external factors that affect the growth and fine motor skills development and sensory integration of children autism are (race) affects Weight (BB) children with autism, with p= 0,034. External factors (genetic) influence the fine motor skills development and sensory integration of children with autism, with p = 0,006.
2. Relations with the nutritional status the growth and fine motor skills development and sensory integration of children autism. The nutritional status of children in month one, the second and third highest with normal nutritional status. The fine motor skills development and sensory integration compared to the Body Mass Index (BMI) months to 1to 4 in autistic children at school autism Yogyakarta province with results ODS Ratio that has increased is the vestibular (1,378), While variat else no improvement.
3. There is a stimulation effect on the growth and fine motor skills development and sensory integration of children autism with p <0,05.
4. Establishment of stimulation model of growth and fine motor skills development and sensory integration of children autism in the form of manual stimulation of growth and fine motor skills development and sensory integration of children with autism in health promotion.

REFERENCES

1. Departemen Kesehatan RI. 2004. *Pedoman Pelaksanaan Stimulasi Deteksi dan Intervensi dini Tumbuh Kembang anak di tingkat pelayanan kesehatan dasar*. Jakarta
2. Ginanjar. 2007. *Memahami Spektrum Autistik Secara Holistik*. Disertasi. Fak Psikologi Universitas Indonesia
3. Narendra BM, Sularya T, Soetjiningsih, Suyitno, 2005. *Tumbuh kembang Anak,* edisi 1, Penerbit Buku Sagung Seto, Jakarta
4. Ismail, D. 2007. *Peran Dokter Anak Untuk Optimalisasi Tumbuh Kembang Anak Gifted,* Dalam Seminar Memahami keunikan dan menyiapkan Masa Depan Anak Gifted. Sardjito. Yogyakarta
5. Edi. 2003. *Diagnosis Dini Autisme dalam Penatalaksanaan Holistik Autisme*, Kongres Nasional Autisme Indonesia Pertama dan Konferensi Nasional Autisme Indonesia Pertama, FK Universitas Indonesia
6. Kuntz. 2007. Trend In Special Education Code assignment For Autism : Implicationns For Prevalence For Estimates. *Journal Autism Dev Disord (2007) 37 : 1941 -1948.*
7. Gamayanti. I.L. 2007. *Memahami Keunikan Anak Gifted Tinjauan Psikologis,* Dalam Seminar Memahami keunikan dan menyiapkan Masa Depan Anak Gifted. Sardjito. Yogyakarta
8. Notoatmodjo. 2007. *Promosi Kesehatan dan Ilmu Perilaku*, PT Rineka Cipta, Jakarta.
9. Brown C and Lilford. 2006. *The Stepped Wedge Trial Design : A Systematic review*. Research article. BMC Medical Research Methodology
10. Murti B. 2010. *Desain dan Ukuran Sampel Untuk Penelitian kuantitatif dan Kualitatif di bidang Kesehatan*, gadjah Mada University Press.
11. Handojo Y. 2004. *Autisma,* Jakarta : PT. Bhuana Ilmu Populer (BIP)
12. Kenny S. 2006. *Developing Communities For The Future*, Third Edition, Cengage Learning Australia
13. Bitterman et al. 2008. A National Sample Of Preschool with Autism Spectrum Disorders : Special Education Services and Parent Satisfaction. *Journal Autism Dev Disord (2008) 38 : 1509-1517*
14. Erfandi. 2009. *Merawat Anak Autis*. Pro Health. Jakarta.
15. Danuatmaja. 2003. *Terapi Anak Autis Di Rumah*. Cetakan 1. Puspa Swara. Jakarta
16. Karen et al. 2005. Caring For Children With Autism In The School Setting. *The Journal Of School Nursing. Vol 21. Number 4.*

O-21

AGE RELATIONSHIP WITH SEVERE PRE ECLAMPSIA PREVALENCE IN SUNDARI HOSPITAL MEDAN

Dodoh Khodijah, Elizawarda

Department of Obstetrics, Polytechnic Health Ministry of Medan

ABSTRACT

Preeclampsia and eclampsia is the leading cause of death after bleeding and infection. Pre eclampsia is a common severe and cause MaternalMortality Rate(MMR) ranges between 9.8% -25.5%. This study aims to determine the relationship of age with the prevalence of severe preeclampsia in Sundari Hospital Medan. This study was a cross sectional study design with quantitative study. Samples were 94 persons who had severe preeclampsia in Sundari Hospital Medan. Data were then analyzed with chi square test. The results of the study reported that the prevalence of mothers delivered with severe preeclampsia in Sundari Hospital, Medan is as much (24.5%).Bivariate analysis results obtained maternal age has a significant relationship with the occurrence of pre-eclampsia, while parity, gestational age and a history of preeclampsia did not show a significant association. Recommendation for pregnant women to antenatal least four times during pregnancy can prevent severe preeclampsia.

Keywords : maternal age and preeclampsia.

BACKGROUND

One indicator of the health of a country is the level of maternal and infant mortality, this was due to the mother and baby are groups that have a large degree of vulnerability to disease and death. MMR in Indonesia is still higher other ASEAN countries such as Singapore which is only 3 /100,000 live births (LB), Brunei Darussalam 24 / 100,000 LB, Philippines 99, Malaysia 29, Vietnam 59, Thailand 46. Even Indonesia is the highest in MMR compare countries poor Asia such as Cambodia, Myanmar, Nepal, Sri Lanka, India, Bhutan, Bangladesh and East Timor[1].

The mortality rate in Indonesia is still high compared to other ASEAN countries. Based on the survey Demographic and Health (IDHS) in 1997 the MMR of 373 per 100,000 LB and a decrease of 307 per 100,000 LB in 2003 and in 2007 the maternal mortality rate in Indonesia reached 228 per 100,000 LB and IMR 34 per 1000 LB. However this is not in accordance with the target to be achieved nationally in 2010, amounting to 125 per 100,000 LB[2].

While in North Sumatra province in maternal mortality in the last 5 years, which was in 2006-2010 showed a declining trend, consecutive years of 360 / 100,000 LB in 2002, 345, 330, 320, 315, 328/100 000 LB. This figure is estimated will not decline until 2013[3]

The main causes of maternal death there is no special surveys, but nationally is caused because of childbirth complications 45%, retained placenta 20%, rips through the birth canal or lacerations 19%, obstructed labor 11%, bleeding and eclampsia each - each 10% of complications during the postpartum 5% and 4% of puerperal fever[3].

Severe preekslampsi is a complication of pregnancy characterized by hypertension (170/90 mmHg), edema and protein urine. The cause severe preeclampsia is not known with certainty, but a predisposing factor for preeclampsia is the first pregnancy weight, age, pregnancy spacing, social status, hydatidiform mole, history of hypertension, diabetes

mellitus, kidney disorders, family history and obesity suffer from preeclampsi. The prevalence of preeclampsi is more common in the age <20 years[4,5].

Results of preliminary studies conducted in hospitals Sundari Medan, the prevalence of severe preeclampsia had increased which in 2011 amounted to 3.23% increase to 8.04% in 2012 and found cases of severe preeclampsia in all age groups. From these data the authors wanted to know the relationship of age with severe preeclampsia prevalence at Sundari Hospital, Medan.

Formulation of the problem the prevalence of severe preeclampsia in Medan Sundari Hospital showed an increase from 2011 to 2012 amounted to (4.81%), namely (3.23%: 8.04%) and severe preeclampsia cases found in all age groups. For that to know the relationship of maternal age with the prevalence of severe preeclampsia in Sundari Hospital Medan.

Methode

The research instrument used, namely sheet the identity of the subject of research and Quesioner. Study Design: This study is a cross sectional analytic approach. The population of this research is all mothers delivered in RS Sundari Medan, with a sample of 94 people.

Data obtained from the medical record of the patient using data collection forms medical record and interviews with respondents. After determination of survey respondents, then researchers explain the intent and purpose of the research and subject of research are asked willingness to become respondents, along with the signing of informed consent as evidence of a willingness to be respondent.

To find out the identity of respondents researchers conducted interviews with respondents. The results of the interview included in the sheet identity of respondents. Sheets respondents' identities were coded respondents to further facilitate researchers in the implementation of data processing. Data were then analyzed with chi square test.

RESULT

Table 1: Frequency Distribution of Severe Preeclampsia, Age, Parity, Age Preeclampsia in Pregnancy And History at Sundari Hospital, Medan

Variable	Frequency (%)	
PEB		
Yes	8	(25,5%)
No	84	(74,5%)
Age		
High Risk	27	(28,7%)
Low Risk	67	(71,3%)
Parity		
High Risk	60	(63,8%)
Low Risk	34	(36,2%)
Pregnancy Age		
High Risk	84	(89,4%)
Low Risk	10	(10,6%)
Severe preeclampsia History		
Yes	8	(8,5%)
No	84	(91,5%)

The above table shows that mothers delivered with severe preeclampsia as much 25,5%, the proportion Severe Preeclampsia mostly inlow-risk age is 67 people (71.3%), high risk parity of 60 people (63.8%) with gestational age ≥37 weeks is 84 people (89.4%). There is a family history of suffering Severe Preeclampsia for 8 people (8.5%).

Analysis Bivariable

Tabel 2: Respondent CharacteristicsAnalysis ResultsrelationshipwithSevere Preeclampsia (n =94)

Variabel	Severe Preeclampsia		χ^2	*p*	RP	95% CI
	Yes (%)	No (%)				
Mothers Age						
High Risk	15(55,6)	12 (44,4)	13,32	0,012	5,73	1,04-1,55
Low Risk	12(17,9)	55 (82,1)				
Parity						
High Risk	18 (30,0)	42 (70,0)	0,03	0,867	1,19	0,78-1,22
Low Risk	9 (26,5)	25 (73,5)				
Pregnancy Age						
Aterm	22 (26,2)	62 (75,8)	2,30	0,129	1,41	0,92-1,54
Not aterm	2 (20,0)	8 (80,0)				
Preeclampsia History						
Yes	4(57,1)	3(42,9)	7,79	0,01	3,7	1,07-1,57
No	23(26,4)	64(73,6)				

Keterangan :
χ^2 = *Chi-Square* *p* = *p-value*
RP = *Ratio Prevalens* CI = *Confidence Interval*

From the above data it can be seen prevalence of severe Preeclampsia at high risk age of 15 people (55.6%). Mothers who have a high risk for the occurrence severe preeclampsia chance of 5-6 times compared with low-risk maternal age. Statistically age had a significant relationship with the occurrence of severe preeclampsia. The prevalence of severe preeclampsia in high risk parity as many as 18 people (30%). The prevalence of severe preeclampsia was greatest in the group with gestational age ≥ 37 weeks at 22 people (26,27%).

DISCUSSION

Preeclampsia is a condition that is typical in pregnancy characterized by symptoms of edema, hypertension and protein urine that occurs after 28 weeks gestation and unknown causes. The prevalence of severe preeclampsia Based on the overall results of the study found the prevalence of mothers delivered with severe preeclampsia in the period January-December 2013 there were 112 respondents from the 1393 mothers who gave birth at the Hospital Sundari, Medan or 8.04% higher than the prevalence of severe preeclampsia in maternal years in 2012 as many as 50 mothers (3.23%) of the 1548 birth mothers. The high prevalence of severe preeclampsia was heavy in the hospital is probably due Hospital Sundari is a referral hospital of the health center and the maternity hospital that is around, but research is only done within the scope of small, only one hospital alone so the results may not be generalizable to other hospital.

Relationship Dependent Variable and Independent Variables

Maternal age with the prevalence of severe preeclampsia

Maternal age with the prevalence of severe preeclampsia From the results of the univariate analysis of the prevalence of severe preeclampsia distribution by age showed that the prevalence of severe preeclampsia highest proportion found in high-risk age group is 55.6% compared with low-risk age group (20-35 years) is 17.9%. The results of calculations with the Chi-Square statistical obtained an association between maternal age at which the prevalence of severe preeclampsia OR = 5.73, this case illustrates that maternal age, <20 years / 35 years had 5.73 times the risk factors for preeclampsia occurs when compared with maternal age 30-35 years.

It is there conformity with research conducted by Koeswarsono et al (1991) in the RSU GunungWenang, Manado (1991), which reported the highest frequency of patients with eclampsia are at the age of 15-20 years, while the highest frequency of severe preeclampsia occurs at age> 35 years, Agus (2001) also reported the results of his research found that age <20 years have a risk of severe preeclampsia was 1.75 times and> 35 years had 2.47 times the risk of preeclampsia compared maternal age 20-35 years. In the study conducted by Septi (2007) in RSUPN Dr. CiptoMangunkusumo also found that the highest proportion of people with severe preeclampsia was highest at age <20 / .35 years by 37.5% compared to the 20-35 years age as much as 9.30%. According Sudhaberata (2001) based on the weight distribution of the prevalence of preeclampsia was found in the age group of maternal age <20 years> 35 years. (5) also said in his mother's age> 35 years increases the risk of severe preeclampsia. Women are encouraged pregnant at the age of 20-35 years. The high prevalence of preeclampsia was heavy in the age group <20 /> 35 years because this group is included in the high risk group, it is caused when viewed in terms of biological growth and reproductive development is not yet fully ready or mature, the young woman is not ready to bear the moral burden that the lack of conscientiousness prenatal care (Astuti, 2002) andmaternal age> 35 years in which the health condition and reproductive gone downhill.

Age is an important part of the reproductive status. Age associated with increased or decreased function of the body that affect a person's health status. A good age for pregnant women is 20-35 years. Cunningham states that pregnant teenagers aged women for the first time and who was pregnant at the age of> 35 years would have a high risk to develop preeclampsia (Indriani, 2012). Sumarni research results (2014) showed that most respondents aged 28-35 years. According to Lamminpa (2012)9 in Finlandi show pregnant women aged over 35 years had 1.5 times more likely to have pre-eclampsia compared to women under 35 years old. Pregnant women with pre eklampsia have a more severe risk of pregnancy such as premature labor and delivery by caesarean section. Other risk pregnancies that occur asphyxia 50% and 40% need NICU care.

In addition to the life of other factors such as smoking, obesity, diabetes and hypertension before pregnancy becomes motivating factors occurs preeclampsia.

Furthermore, Lamminpa states that maternal age become independent obstetric risk factors for early onset preeclampsia and fetal growth impaired. It has also been suggested that the risk of chronic and pregnancy-related hypertension increase, the increasing low birth weight and premature birth.

Parity

Parity with the prevalence of severe preeclampsia From the results of the univariate analysis showed that patients with the most severe preeclampsia in high risk groups, namely maternal P1 / P≥4 as much as 30% compared with maternal P2 / P3 is as much as 26.5%. Statistical analysis showed no significant relationship. This is not in accordance with the results of research conducted by Agus (2001) reported that the first parity occurred preeclampsia have a risk weight of 0.62 times compared to the second and third parity. Research conducted by Septi (2007) in RSUPN Dr. CiptoMangunkusumo also reported patients with severe preeclampsia in maternal parity first or fifth as much as 21.15% higher than the second and fourth parity ie 6.00%. He concluded that the first or fifth parity had 4.2 times the risk of severe preeclampsia occurs. The results of this study do not fit well with the theory that the first pregnancy increases the risk of preeclampsia was ten times more frequently(6). Cunningham in his book suggests McCartney (1964) have studied the results of renal biopsies from women with preeclampsia and find gromerulonefritis at 205 nullipara(5). Primigravida have a higher risk for severe preeclampsia occurs(7). With adequate nutrition and regular inspection of antenatal care can reduce the risk of preeclampsia in maternal and the administration calcium diet reduces the occurrence of preeclampsia(7).

Gestation with the prevalence of severe preeclampsia The results obtained from the univariate analysis, patients with severe preeclampsia highest proportion was found in the age group of high-risk pregnancies (≥ 37 weeks) as many as 22 people (26,27%), whereas in the group of gestational age <37 weeks, of two people (20%). OR = 1.41, this case illustrates that maternal age ≥ 37 weeks' gestation have severe preeclampsia risk of 1.41 times compared with birth mothers with gestational age <37 weeks. The results of calculations by the Fisher exact statistical test obtained no association between the occurrence of gestational age with severe preeclampsia. This is not in accordance with the theory that the more her pregnancy affect normal placenta changes such as thickening of blood vessel walls and villi that accelerate the process of preeclampsia and hypertension that generally occur in the third quarter(8). Furthermore in general preeclampsia and eclampsia develop after the 20th week of her pregnancy and increasingly more likely onset of preeclampsia(7).

Gasvarovic (2015) (13) found that many significant differences were apparent between early-onset preeclampsia and late-onset preeclampsia. Groups were significantly different in maternal characteristics according to maternal parity, grade of hypertension, liver enzyme levels and maternal BMI. It is unclear why the primigravid state is such an important predisposing factor. Hypertension is generally the earliest clinical finding of preeclampsia and is the most common clinical clue to the presence of the disease.

A History of Preeclampsia

The result is patients severe preeclampsi largest at birth mothers with a history of preeclampsia (genetic) that is equal to 57.1% or 4 of 7 risks groups. A history of poor labor triggered a predisposing factor. The results of calculations with fisher exact statistical test can be concluded there is no significant relationship between a history of preeclampsia (genetic) and the prevalencepreeclampsi, OR = 3.71. This illustrates that the birth mothers with a history of preeclampsia have a risk of preeclampsia compared with 3.71 times occur mothers who do not have a history of preeclampsia (genetic).

Our research found discrepancies with the theory advanced by (6) which states a family history of a genetic relationship, mother or sister increased risk of 4-8 times, in his

book also stated that the basic conditions contribute to maternal and are the factors that determine the occurrence of preeclampsia, Chesley and Cooper (1986) studied the sister, daughter, granddaughter and daughter-eclampsia than women who give birth, they concluded preeclampsia very likely lowered. Cooper and Liston (1979) observed that susceptibility to preeclampsia depend on a recessive gene. (5). With regular inspection of Antenatal Care in accordance with the policy program where antenatal visit should be done at least four times during pregnancy which aims to recognize early complications or abnormalities can be pursued early detect the presence of severe preeclampsia.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Most respondents who suffered preeklampsi on low-risk age groups, as big as (71.3%), Parity is the group most at risk parity (P1 / ≥P4), as big as(63.8%), Gestational age group most at risk of gestational age is 84 respondents (89.4%). Variable history of preeclampsia are at less risk groups as big as (91.5%). There is a significant association between maternal age with the prevalence of severe preeclampsia. Variable parity, gestational age, and history of preeclampsia did not show any significant relationship with the occurrence of severe preeclampsia.

Suggestion

For health workers are expected to provide health education for pregnant brides to plan a healthy reproductive age. The midwife may make early detection of preeclampsia on each visit ante natal care and documenting midwifery care properly for observed condition of pregnancy pregnant women.

References

1. L BM. Strategi Efektif Mengurangi MMR dan AKB di Indonesia. 2012.
2. Kementerian Kesehatan Republik Indonesia. Profil Kesehatan Tahun 2012.
3. Dinas Kesehatan Sumatera Utara. Profil Kesehatan Sumatera Utara. 2012.
4. Sastrawinata S. Obstetri Patologi. Jakarta: EGC; 2005.
5. Cunningham. Obstetri Williams. 11th ed. Jakarta: EGC; 2006.
6. Chapman V. Asuhan Kebidanan, Persalinan, dan Kelahiran. Jakarta: EGC; 2006.
7. Manuaba IB. Ilmu Pengantar Obstetri. Jakarta: EGC; 2007.
8. Winkjosastro H. Ilmu Kebidanan. Jakarta: Yayasan Bina Pustaka Sarwono; 2006.
9. Astuti, SF. Faktor-faktor yang berhubungan dengan kejadian Preeklampsia Kehamilan di wilayah Kerja Puskesmas Pamulang Kota Tangerang Tahun 2014-2015.
10. Lamminpaa. Preeclampsia Complicated by Advanced Maternal Age : A Registry-Based Study on Primiparous Women In Finland 1997-2008. 2012
11. Sumarni, S (2014) Hubungan Gravida Ibu dengan Kejadian Preeklampsia. jurnal Kesehatan Wiraraja Medika.
12. ndriani, N (2012) Analisis Faktor-faktor yang berhubungan dengan preeklmpsia/Ekslampis pada Ibu Bersalin di RSUD Kardinah Tegal Tahun 2011
13. Gasvarivic (2015) What effect the Outcome of Severe Preeclampsia diakses 25 Oktober 2016. http://www.signavitae.com/2015/06/what-affects-the-outcome-of-severe-preeclampsia/

O-22

COMPARISON OF CHOLESTEROL LEVELS IN OBESITY AND NON OBESITY AT POLTEKKES MEDAN

Ida Nurhayati,Yulina Dwi Hastuty

yulinadwihastuty@gmail.com
085261483574

ABSTRACT

Background; Obesity has become a problem of public health and nutrition in the world. The prevalence of obesity is increasing in recent years and has led to serious health problems. Globally at least 2.8 million deaths each year linked to weight gain and obesity. Obesity that persist and excessive food intake can cause metabolic system disorders such as hypercholesterolemia. Conditions of excess cholesterol in the blood can cause atherosclerosis, coronary heart disease, stroke, and high blood pressure that can lead to death. Obesity is often associated with hypercholesterolemia condition, but sometimes also high cholesterol levels in people who have normal weight. Purpose: This study aimed to compare the levels of cholesterol in adults with obesity and non-obese. Method: This type of research is descriptive analytic with cross sectional design. This research was conducted in the Polytechnic Health Ministry of Medan. The study population numbered 375 sample size is determined based on inclusion criteria and taken by accidental sampling. Test data used is T test with significant level of p = 0:05. Result: The results of this study indicate that there is no difference in cholesterol levels between people who are obese with non-obese where the average cholesterol levels of obese people is 188.89 while the average cholesterol level non-obese person is 190.11. T test results showed that the value of t = 0932 which means greater than 0.05 which means that the two groups are identical (no difference).Conclusion: There is no difference in cholesterol levels between people who are obese with non-obese

Keywords : Obesity, non Obesity, cholesterol

INTRODUCTION

Obesity has become a problem of public health and nutrition in the world, both in developed countries and developing countries. The prevalence of obesity is increasing in recent years and has led to serious health problems. Globally at least 2.8 million deaths each year linked to weight gain and obesity which 300,000 occur in the United States and 350,000 in Southeast Asia[1,2.] Based on data from the Non communicable Disease in South-East Asia Region in 2008 the prevalence of individuals with a BMI ≥ 25 kg / m2 increase in some countries and in Indonesia the percentage reached 16% in men and 25% in women [2] . Data taken from the Basic Health Research (Riskesdas) in 2010 reported that 11.65% of adults aged ≥18 years are obese and this figure increased in 2013, namely 19.7% of men aged ≥18 years were obese, while in women reached 32.9% [3]. For North Sumatra data obtained from the Regional Health Research (Riskesda) in 2007 showed the percentage reached 11.9% overweight and 13.5% obese. In 2010 the percentage of overweight males 10.9% and 12.8% in women, while the percentage of obese 9.4% in men and 17.4% in women [3].

The increasing of number of people with obesity have an bad impact for health, since obesity is a chronic disease that is polygenic or monogenic that can lead to some condition

or pathological dysfunction [4]. Some things that can affect obesity, including genetic factors, food intake, neuro endocrine mechanisms, social, cultural and lifestyle [5]. In Indonesia, the lifestyle changes that leads to Westernization causes changes in diet coupled with a lack of physical activity can have an impact on the increased risk of obesity [6,7].

Obesity is a condition of an imbalance between height and weight due to the amount of excess body fat tissue, generally deposited in the subcutaneous tissue, but due to disturbed or damaged then the lipid accumulating in layer of visceral fat [8]. Obesity is composed of two kinds of general obesity and central obesity / abdominal. General obesity can be seen through the indicator BMI ≥ 25 kg / m2 (Asia Pacific, 2000) or ≥ 30 kg / m2 (WHO criteria), while central obesity / abdominal indicators can be detected through the ratio of waist and hip circumference (waist hip ratio). According WHO (2008) limits ratio waist and hip for central obesity in Asian countries including Indonesia in men is> 0.90 and in women> 0.85. Central obesity is closely related to the occurrence of metabolic syndrome wherein one among its sign is the increase in total blood cholesterol.

Conditions obesity will impact in an increased risk of hypertension, diabetes mellitus, cardiovascular disease, dyslipidemia, renal failure and inflammatory responses[9]. Components dyslipidemia including high levels of total cholesterol, triglycerides, LDL and low HDL levels have a major role in the increase in atherosclerosis and cardiovascular disease. Total cholesterol including one indicator to determine the risk of cardiovascular disease. Hypercholesterolemia or increase in total cholesterol levels generally do not cause symptoms, so the examination of kolesterol levels for the prevention and routine checks of cholesterol levels necessary as a preventive measure for individuals who are at high risk [10].

Increased levels of cholesterol are a risk factor for heart disease and stroke have estimates of mortality in the world about 2.6 million. The highest mortality rate of about 54% in Europe, after that America 48%. Africa 22.6% and Southeast Asia region showed 29.0%[11].

Obesity that persist and excessive food intake can cause metabolic system disorders such as hypercholesterolemia. The setting of cholesterol metabolism will run normally when the amount of cholesterol in the blood sufficient and does not exceed the normal amount required. But in obesity can otherwise be an interruption in the regulation of fatty acid that increases the levels of triglycerides and cholesterol esters. People who are overweight more often have blood cholesterol levels were higher when compared with those of normal weight. Results of research Shah et al in 2008 showed that in people who are obese tend to have high total cholesterol levels

Increased blood cholesterol can also be caused by the increase of cholesterol in verylow- density lipoprotein and low-density lipoprotein secondary because of the increased triglycerides are lots in circulating if the event of excessive fat accumulation in the body.

Cholesterol is a natural substance with physical properties is fat but has the formula steroid. Cholesterol is an essential building substance for the body's vital substances synthesis such as cell membranes and insulation material around nerve fibers, as well as sex hormones, and adrenal, vitamin D and bile acids. However, when consumed in excessive amounts can cause increased cholesterol in the blood is called hypercholesterolemia, even in the long term can lead to death. Blood cholesterol levels tend to be elevated in people who are overweight, lack of exercise, and smokers.

The condition of hypercholesterolemia can lead to problems such as atherosclerosis (constriction of the arteries), coronary heart disease, stroke, and high blood pressure. Total levels blood cholesterol recommended is <200 mg / dl, when ≥ 200 mg / dl means the risk

for heart disease increases. Data Basic Health Research (Riskesdas) 2007 declare that the 45-54 years age group have at high risk of coronary heart disease or stroke

The relationship between obesity and high blood cholesterol levels have been reported both in children and adults. Gorces C et al reported that obesity is associated with abnormalities of cholesterol in the blood where increased cholesterol in the blood happen at the age more than of 30 years.

This study aims to determine how to comparison the cholesterol levels in people with obesity and normal weight or non-obese.

MATERIALS AND METHODS

The research instrument used, namely sheet the identity of the subject of research, scales of weight of body with Digital Scale capacity up to 150 kg with a level of accuracy of 0.1 kg, the measuring instrument height / microtoise capacity up to 200 cm with level of accuracy of 0.1 cm, tool of measuring of cholesterol levels total (autocheck), sticks cholesterol , cotton , alcohol, lancet devices.

The data collection is done by: Researchers ask permission from the person in charge of the Ministry of Health Poltekkes Medan Polyclinic by showing the research permit. Furthermore, for sampling carried out by accidental sampling technique.

After determination of survey respondents, then researchers explain the intent and purpose of the research and subject of research are asked willingness to become respondents, along with the signing of informed consent as evidence of a willingness to be respondent.

To find out the identity of respondents researchers conducted interviews with respondents. The results of the interview included in the sheet identity of respondents. Sheets respondents' identities were coded respondents to further facilitate researchers in the implementation of data processing.

Further measured the weight, height, and total cholesterol levels at the study subjects. Body weight was measured using scale of weight body with Capacity up to 150 kg with a level of accuracy of 0.1 kg. Height of body was measured using a microtoise with length up to 200 cm with a level of accuracy of 0.1 cm. At the time of measurement of footwear research subjects were removed and standing in an upright position. After obtaining data on weight and height BMI calculation is then performed in accordance with the formula BMI calculation, then the results are recorded and explained to the research subject. Total cholesterol was measured with autocheck.

RESULTS

The total number of samples as many as 57 people working in the Polytechnic health ministry of medan that taken by accidental sampling and categorized as obese and non-obese based on measurements of body mass index (BMI). furthermore the data samples is analized, then performed statistical data processing using T test

A.1. characteristics of Respondents

Characteristics of respondents can be seen in the table below:

Table 4.1. Frequency Distribution of Respondents by Age At a staff of polytechnic

health ministry of Medan

No	Age (year)	Frequency	%
1	25 – 34	11	19.30
2	35 – 44	20	35.08
3	45 – 54	17	29.82
4	55 – 64	9	15.80
	Total	57	100.00

From table 4.1. it can be seen that of the 57 samples that have been studied, the majority were in the age group 35-44 years of 20 people (35.08%).

Table 4.2. Frequency Distribution of Respondents by Gender At a staff of polytechnic health ministry of Medan

No	Gender	frequency	%
1	female	41	71.93
2	Male	16	28.07
	Total	57	100.00

From table 4.2. it can be seen that of the 57 samples that have been studied, the majority are women many as 41 people (71.93%).

Table 4.3. Frequency Distribution of Respondents by IMT At a staff of polytechnic health ministry of Medan

No	IMT	frequency	%
1	non obesitas (‹ 30 kg/m2)	38	66.67
2	Obesitas (≥ 30 kg/m2)	19	33.33
	Total	57	100.00

From table 4.3. it can be seen that of the 57 samples have been studied based on BMI, the majority of the samples in the category of non-obese amounted to 38 people (66.67%).

Table 4.4. Respondents Frequency Distribution Based on Cholesterol Levels In a staff of polytechnic health ministry of Medan

No	Cholesterol Levels	Frequency	%
1	≤ 145 mg/dl	11	19.30
2	> 145 mg/dl	46	80.70
	Total	57	100.00

From table 4.4. it can be seen that of the 57 samples that have examined cholesterol levels, the majority have cholesterol levels> 145 mg / dl totaled 46 people (80.70%).

2. Analysis Bivariat

Table 4.5. Comparison of Cholesterol Levels In obese and non obese respondents.

Category	Cholesterol				
	Mean	SD	F	Sig.	Sig. (2-tailed)
Non Obesitas	190.11	52.734	.340	.562	.932
Obesitas	188.89	44.233			

A comparison of the cholesterol levels between obese and non-obese groups can be seen in table 4.5. The average value of standard deviation for cholesterol levels in obese group was 44 233 ± 10 148 mg / dl, while the non-obese group was 52 743 ± 8555 mg / dl. It showed the average cholesterol level was higher in non-obese but did not have significant differences.

Based on the results of t test, the obtained value of F = 0:34 and significanty 0562 (p> 0.05), which means that the two groups: obese and non-obese identical or not there is a significant difference between the results of the cholesterol obese and non-obese groups.

From the test results significantly t test, t values obtained 0932 or> 0.05 meaning that both the average identical (average cholesterol between the obese and non-obese did not differ).

If seen from the relationship between cholesterol levels in obese and non-obese groups based on test results obtained by linear regression R = 0.026, meaning that there is no relationship between cholesterol levels and weight gain.

DISCUSSION

Based on the characteristics of the respondents was found that the age category most respondents are in the age range 35-44 years (35.08%), while the sex of the respondents the most were female (71.93%), for the largest percentage BMI categories are non obese as much as 66.67% and based on the results of largest cholesterol checks in the category> 145 mg / dl. If seen from the characteristics of the respondent that there can be seen that cholesterol levels are obtained from the staf at the polytechnic health ministry of medan average are in the category of high values (> 145 mg / dl) it is possible for the average respondents ranged in age from 35 -44, according to previous studies cholesterol levels tend to be high in the age range above 30 year[12], in addition to the majority of the samples were female which high cholesterol levels are also more common in women because of estrogen-related hormone wherein estrogen is also associated with the formation of cholesterol[13] .

The results showed that the average cholesterol levels in obese and non-obese group did not have significant difference for 0562 meaningful significance p> 0.05. after linear regression was found the value of R = 0.026, which means there is no relationship between cholesterol and weight gain.

Cholesterol is the precursor for steroid hormones, bile acids and vitamin D. Cholesterol is also an important element in the cell membrane and the outer layer of lipoprotein[14].

Almost all the cholesterol and phospholipids are absorbed in the gastrointestinal tract and enter into chylomicrons are formed in the intestinal mucosa. Cholesterol is synthesized entirely from acetyl-CoA in many tissues[14]. Thus enabling if cholesterol levels can be high in any individual, no matter whether the person is obese or non-obese. Although some previous studies that found that cholesterol levels related to body weight and BMI, but the synthesis of

cholesterol is also affected by many factors. Another factor that can affect plasma cholesterol levels in addition to hereditary factors are the increased intake of high cholesterol, diet with high saturated fat, a diet high in unsaturated fatty acids and insulin and deficiency of thyroid hormone and lipoprotein abnormalities.

Hereditary factors have the greatest role in determining a person's serum cholesterol levels such as abnormalities in the LDL receptor gene mutation leads to the formation of high LDL. Usually characterized by the production of cholesterol> 400 mg / dL and HDL cholesterol levels <35 mg / dL. However, the factor of food intake, and environments such as physical activity, smoking, also affect cholesterol levels[14].

High dietary intake of saturated fats also improve the cholesterol levels in plasma with increased as much as 15% -25%. This is due to fatty deposits in the liver which then led to increased element of acetyl-CoA in the liver to produce cholesterol[15].

Insulin and thyroid hormone deficiency can lead to increased plasma cholesterol levels, while excess thyroid hormones will result in an increase in plasma cholesterol levels. Thus is the main possibilities occur due to changes in the activity of enzymes that work in lipid metabolism[15].

Another thing that plays a role in the determination of high or low cholesterol levels is exercise. Sports are often said to be lower LDL levels in plasma while HDL levels will increase. Moreover, in condition unstable emotions or stress and taking caffeine considered to be associated with increased free fatty acids in plasma. The result applies increased triglycerides and VLDL cholesterol is transported through where this resulted in an increase in cholesterol levels in the circulation[14].

As for diet and lifestyle are the factors that are involved in stimulating the increase or decrease in cholesterol levels and it gives the view that hypercholesterolemia is a risk factor that can be modified[16]. In this study does not do food recall and review of physical activity the previous sample so it is likely the cause of high cholesterol levels in the samples examined may vary. Is most likely due to consumption of foods high in fat and lack of physical activity is accompanied by hormonal factors and emotional conditions or high stress levels in the face of work.

The research result obtained is in line with several previous studies including research conducted by Nugraha A (2014) who found that there was no relationship of body mass index with total cholesterol levels of teachers and school employees Surakarta Muhammadiyah 1 and 2. Harahap (2011)[17], which examines the relationship of total cholesterol and triglyceride levels in patients with a BMI of at hospital of Dr Hj. Adam Malik who find that the relationship between levels of triglycerides and total cholesterol levels by IMT weak. Other studies are consistent with the study conducted by Setiono (2012) by using a cross sectional study design. His research states that total cholesterol levels in the group of people who are obese and non-obese have a significant difference with a significance value of p = 0.457. Alafanta (2011)[18] conducted research on cholesterol screening in obese patients aged 30-60 years. The results showed that high total cholesterol levels are not always associated with obesity.

The results of different studies conducted by Caleb (2010)[19] on vocational teachers 1 Amurang with the conclusion that there is a relationship between nutritional status and total cholesterol levels. Results of other studies that are not in line, performed by Mawi (2003) on a sample of adults aged> 35 years. The result showed that there was significant relationship (p = 0.007) between body mass index and total cholesterol levels are an indicator of coronary heart disease. Total cholesterol in men will increase with the increase in the value of IMT. This

is also supported by the results of a study conducted in Finland showed a positive association between cholesterol levels with BMI in men and women aged 30-59 years[12].

The difference of this research may be caused by differences in the use of research methods, population and sampling techniques, the characteristics of respondents (age, sex, and occupation) as well as the criteria for total cholesterol and different nutritional status. In this study used cross sectional design, the sample is an employee who works in the Ministry of Health Poltekkes Medan aged 30-65 years with the categorization of obesity with a BMI ≥ 30 kg / m2, and non-obese with a BMI <30 kg / m2 while the obese category used other researchers are BMI ≥ 25 kg / m2 even use a standard obesity with a BMI ≥ 23 kg / m2, and the criteria for total cholesterol levels in other studies using the normal category (<200 mg / dL), and total cholesterol levels high (≥ 200 mg / dL), in this study we use the categories of test equipment used is autocheck which category normal cholesterol levels ≤ 145 mg / dl and higher if the kolestreol levels> 145 mg / dl. This is what might affect that different research results.

Limitations of this analysis, the researchers did not interview survey respondents directly about eating habits such as frequency of eating and type of food consumed during the last 24 hours, smoking history, physical activity undertaken before participating in the study. However, there are several factors that support the implementation of this research that respondents were cooperative during the study so that the research can be done and also researchers can obtain the required data.

The conclusion from this study that the cholesterol levels among staff who are obese and non-obese did not have significant differences, and recommended for staff who have high cholesterol levels to be more vigilant and do the activities that can lower cholesterol levels like regular exercise including aerobic exercise, cycling , or yoga and keep food intake by avoiding foods that contain saturated fats and consume more foods rich in fiber and fruits that can increase HDL cholesterol levels such as avocado. Expected to continue research with develop the variables and perform food recall to more completed data of food intake and physical activity.

REFERENCES

1. Kamal R, Marcelo LG, et al, *Obesity-associated Hypertension: New Insight Into Mechanism,* Hypertension 2005:49::9-14
2. WHO/SEARO. *Noncommunicable diseases in the South-East Asia region. Situation and response .* India: WHO 2011
3. Riskesdas, 2013, *Riset Kesehatan Dasar. Laporan Nasional 2013*. Jakarta. Badan Penelitian dan Pengembangan Kesehatan Departemen Kesehatan Republik Indonesia
4. Klein S & Romijn JA, *Obesity in Kronenberg HM et al, ed. Williams Textbook of Endocrinology 11th ed, vol. 2,* Philadelphia: Saunders an imprint of Elsevier Inc, 2008; p. 1563-1575
5. Librantoro et al, *Correlation between plasma leptin and endothelin-1 plasma level in obese hypertensive subjects*, J Kardion Ind 2007:28:246-255.
6. Almatsier S. 2009. Prinsip Dasar Ilmu Gizi. Jakarta : Gramedia Pustaka Utama.
7. Direktorat Kesehatan dan Gizi Masyarakat:*Laporan pembangunan kesehatan dalam RPJMN 2010-2014*, Badan perencanaan pembangunan nasional 2009
8. Ibrahim MM, *Subcutaneous and visceral adipose tissue: structural and functional differences,* Journal compilation © International Association for the Study of Obesity. obesity reviews 11 2009:11–18

9. Shah SZA, Devrajani BR, Devrajani T, Bibi I. (2008). *Frequency of Dyslipidemia in Obese versus Nonobese in relation to Body Mass Index (BMI), Waist Hip Ratio (WHR) and Waist Circumference (WC)*. Pakistan Journal of Science. 62 (1): 27-31
10. World Health Organisation (WHO). 2013. *Obesity and Overweight*. http://www.who.int/mediacentre/factsheets/fs311/en/index.html diakses pada 28 agustus 2013
11. Mawi, M., 2005. *Indeks Massa Tubuh sebagai Determinan Penyakit Jantung Koroner pada Orang Dewasa berusia di atas 35 tahun.* Bagian Fisiologi Fakultas Kedokteran Universitas Trisakti
12. Dewi R dkk, 2010, Hubungan Kadar Kolesterol, IMT, Lingkar Pinggang Dengan Derajat Premenstrual Syndrome PadaWanita Usia Subur, Program Pasca Sarjana FK UNHAS, Makassar
13. Botham, K.M. & Mayes, P.A., 2006. Murray, R. K., Granner, D. K., & Rodwell,V. M., Chapter 26, Cholesterol Synthesis,Transport and excretion.. *In:Harper's Illustrated Biochemistry 27th ed*. USA: McGraw-Hill 230-240
14. Guyton, A.C.& Hall, J.E., 2006. Lipid Metabolism. *In : Textbook of Medical physiology 11th ed.* USA: Saunders Elsevier 840-851
15. Kumar, V., Abbas, K. A., Fausto, N., & Mitchell, R. N., 2007. *Chapter 10, The Blood Vessel. In : Robbins Basic Pathology 8th ed.* USA : Saunders Elsevier 347-349
16. Harahap T. (2011). Hubungan Antara Kadar Kolesterol Total Dan Kadar Trigliserida Dengan Indeks Massa Tubuh Pada Pasien Di Instalasi Patologi Klinik Rsup H. Adam Malik Medan. Karya Tulis Ilmiah
17. Alafanta I. (2011). Pemeriksaan Kolesterol pada pasien obesitas yang berusia 30- 60 tahun di RSUP. Hj Adam Malik Medan. Karya Tulis Ilmiah
18. Kaleb N. (2010). Hubungan status gizi dengan kadar kolesterol total pada guru di SMK N 1 Amurang.Universitas Sam Ratulangi. Skripsi

O-23

The Correlation Of Handover Implementation and Nurse Performance

Cecep Triwibowo[1], Soep[2], Zainuddin Harahap[2]

1,2,3Nursing ProgramPoltekkes Kemenkes Medan

ABSTRACT

The hospital is one of the business entity that is engaged in health services and have the same goal which is to provide services to people who require nursing care. Quality of nursing care is determined by the hospital because the nurses provide nursing care for 24 hours, so it is important for nurses to be the spotlight of other professions and patients. Several factors influence the performance of nurses are discipline, quality and quantity of work, responsibility, initiative and skills, as well as good relationships with other staff through mutual communication or transfer of information both among nurses at shift change (handover). Transfer of this information is very important to determine the quality of services provided and to obtain nursing care has been and will be implemented continuously. Under these conditions, This study aims to determine the relationship of nurses with the implementation of handover performance of nurses in inpatient Ward Dr Pirngadi Hospital Medan. The samples in this study were 38 respondents nurse. The results obtained by 60.5% of respondents who carry out handover properly and as much as 55.3% of respondents with the performance of a good nurse. The statistical results showed that there is a relationship between the implementation of the handover performance of nurses in patient ward DrPirngadi Hospital of Medan {p = 0.005 and α = 0.05 then p ≤ α}. The conclusion is a significant correlation between the implementation of the handover performance of nurses in patient ward DrPirngadi Hospital of Medan.

Keywords : Handover, Nursing Services, Nurse Performance

Rumah sakit merupakan salah satu badan usaha yang bergerak dalam bidang pelayanan jasa kesehatan dan mempunyai tujuan yaitu untuk memberikan pelayanan kepada masyarakat yang membutuhkan pelayanan keperawatan. Mutu pelayanan keperawatan rumah sakit sangatlah ditentukan oleh perawat karena memberikan asuhan keperawatan selama 24 jam, sehingga perawat menjadi sorotan penting bagi profesi lain dan pasien. Bebera pafaktor yang mempengaruhi kinerja perawat yaitu disiplin, kualitas dan kuantitas pekerjaan, tanggung jawab, inisiatif, keterampilan, serta hubungan baik dengan staf lain yaitu saling komunikasi atau transfer informasi yang baik antar perawat pada pergantian *shift (handover).* Transfer informasi ini sangat penting untuk menentukan dalam kualitas pelayanan yang diberikan dan memperoleh asuhan keperawatan yang telah dan akan dilaksanakan berkesinambungan. Berdasarkan hal tersebut, penelitian ini bertujuan untuk mengetahui hubungan pelaksanaan *handover* perawat dengan kinerja perawat di Ruang Rawat Inap Rumah Sakit Dr Pirngadi Medan. Penelitian ini terdiri dari dua variabel; variabel dependen adalah pelaksanaan *handover* dan variabel independen adalah kinerja perawat di Ruang Rawat Inap Rumah Sakit Dr Pirngadi Medan. Sampel dalam penelitian ini sebanyak 38 responden atau perawat. Hasil dari penelitian ini diperoleh sebanyak 60,5% yang melaksanakan *handover* dengan baik dan sebanyak 55,3% dengan kinerja perawat yang baik. Hasil statistik menunjukan bahwa terdapat hubungan antara pelaksanaan *handover* dengan kinerja perawat di Ruang Rawat Inap Rumah Sakit Dr Pirngadi Medan (p-*value* = 0.005 dan α = 0.05, maka p-value ≤ α). Kesimpulan pada penelitian ini adalah ada hubungan yang bermakna antara pelaksanaan *handover* dengan kinerja perawat di ruang rawat inap Rumah Sakit Dr Pirngadi Medan.

Kata Kunci : *Handover*, Pelayanan Keperawatan, Kinerja Perawat

1. Introduction

The hospital is one business entity engaged in the field of health services to serve the people who need the optimal health care(1). Quality of service in hospitals is determined by nurses in providing nursing care because the nurses provide nursing care for 24 hours. A heavy responsibility and supported with adequate human resources, so that the nurses' performance a key highlight for the other professions, patients and their families(2).

The nursing care is given in the form of nurses' performance should be constituted with high capabilities so the performance to support the implementation of tasks in nursing care. The performance of nurses is an ability or learning application that has been received for completing nursing education program to provide responsible care in health improvement and disease prevention to patients(3). One of the problems in the management of human resources at the hospital is nurses' performance, because the success of the hospital affected by the performance of nurses. Factors to assess the performance of nurses is the quality and quantity of jobs, responsibilities, skills, accuracy, speed, behavior, attendance or use of time, the relationship between the other staff with mutual communication or transfer of information. Transfer of information is very important in determining the quality of services provided(4).

Transfer of information at the time of shift change is called handover. Information relating to the clinical state of the patient, the patient's personal circumstances, to the social factors of patients. Handover is to maintain the continuity and consistency of patient care. Nurses should arrive at least 15 minutes early to follow the handover so that the handover process can run smoothly(5).

Based on the results of the audit conducted by a team of nursing supervision in RSU Dr. WahidinSudiroHusodoMojokerto that in the standard operating procedures (SOP) of handover implementation there are 85% room did not execute properly handover. This is indicated with the achievement of handover implementation in ward less than 73%, but in a pavilion implementation oh handover about 81%.Based on the minimum service standards (SPM), the achievement of the implementation of the SOP with good criterion of 73-100%, so not implemented of handover may cause a risk to patient safety, decrease the performance of nurses and quality of services provided(6).

The results of the preliminary study at DrPirngadi Hospital of Medanthat the implementation of handover is didn't going well. During this time, at the turn of the shift, the nurse previously only briefly explain the based on records and spoken to the nurses will be on duty the next, but it was not followed by all the nurses who will be assigned the next. Nurse visits to patients at the time of shift change has not been implemented. The performance of nurses can be seen from the discipline of nursing, but there are still many nurses who arrive late at every change of shift. Based on the phenomenon and the preliminary study, researchers interested in studying about relationships handover implementation with the performance of nurses in patient wards DrPirngadi Hospital of Medan.

2. Method

This is descriptive analytic with cross sectional approach. This study was conducted on 30 June to July5, 2014 in Wards DrPirngadi Hospital of Medan. The population was all nurses in patient wards DrPirngadi Hospital of Medan are 62 nurses. The sampling technique used purposive sampling. The sample is 38 respondents with criteria of inclusion are ready to be respondent and have a work time more than 1 year. Nurse performance data used questionnaire by Nursalam (2011) with indicator like 1) quality and quantity of

work, 2)responsibility, 3) have a competency, 4) accurately and faster, 5) absence, and 6) communicate. Data of handover used a questionnaire prepared by the researcher and has been tested for validity and reliability. Indicator in handover are 1) implementation, 2) who are to be leader, 3) team of nurse, 4) information, and 5) place of implementation. Test the validity of using the Pearson product moment and reliability test using Cronbach alpha. Test results show the validity and reliability of the questionnaire is valid and reliability to be used as an instrument for the implementation of the handover to the value of r> 0.444 (n = 20) and Cronbach alpha values 0.968. Data were analyzed using chi-square testto determine the relationship handover implementation and performance of nurses.

3. Result

Based on result, handover implementation of nurses in patient ward DrPirngadi Hospital of Medanis mostly good about 60.5% (table 1).Every nurse must implementation of handover in every change of shift, give information about condition of patient, and implemented handover like SOP from hospital.

Table 1. Respondents Frequency Distribution Based on Implementation of Handover In Inpatient Ward DrPirngadi Hospital of Medan

Handover implemented	Frequency	Presentation
Enough	15	39.5%
Good	23	60.5%
Total	38	100,0 %

Based on result, nurse performance in patient ward DrPirngadi Hospital of Medanis mostly good about 55.3 %.Form 38 respondent, about 21 nurses shown good performance, while about 17 nurses shown not good performance (table 2).

Table 2. Frequency Distribution of Respondents by nursesperformance Inpatient Ward DrPirngadi Hospital of Medan

Nurse performance	Frequency	Presentation
Enough	17	44.7 %
Good	21	55.3 %
Total	38	100,0 %

Based on the statistics, chi-square p value obtained is 0.005, so the P-value ≤ α (0.05) (table 3), it's mean that there is a relationship between the implementation of the handover with the performance of nurses in patient ward DrPirngadi Hospital of Medan.

Table 3. Relationship of handover implementation with nurse performance in patient ward DrPirngadi Hospital of Medan (n=38)

Handover Implementation	Nurse Performance				Total		P value
	Enough		Good				
	F	%	F	%	F	%	
Enough	2	5.3	13	34.2	15	39.5	0.005
Good	15	39.5	8	21.1	23	60.5	
Total	17	44.7	21	55.3	38	100	

4. Discussion

In this research, most of nurses implemented good handover about 60.5 % (table 1). The implementation handover would be good if supported by some good aspects, are the aspects of commitment, responsibility, cooperation, motivation and communication (6). A good implementation of handover in the nurse station and at bedside, does on every shift and led by the head of the room, followed by all the nurses who have been on duty and the next on duty. Information submitted must accurate, concise, systematic and describe or explain the patient's condition at this time as well as maintaining patient confidentiality (7).There are 4 type of handover, 1) bedside handover is transfer information performed at the bedside to focus the report and condition of the patient, 2) recorded handover, to use these recordings to reduce turnover time shifts that overlap, 3) written handover, depend on handwritten or computer access, and the amount of information provided by nurses, 4) oral handover, an oral report to accommodate the experience and ability of the nurse who attended to give information about the patient's condition (5)

Handover is the communication that occurs when nurses changing shifts and has a specific goal is to communicate information about the patient's condition at the previous nursing care(8). Handover can also improve communication among nurses, in a relationship of cooperation and responsibilities among nurses, and nurses can keep track of the patient, so that the continuity of nursing care can next run perfectly(9).

Benefits of handover for the patient is patients receive optimal health care and be able to address the problem directly if there is a problem that has not been revealed. For hospitals, the handover can improve nursing care to patients in a comprehensive manner (9).

Table 1 shown that about 39.5% of respondent not implemented handover very well. There is factors that inhibit the implementation of the handover is communication, noise disturbance, fatigue, knowledge or experience, written communication, organizational culture, support systems, infrastructure, delivery of patients, limited space for a handover of patients, the limitations of technology and usage notes and manual reports or difficulty accessing important information, and lack of human resources (10).Not implemented of handover in hospital because of many nurse who implemented handover as responsibility of work without know about the effect if handover not implemented very well (6).

Handover is not running properly can cause boredom and can reduce the time to complete other important tasks. The problem of staff transfer is exacerbated if the shift would come home yet ready to give handover, like delay nurse who attended to 7 minutes, or if any other activities performed. Nurses should immediately react if an emergency occurs during or before the handover is done. Negligence of the staff who will return to prepare for the handover, or delay of the staff that will replace the shift, can lead to burnout for nurses who wait to accept delivery of nursing report (5).

Based on result, most of nurses shown good performance about 55.3% (table 2). The nursing care is given a form of performance of nurses(7). The performance of nurses is an act done by a nurse within an organization in accordance with competencies and responsibilities of each, are not breaking the law, as well as moral and ethical rules, where a good performance can give satisfaction to the service user or patient(1).Standard practices of nurses performance in nurse care who given by patient based on step of nursing proses are assessment, nursing diagnosis, planning, implementation, and evaluation (7).

According (11) determined the success of performance is very good guidance from the supervision of the supervisor to a subordinate who asked problems and obstacles encountered

in the implementation of the order to be given a solution. Supervision is a component of management functions to achieve results in conducting performance(3). While the factors that affect the performance of nurses are the quality of work, quantity of work, responsibility, initiative, skill and ability, accuracy, speed, presence or use of time, as well as good relations with other staff with mutual communication or transfer of information(4). Furthermore, the factor that affect a good nurse performance are internal motivation (knowledge, responsibility, development and work) and external motivation (work condition, work partner, and reward)(2).

Based on the research that not all of respondent shown good performance, there is a little bit of respondent about 44.7% shown not good performance. The main problem of nurses performance in nursing care is the lack of highly educated nurses, inadequate capacity, the number of nurses who are less patient and less hospitable in the face of the patient. The problem is certainly not only a matter of attitude is friendly and patient, but also a high workload and regulations are not clear to nurses(3).The expectation of the nurse was often not correspond to reality, because often lead to conflict during his work that can directly affect performance (12).

In this research shown that there is a significant correlation of handover implementation and nurse performance. Handover not implemented may cause a risk to the decline in the performance of nurses (6).Key of handover is the quality of the next of nurses care, if information not accurate or there is a mistake so can a make condition of patient dangerous.Handover as a support to another nurse to do the next nurse care. Handoveralso give catharsis benefit because nurse with emotional fatigue cause do nurse care can given to the nxt nurse at shift changeand not bring to go home. So, handover process can lack anxiety in nurse (9). Handover have a positive effect to nurse are give motivation, use experience and information to help planning in step of the next nursing care (in implemented of nursing care to patient must continuity).Good communication in handover will increase nurse motivate to increase performance. Motivation is a condition who move of selfworkerto achieve of goal organization (1). Motivation of work is an activity and need in every people, to motivate her/his self to full her/his needed and to be guideline of behavior to something that to be a goal.Motivation is also an effort to help the ability of nurses who have good skills(13)

Ongoing information transfer among shift will allow nurses to complete tasks and will have an impact on improving performance.The performance of nurses is influenced by the ability and skills of nurses in completing their tasks (1). A person skilled in doing their daily work, it will be easier to achieve the expected performance(13).

5. Conclusion

The conclusion are implementation of the handover in patient wards Dr Pirngadi Hospital of Medan, mostly good (60.5%) and nurse Performance patient ward Dr Pirngadi Hospital of Medan, mostly good (55.3%).There is a significant relationship between implementation handover with the performance of nurses in patient wards DrPirngadi Hospital of Medan.

Further studies shall be done with a different nurse characteristics about other factors on efforts to improve the performance of nurses and handover implementation. The results of this study can be used as reference material or baseline data to develop research related to handover implementation or the performance of nurses in hospitals.

6. Reference

1. Amelia N. Faktor-Faktor yang Mempengaruhi Kinerja Perawat dalam Memberikan

Asuhan Keperawatan di Rumah Sakit Roemani Semarang. Universitas Muhammadiyah Semarang; 2010.
2. Ba'diah A. Hubungan Motivasi Perawat dengan Kinerja Perawat di Ruang Rawat Inap Rumah Sakit Daerah Panembahan Senopati Bantul. J Manejemen Pelayanan Kesehat. 2008;12:74–82.
3. Siahaan N. Kinerja Perawat dalam Pemberian Asuhan Keperawatan di Rumah Sakit Tk II Putri Hijau Medan. Universitas Sumatera Utara; 2011.
4. Kuntoro A. Manajemen Keperawatan. Yogyakarta: Nuha Medika; 2010.
5. Scovell S. Role of The Nurse to Nurse Handover in Patient Care. Nurs Stand. 2010;24(30):35–9.
6. Elisabet E. Optimalisasi Pelaksanaan Handover Berdasarkan Standar Pelayanan Patient Safety. J Adm Kebijak Kesehat. 2007;6:166–71.
7. Nursalam. Manajemen Keperawatan : Aplikasi dalam Keperawatan Profesional. 3rd ed. Jakarta: Salemba Medika; 2011.
8. Australian Medical Association. Shift Handover : Safe Patient. Guide on Clinical Handover for Clinicions. 2006.
9. Australian Health Care & Hospitals Association. Clinical Handover : System Cange, Leadership and Principles. 2009.
10. Kamil. Handover dalam Pelayanan Keperawatan. J Keperawatan. 2011;4(11).
11. Notoatmodjo. Prinsip-prinsip Ilmu Kesehatan Masyarakat. Cipta R, editor. Jakarta; 2003.
12. Santoso D. Hubungan Motivasi Perawat dengan Kinerja Perawat Di RSP PKU Muhammadiyah Gombong. J Ilm Kesehat Keperawatan. 2010;6(1).
13. Wijaya D. Hubungan Program Orientasi Berbasis Kompetensi dengan Kinerja Perawat Baru di Rawat Inap Rumah Sakit Husada. Universitas Indonesia; 2010.

Poster Presentations

P-01

THE DESCRIPTION OF CHARACTERISTICS OF ABORTION AT THE SLEMAN REGIONAL PUBLIC HOSPITAL IN 2014

Nurul Islejar Estiyanti ,Sari Hastuti , Munica Rita Hernayanti

Midwifery Departement Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email : eislejar@yahoo.com

ABSTRACT

Maternal mortality in developing countries are 14 times higher than in developed countries. Abortion is a direct cause of maternal mortality. Abortion contributes to 15-50% of maternal mortality. The highest maternal mortality rate in DIY is found in Sleman. he purpose of this study is to find out the description of characteristics of pregnant women causing the spontaneous abortion in the respective hospital. The data collection technique is using secondary data by lookingthrough the list of registers and hospital's medical record. Meanwhile, the tools used are format of data collection, the master table, and dummy table.

This study shows pregnant women with spontaneous abortion is that 38.8% of pregnant women experience an incomplete abortion, 35.3% of pregnant women experience infection, 15.3% of pregnant women suffer from chronic debility disease, 57.7% of pregnant women suffer from anemia, 56.5% of pregnant women are at risky age, 68.2% of pregnant women are with risk parity, 15.3% of pregnant women are with gestational distance <2 years, and 56,5% of pregnant women are at risky age couples. So the conclusion of characteristics of pregnant women who experience spontaneous abortion is large because of the risk parity, maternal age risk, paternal age risk, and risk of maternal nutrition.

Keywords: characteristics, pregnant women, spontaneous abortion

BACKGROUND

Mortality and morbidity is still a problems in many developing countries. According to WHO (2013), the rate of maternal mortality in developing countries are 14 times higher than in developed countries. There are 180 to 200 million womens become pregnant each year, and 585 thousand of them died as a result of one of the complications of pregnancy and childbirth[(1)]. Based on the Indonesian Demographic and Health Survey at 2007, maternal mortality rate achieves 228 per 100,000 live births. This figure puts Indonesia as one of the countries with the highest maternal mortality in Asia, the 3rd highest in the ASEAN region and the 2nd highest in the SEAR region. Indonesia targets to achieve the MDG's getting away because by Indonesia Demographic and Health Survey in 2012 the maternal mortality rate actually rose to 359 per 100,000 live births[(2)].

Abortion is a direct cause of death in women. According to WHO, abortion contributes 15-50% of maternal mortality. Abortion complications are bleeding and infection that lead to maternal death. Maternal mortality due to abortion often do not appear in the report of death because it is more often reported as bleeding and sepsis[(3)].

Abortion can occur 114 cases per hour. Some studies suggest the incidence of spontaneous abortion between 15-20% of all pregnancies. When examined further abortion closer to 50%. The high rate of pregnancy loss chemical that can not be known in 2-4 weeks after conception increases the incidence of abortion[(1)].

Factors that cause the death of the fetus is its own ovum factors, maternal factors, and paternal factors[4]. Causes include genetic factors, congenital uterine abnormalities, autoimmune, luteal phase defects, infection, hematologic, and the environment[1].

The incidence of abortion in Yogyakarta tend to increase. Increased incidence of abortion in Yogyakarta seen from the Hospital Information System records in DIY. It was found that the highest increase incidence of abortion in Sleman , about 3-fold from 2012 to 2013. The incidence of spontaneous abortion in 2012 with 51 cases per year increased to 174 cases per year in 2013.

Some studies suggest hospitals contribute 40-70% of maternal mortality. By looking at the matter, effort focused on reducing maternal mortality rate in the hospital. Sleman District Hospital is a general hospital that has PONEK that is ready to serve 24 hours and serve as a referral hospital from various districts in Sleman.

Referring to the problems above, this study aims to describe the characteristics of pregnant women who experience spontaneous abortion in Sleman District Hospital in 2014. The benefits of this research for health workers Hospital in Sleman as additional references and information in the field of health, to professional organizations can be used as input data for promotional activities followed by the prevention of abortion and more vigilant when screening for pregnant women, for the researchers can add new insights in the field of health, especially abortion.

METHODS

Type of research conducted in this study was a descriptive with cross sectional approach. The cross sectional study was conducted to study the dynamics of the correlation between risk factors and effects, with the approach, observation and data collection at once at a time[5]. The population in the study were all pregnant women who experience spontaneous abortion who in inpatient and outpatient care, and recorded in the register and complete medical record in accordance with the risk factors.

The study was conducted in Sleman District Hospital by taking secondary data from the registers and records of medical records of patients. The research was conducted on 1 April until 14 April 2015. The variables in this study were infection factors, chronic debility disease, nutrition, maternal age, parity, pregnancy spacing, and paternal age.

RESULTS

1. The characteristic description of spontaneous abortion by type of abortion

Table 1. The frequency distribution of pregnant women with spontaneous abortion based on the type of spontaneous abortion in Sleman District Hospital in 2014

No	Type of Abortion	Frequency	Prosentase (%)
1	Iminens	30	35,4
2	Insipiens	5	5,8
3	Inkomplet	33	38,8
4	Komplet	8	9,4
5	Septik	1	1,2
6	Rekuren/Habitualis	8	9,4
	Total	85	100

Table 1 shows that the majority of pregnant women who experience spontaneous abortion is classified as an incomplete abortion by 38.8%.

2. The characteristic description of spontaneous abortion by factors of infection

Table 2. The frequency distribution of pregnant women with spontaneous abortion based on the factors of infection in hospitals Sleman 2014

No	Type of Infection	Frequency	Prosentase (%)
1	Bacterial	30	35,3
2	Parasites	3	3,5
3	Unrecord	52	61,2
	Total	85	100

Table 2 shows the majority of pregnant women who experience of spontaneous abortion infection is not yet known whether have an infection or not (61.2%).

3. The characteristic description of of spontaneous abortion by a factor of chronic debility disease mother

Table 3. The frequency distribution of pregnant women with spontaneous abortion based on factors debility disease in hospitals Sleman 2014

No	Chronic Debility Disease	Frequency	Prosentase (%)
1	Hypertension	13	15,3
2	Diabetes Millitus	4	4,7
3	Non chronic debility disease	60	70,6
4	Etc.	8	9,4
Total		85	100

Table 3 shows the majority of pregnant women who experience of spontaneous abortion does not have a chronic debility disease (70.6%)

4. The characteristic feature of spontaneous abortion by nutritional factors

Table 4. The frequency distribution of pregnant women with spontaneous abortion based on factors of nutrition in hospitals Sleman 2014

No	Category	Frequency	Prosentase (%)
1	Anemia (< 11gr%)	49	57,7
2	Non-Anemia (≥11 gr%)	36	42,3
	Total	85	100

Table 4 shows that the majority of pregnant women who experience of spontaneous abortion have anemia (57.7%).

5. The characteristic description of spontaneous abortion by maternal age factor

Table 5. The frequency distribution of pregnant women with spontaneous abortion based on maternal age factor in Sleman District Hospital in 2014

No	Maternal Age	Frequency	Prosentase (%)
1	<20 years and >35 years	48	56,5
2	20-35 years	37	43,5
	Total	85	100

Table 5 shows the majority of pregnant women who experience of spontaneous abortion in Sleman District General Hospital in 2014 were women money to have that risk age <20 years and> 35 years (56.6%).

6. The characteristic description of spontaneous abortion by a factor of parity

Table 6. The frequency distribution of pregnant women with spontaneous abortion by a factor of parity in Sleman District Hospital in 2014

No	Parity	Frequency	Prosentase (%)
1	At Risk	58	68,2
2	Not Risk	27	31,8
	Total	85	100

Table 6 shows that women who experienced of spontaneous abortion in Sleman District General Hospital in 2014 mostly mothers have risky parity (68,2%).

7. The characteristic description of spontaneous abortion of pregnancy based on the spacing factor

Table 7. The frequency distribution of pregnant women with spontaneous abortion of pregnancy based on the spacing factor in Sleman District Hospital in 2014

No	Pregnancy Spacing	Frequency	Prosentase (%)
1	Primi	34	40
2	< 2 years	13	15,3
3	≥ 2 years	38	44,7
	Total	85	100

Table 7 shows that women who experienced spontaneous abortion most have pregnancy spacing with previous children ≥ 2 years (44.7%).

8. The characteristic description of spontaneous abortion by the age paternal factor

Table 8. The frequency distribution of pregnant women with spontaneous abortion by the age paternal factor in Sleman District Hospital in 2014

No	Paternal Age	Frequency	Prosentase (%)
1	< 20 years and ≥ 40 years	48	56,5
2	20 – 39 years	37	43,5
	Total	85	100

Table 8 shows that women who experienced of spontaneous abortion in Sleman District General Hospital in 2014 mostly from a father who has a risky age is <20 years and ≥ 40 years (56.5%).

DISCUSSION

The incidence of spontaneous abortion in Sleman District General Hospital in 2014 largely is incomplete abortion. Incomplete abortion is characterized by the partial products of conception out, and what remains is the decidua or placenta[4]. Incomplete abortion is more common in hospitals. Generally, patients present with complaints of severe abdominal pain, after examination found cervical opening and looked out the majority of the product of conception[6]. Abortion incomplete many happening so than with other types of abortion [7].

One of the factors that cause pregnant women experience spontaneous abortions are due to infection. From research conducted largely unknown whether the mother infection during pregnancy which causes spontaneous abortion. This is due to limited data obtained by researchers. But some mothers infection types of bacteria, most of the mother suffered a vaginal discharge during pregnancy is likely to be caused by bacterial vaginosis. There is a relationship between abortion with bacterial vaginosis[8]. Fetal death can be caused by toxins from the mother or the entry of germs or virus to the fetus [4]. During pregnancy a woman's vagina pH will increase making it more susceptible to vaginal infections. When the immune system is weak pregnant women, microorganisms easily get into the mother's body that cause pregnant women will have an infection that causes spontaneous abortion.

Another factor that causes spontaneous abortion is the debility chronic disease or chronic illness of the mother. Debility chronic disease of the mother would undermine maternal condition that will eventually lead to abortion. Based on research that has been done, most of the women who experienced spontaneous abortion does not have a chronic debility disease, but hypertension and diabetes mellitus contributes as a factor that causes spontaneous abortion. Although the numbers are few but proves that the disease can be debilitating chronic debility mother circumstances that cause spontaneous abortion. Other diseases suffered by mother and making declines durability is ever cyst surgery, suffering from gastritis, myoma, and tumors. Hypertension causes blood circulation disorder in the placenta, causing abortion[9]. Type of insulin-dependent diabetes with inadequate glucose control has a chance of 2-3 times more likely to abortion[1].

Lack of nutrition which obtained mother during pregnancy may lead to anemia which in turn can lead to spontaneous abortion. Way to detect a person is experiencing anemia with hemoglobin test. Anemia is a condition where the hemoglobin in the lower body, pregnant women are anemic which has hemogoblin <11gr% in the first trimester and 3, while in the second trimester maternal hemoglobin <10.5 g%. Most of the women who experienced spontaneous abortion are anemic shown by the results of hemoglobin <11 g%. Pregnant women who experience a decrease in iron in the blood would reduce the number of red blood cells and interfere with the formation of red blood cells in the fetus and placenta, so will increase the incidence of abortion[10]. Anemia is one of the causes of abortion that directly affect fetal growth through the placenta interfere with the intake of nutrients and oxygen circulation to the circulation retroplasenter[9].

In addition, maternal age factor is also a risk factor for a pregnant woman suffered a spontaneous abortion. Based on the research showed most of the women who experienced

of spontaneous abortion aged <20 years and> 35 years. Age <20 years at risk of pregnancy because at that age the reproductive organs of a woman is not yet mature, in addition to age <20 years vulnerable to malnutrition[11]. State of the pregnant mother at a young age are still unstable and mentally not ready to accept her pregnancy, this condition causes the mother to become stressed and will increase the risk of abortion[12]. Aged > 35 years are at risk for pregnancy and abortion experience because ovarian function is reduced which results in eggs that the less qualified[13].

Parity also be a risk factor for the occurrence of spontaneous abortion. Most women who experience spontaneous abortion is the mother who has the risk parity is nullipara or the mother who first pregnancy and multiparity were more than three times the birth. Mothers with parity over 3 times has a high maternal mortality rate because endometrial interference occurs because of repeated pregnancy, whereas the risk for uterine first parity for the first time received the products of conception and uterine muscle flexibility remains limited[14]. Abortion is more common in women with parity 1 and more than 3. Mothers with low parity tends to birthing babies who are not mature or no complications since the first experience on reproductive and allowing the onset of disease in pregnancy, whereas high parity mothers tend to experience complications in pregnancy which influence the outcome [7].

Risk factors for spontaneous abortion is also due to pregnancy spacing. This research obtains the majority of the women who experienced of spontaneous abortion with pregnancy spacing ≥ 2 years. Spacing pregnancies at risk is <2 years because of physical health and the mother's womb is still limited and the previous child is still in need of care and attention of their parents[15]. The distance-risk pregnancies at less than 2 years and more than 5 years as it increases the risk of maternal output[16]. Most of the women who experienced pregnancy abortion at a distance of more than 5 years.

Paternal age also affects the occurrence of spontaneous abortion. Most women who experience spontaneous abortion have a partner aged> 40 years. Categorize the father's age into five categories there is in <20 years, 20-29 years, 30-34 years, 35-39 years, and ≥40 years. Age 20-29 years is the age of the father who had little risk of having a spontaneous abortion[17]. The father's age <20 years and> 40 years increases the risk of premature birth, low birth weight, gestational age preterm, low Apgar scores, to neonatal death[18]. The risk of miscarriage is higher if women aged ≥35 years, but the increase is much greater risk for a couple consisting of a woman aged ≥35 years and a man aged ≥40 years[19]. The paternal age is significantly associated with spontaneous abortion[20].

CONCLUSION

Results of research taking medical records at the General Hospital of Sleman in 2014 can be concluded from 6382 pregnant womens there are 85 pregnant womens who experience spontaneous abortion caused due to infection, disease debility chronic mother, nutrition, pregnancy spacing, maternal age, paternal age , Then obtained the characteristics of spontaneous abortion experienced by pregnant women, with the following details:

1. Most women who experience spontaneous abortion is not known whether caused by infection, this is due to limitations of the data in the can. But some women who experience spontaneous abortion caused by a bacterial infection.
2. Most of the women who experienced spontaneous abortion are not caused by disease of chronic debility. But hypertension and diabetes mellitus a contributing cause spontaneous abortion.

3. Most of the women who experienced spontaneous abortion are anemic with hemoglobin levels <11 g%.
4. 4. Most of the women who experienced spontaneous abortion risk are age <20 years and> 35 years.
5. Most women who experience spontaneous abortion have parity risk that nullipara and multiparity.
6. Most of the women who have had a spontaneous abortion pregnancy spacing ≥2 years.
7. Most of the women who experienced spontaneous abortion have a partner with the age of risk is <20 years and ≥40 years.

RECOMMENDATION

1. For Medicals Hospital Sleman

   Suggested for health workers who are in the General Hospital Sleman to write complete and accurate data so that the secondary data recorded in the medical record can be believed to be true and if done research back will get better and right.

2. For Professional Organization

   As a health worker should be more cautious with pregnant women who have risk factors for spontaneous abortion. By increasing the information from social media such as journals, articles, newspapers, or books as a reference and reference undertake emergency measures.

3. For Researchers

   Variables and technical analysis of the captured data can be developed so that the risk factors for women who experience spontaneous abortion can be seen in more detail.

REFERENCES

1. Saifuddin, A. B. Pelayanan Kesehatan Maternal dan Neonatal. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo; 2010.
2. Primadi, Oscar. Profil Kesehatan Indonesia Tahun 2012. Jakarta: Kementerian Kesehatan RI; 2013.
3. Azhari. Masalah Abortus dan Kesehatan Reproduksi Perempuan. Palembang: FK UNSRI; 2005.
4. Mochtar, Rustam. Sinopsis Obstetri: Obstetri Fisiologis, Obstetri Patologi. Jakarta: EGC; 2013.
5. Notoatmodjo, Soekidjo. Metodelogi Penelitian Kesehatan. Jakarta: Rineka Cipta; 2005.
6. Puscheck, E.E., Pradhan, A. 2006. First Trimester Pregnancy Loss. Emedicine. medscape. Accessed August 01, 2015
7. Tukan, Maria Florentina. Kadar Antioksidan Enzimatik Katalase pada Abortus Inkomplit Lebih Rendah Dibandingkan Dengan Kehamilan Normal Trimester Pertama. Denpasar: Tesis Mahasiswa Program Magister Studi Ilmu Biomedik Program Pascasarjana Universitas Udayana; 2014.
8. Cunningham, F.G., Leveno, K.J., Bloom, S.L.,Hauth, J.C., Rouse, D.J., Spong, C.Y. Obstetri Williams Volume 1 Edisi 23. Jakarta: EGC; 2013.
9. Varney, H., Kriebs, J.M., Gegor, C.L. Buku Ajar Asuhan Kebidanan (Varney's Midwifery)

Edisi 4 Volume 1. Jakarta: EGC; 2011.
10. Ayu, Dewa I. Perbedaan Berat Badan Lahir dan Berat Plasenta Lahir pada Ibu Hamil Aterm dengan Anemia dan Tidak Anemia. Denpasar: Mahasiswa Program Pasca Sarjana Magister Ilmu Kesehatan Masyarakat Universitas Udayana; 2011.
11. Santrock, John W. Edisi kelima Life-Span Development Perkembangan Masa Hidup Jilid 1. Jakarta: Erlangga; 2005.
12. Slama, R, Bouyer, J., Windham, G., Fenster, L., Werwatz, A., Swan, S.H. 2005. Influence of Paternal Age on the Risk of Spontaneous Abortion. American Journal of Epidemiology, 161(9), 816–823.
13. Luke, Barbara dan Brown, Morton B. 2007. Elevated Risks Of Pregnancy Complications And Adverse Outcomes With Increasing Maternal Age. Hum. Reprod. (2007) 22 (5): 1264-1272.
14. Winkjosastro, Hanifa. Ilmu Kebidanan. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo; 2007.
15. 15. Rochjati, Poedji. Skrining Antenatal pada Ibu Hamil. Surabaya: Pusat Penerbitan dan Percetakan Unair (AUP); 2011.
16. Agudelo, Agustin., Bermudez, Anyeli R., Goeta, Ana Cecilia. 19 April 2006. Birth Spacing and Risk of Adverse Perinatal Outcomes,295(15), 1809-1823.
17. Astolfi P, Pasquale AD, Zonta LA. 2006. Paternal Age And Preterm Birth In Italy, 1990 to 1998. Epidemiology, 17, 218–221.
18. Chen, Xi-Kuan., Wen, S.W., Krewski, Daniel., Fleming, Nathalie., Yang, Qiuying., Walker, M.C. 7 Februari 2008. Paternal Age And Adverse Birth Outcomes:Teenager Or 40+, Who Is At Risk?. Human Reproduction, 23(6),1290–1296.
19. Sartorius, Gideon A dan Nieschlag, Eberhard. 2010. Paternal Age and Reproduction. Human Reproduction Update, 16(1), 65–79.
20. Kleinhaus, K., Perrin, M., Friedlander, Y., Paltiel, O., Malaspina, D., Harlap, S. 2006. Paternal Age and Spontaneous Abortion. Obstetrics & Gynecology, 108(2), 369-377.

P-02

KNOWLEDGE AND ATTITUDES ABOUT EARLY DETECTION OF CERVICAL CANCER

Indhun Dyah Susanti, Hesty Widyasih, Nanik Setiyawati

Midwery Department Health Polytechnic of Health Ministry Yogyakarta
Email : indhundyah@gmail.com

ABSTRACT

Cervical cancer is the second most common cancer worldwide in women after breast cancer. It is estimated that each year there are approximately 15,000 new cases of Indonesian women who detected cervical cancer and 8,000 women died by cervical cancer. Bantul is the most patient of cervical cancer in Yogyakarta. Imogiri is the lowest scope of Visual Inspection with Acetic Acid and pap testin Bantul. This research aims to determine of knowledge and attitudes about early detection of cervical cancer. The type of research that used is quantitative descriptive with cross sectional study design. The data collection technique used a questionnaire that was tested by validity test. This was analyzed by SPSS program. Subjects were 45 respondents of reproductive age women. The results of research is 60% subjects have enough knowledge and 54% have supportive attitudes about early detection of cervical cancer. Based on the results, the majority of subjects have enough knowledge and supportive attitude.

Keywords: Knowledge, attitudes, cervical cancer

BACKGROUND

Cervical cancer is the most common cancer worldwide in women after breast cancer at 2012[1]. It is estimated that each year there are approximately 15.000 of Indonesian women who detected cervical cancer and 8,000 women died by cervical cancer[2].

Bantul has the biggest incidence of cervical cancer. The details are at range 25-44 years old is one person, 45-64 years old are 21 people and > 65 years old are 19 people[3].

In the developed countries, the incidence of cervical cancer decreased because of early detection programs through pap smear[4]. This is caused by the late of diagnosis that is found in an advanced stage, weak general state, low socioeconomic status, limited resources, lack of facilities and infrastructure, histopathologic type, and degree of education are participate to determining the prognosis of patients[4].

Imogiri is the lowest scope of Visual Inspection with Acetic Acid (or IVA) and pap smear test in Bantul[5]. Based of the information by the Head of Puskesmas Imogiri I, which covers four villages: Karang Talun, Wukir Sari, Giri Rejo, and Imogiri, participants of IVA and Pap smear is still in average even though it had been informed in public about the importance of early detection of cervical cancer by health workers. Based on preliminary studies by interviewed with seven residents in Dukuh Imogiri socialization of early detection of cervical cancer has been given, but they are not interested in joining early detection of cervical cancer because they feel embarrassed and afraid.

The people's knowledge about cervical cancer is a major cause of Indonesian womens coming to the health care. They are already late with advanced cervical cancer and difficult to cure. Only 12% of Indonesian women who understand about cervical cancer and had an early detection of cervical cancer with the Pap smear[6].

The process of attitudes are influenced by the stimulus of knowledge that will be processed to produce an attitude (closed) and behavior (open). [7]

The data explains the importance from knowledge and attitudes in reproductive age women about early detection of cervical cancer. Based on the those data above, this research aims to determine of knowledge and attitudes about early detection of cervical cancer. The purpose of this study is to describe knowledge and attitudes about early detection of cervical cancer in Dukuh Imogiri.

METHODS

The research is a descriptive quantitative with cross sectional study design. Subjects were 45 respondents of reproductive age women. The research was conducted in Dukuh Imogiri Bantul Yogyakarta at March-June 25, 2015. The research instruments using a questionnaire that was tested by validity test with the Pearson product-moment and reliability test with Cronbach Alpha. The data analyzed by SPSS program.

RESULT

Respondents characteristics

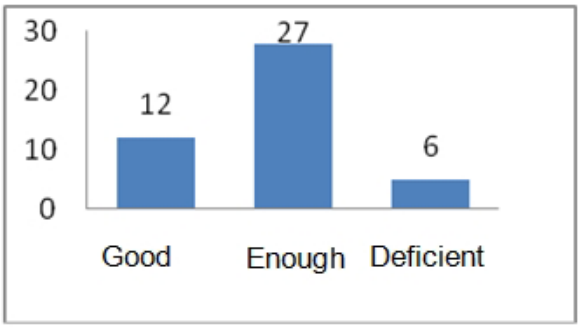
The respondent characteristics are age, education, occupation, and parity.

Table 1. Univariate Analysis of Respondent Characteristics in Dukuh Imogiri Bantul at 2015.

Respondent characteristics	Frequency	
	N	%
Age (years old)		
15-19	7	15,56
20 - 40	25	55,56
41-49	13	28,9
Education Level		
Not School	7	15, 56
Elementary School	9	20
Junior High School	10	22,22
Senior High School	14	31,11
University	5	11,11
Occupation		
Not work	28	62,22
Work	17	37,77
Parity		
Nulliparous	6	13,33
Primiparas	13	28,88
Multiparas	26	57,77

Table 1 shows that the most respondents were in age 20-40 years old, senior high school (education level), not work (occupation), and multiparas.

Knowledge about Early Detection of Cervical Cancer



Pictures 1. Knowledge about Early Detection of Cervical Cancer in Dukuh Imogiri Bantul at 2015.

Pictures 1 shows that the majority of knowledge about early detection of cervical cancer is enough.

Knowledge about Early Detection of Cervical Cancer Based on Characteristics

Table 2. Analysis of Knowledge and Characteristic Respondent in Dukuh Imogiri Bantul 2015.

Respondent characteristics	Knowledge						Total	
	Good		Enough		Deficient			
	N	%	N	%	N	%	N	%
Age (years old)								
15-19	3	42,9	4	57,1	0	0	7	100
20 - 40	5	20	15	60	5	20	25	100
41-49	4	30,8	8	61,5	1	7,7	13	100
Total	**12**	**26,7**	**27**	**60**	**6**	**13,3**	**45**	**100**
Education Level								
Not School	3	42,9	0	0	4	57,1	7	100
Elementary School	2	22,2	7	77,8	0	0	9	100
Junior High School	3	30	6	60	1	10	10	100
Senior High School	3	21,4	10	71,4	1	7,1	14	100
University	1	20	4	80	0	0	5	100
Total	**12**	**26,7**	**27**	**60**	**6**	**13,3**	**45**	**100**
Occupation								
Not work	6	21,4	18	64,3	4	14,3	28	100
Work	6	35,3	9	52,9	2	11,8	17	100
Total	**12**	**26,7**	**27**	**60**	**6**	**13,3**	**45**	**100**
Parity								
Nulliparous	1	16,7	4	66,7	1	16,7	6	100
Primiparas	3	23,1	8	61,5	2	15,4	13	100
Multiparas	8	30,8	15	57,5	3	11,5	26	100
Total	**12**	**100**	**27**	**100**	**6**	**100**	**45**	**100**

Table 2 shows that based on the age characteristics, the mostly aged 20-40 years have enough knowledge. Based on education, the majority of senior high school educated have enough knowledge. Based on employment status, most of the not work respondents have enough knowledge and based on parity most respondents of nulliparous have enough knowledge.

Attitudes of Reproductive age Women about Early Detection of Cervical CancerBased on Characteristics

Table 3.Distribution attitudes about Early Detection of Cervical Cancer

Attitudes	Total	
	N	%
Support	24	53,3
Unsupport	21	46,7
Total	**45**	**100**

Table 3 shows that the most attitudes about Early Detection of Cervical Cancer Based is support.

Attitudes about Early Detection of Cervical Cancer Based on Characteristics

Table 4. Cross Table between Attitudesand Characteristic respondent in Dukuh Imogiri Bantul 2015.

Respondent characteristics	Attitudes				Total	
	Support		Unsupport			
	N	%	N	%	N	%
Age (years old)						
15-19	7	100	0	0	7	100
20 - 40	13	52	12	48	25	100
41-49	4	30,8	9	69,2	13	100
Total	**24**	**53,3**	**21**	**46,7**	**45**	**100**
Education Level						
Not School	4	57,1	3	42,9	7	100
Elementary School	4	44,4	5	55,6	9	100
Junior High School	7	70	3	30	10	100
Senior High School	8	57,1	6	42,9	14	100
University	1	20	4	80	5	100
Total	**24**	**53,3**	**21**	**46,7**	**45**	**100**
Occupation						
Not work	15	53,6	13	46,4	28	100
Work	9	52,9	8	47,1	17	100
Total	**24**	**53,3**	**21**	**46,7**	**45**	**100**
Parity						
Nulliparous	4	33,3	2	66,7	6	100
Primiparas	8	61,5	5	38,5	13	100
Multiparas	12	46,2	14	53,8	26	100
Total	**24**	**53,3**	**21**	**46,77**	**45**	**100**

Table 4 shows that all respondents aged 15-19 years old have an supportive attitude, most of the respondents with a college education have a support attitude, the majority of unwork respondents have a supportive attitude, and the majority of nulliparous respondents are unsupport.

DISCUSSION

The research result shows that most respondents are knowledgeable enough as much as 60%. One of the affects of knowledge is a source of information. The source of information is something that can be known, but some are emphasizing the information as knowledge transfer [8].

The results of the study represent that the majority of respondents in this study were aged 20-40 years of reproductive age women as much as 55.6% with 60% has sufficient knowledge. Age 20-40 years is regarded as a mature age periode of human biological development to determine the level of maturity in thinking and working [9].

Knowledge about Early Detection of Cervical Cancer Based on Characteristic

a. Age

The results of the study represent that the majority of respondents in this study were aged 20-40 years of reproductive age women as much as 55.6% with 60% has sufficient knowledge. Age 20-40 years is regarded as a mature age periodization of human biological development to determine the level of maturity in thinking and working [9].

b. Education

The research result shows that 57.1% of respondents who are not school had deficient knowledge. It is consistent with the theory that education can increase the level of knowledge and absorb practical knowledge in the environment [10].

c. Occupation

The results of the study describes 62.22%respondents did not work, but 64.3% of them only have enough knowledge. The factors that influence knowledge is social, culture and economic. Economic status of a person will determine the availability of a facility that is required for certain activities so that the socio-economic status will affect a person's knowledge [8].

The economic status of a person can be influenced by a person's employment status, because most of the work to make money[8].

d. Parity

The results of the study represent that 66.7% of nulliparous respondents have enough knowledge.

Experience is one of the factors that influence the level of knowledge. Repeating the knowledge of solving problems in the past is a way to obtained the truth of knowledge[8].

Precentage of support and unsupport attitudes of the respondentsare almost same. The majority of support attitudes of respondents are in mature reproductive agewomen (aged 20-40 years). Age 20-40 years is regarded as a mature age periodization of human biological development to determine the level of maturity in thinking and working [9]. This has to do with the knowledge and experience acquired during life [11].

Experience is one of the factors that influence attitudes. Experience will influence the social stimulus that affects a person's attitude [12].

Attitude about Early Detection of Cervical Cancer Based on Characteristic

a. Age

The results of the study represent the majority of respondents in this study were aged 20-40 years as much as 55.56% with most of that 52% have a support attitude. Age 20-40 years is regarded as a mature age periodization of human biological development to determine the level of maturity in thinking and working [(9)]

b. Education

The research result shows that respondents with a college education level had 80% unsupport attitudes. According to the theory, the institution is a system who has an influence in the formation of attitudes because both of them put the foundation of understanding and moral concepts in their self [(12).]

c. Job status

The results of the study describes that 62.22% are unwork espondentswhich 53.6% has a support attitude. Experience is one of the factors that influence attitudes. Experience will make and influence the social stimulus that affects a person's attitude[(12)].

d. Parity

Results of the study describe as much as 66.7% of respondents have unsupport attitude. Experience of nulliparous is a factors that influence attitudes. Experience will make and influence the social stimulus that affects a person's attitude[(12).]

According to the researchers, that the possibility of unsupport attitude may be caused because the mothers never pregnancy and take care of child, so they did not feel the benefits of early detection of cervical cancer.

CONCLUSION

Respondents characteristics showing that most respondents were in age 20-40 years old, education level is senior high school, occupation is not work, and parity multiparas. The research result shows that most respondents are knowledgeable enough. The majority of respondents in this study were aged 20-40 years has enough knowledge. The majority respondent's attitudes is unsupport.

RECOMMENDATIONS

Recommendation for community leaders are expected to be more active in mobilizing like taking direct door-to-door to persuade the resident not to be embarrassed and afraid to take early detection of cervical cancer. It is needed free IVA program in Dukuh Imogiri especially for women aged 20-40 years who still have less knowledge and unsupport attitudes about early detection of cervical cancer. Research methods and other variables better as the correlation method and the addition of behavioral variables can be considered in the next research. The research may also examine factors that are not included in this study such as health behavioral factors, especially in high-risk women.

REFERENCES

1. WHO. Cervical cancer, Human Papiloma Virus (HPV) and HPV vaccines. [cited 2014 December 24]. Available from: http://www.who.int/healthinfo/statistics/bodprojections2030/en/index.html.
2. Prawirohardjo, S. Ilmu kandungan. Jakarta: PT Bina Pustaka Sarwono Prawirohardjo; 2011. p 294-295
3. Dinas Kesehatan Daerah Istimewa Yogyakarta. Sistem Informasi Rumah Sakit (SIRS) 2013. Yogyakarta; 2013.
4. Rasjidi, I. Deteksi dini dan pencegahan kanker pada wanita. Jakarta : Sagung Seto; 2009.
5. Dinas Kesehatan Kabupaten Bantul. Cakupan deteksi dini kanker serviks 2014. Bantul; 2014.
6. Theresia, E. Pengetahuan merupakan faktor dominan perilaku dalam pemeriksaan IVA. Journal of Health Polytechnic of Health Ministry Jakarta III. 2012; 12.
7. Notoatmodjo, S. Promosi kesehatan dan ilmu perilaku. Jakarta : Rineka Cipta; 2007.
8. Riyanto, B.A. Kapita selekta kuisioner: pengetahuan dan sikap. Jakarta: Salemba Medika; 2013
9. Wawan, A. dan Dewi, M. Teori dan pengukuran pengetahuan, sikap, dan perilaku manusia. Yogyakarta: Nuha Medika; 2010.
10. Simanjuntak, E. N.Gambaran pengetahuan ibu tentang kanker serviks di Dusun III Desa Limau Manis Kecamatan Tanjung Morawa Kabupaten Deli Serdang. [cited 2014 December 21]. Available from: http://repository.usu.ac.id.
11. Santoso, M. K., Christian., Sri, W., dan Idfi, S. Kriteria kedewasaan menurut orang tua dan anaknya berdasarkan teori emerging adulthood. Journal of Anima Indonesian Psychological; 2009. p 6-9.
12. Azwar, S. Sikap manusia teori dan pengukurannya. Yogyakarta: Pustaka Pelajar; 2009.

P-03

DETERMINANTS OF UNMET NEED FOR FAMILY PLANNING AMONG WOMEN IN WEST LOMBOK REGENCY

Mutiara Rachmawati S,Yunita Marliana, Ni Nengah Arini Murni

Abstract

It is a fact that utilization of contraception in Indonesia is fairly high. However, the rate of the community's unmet need for family planning services is equally high. A survey-based study conducted by the DHS in developing countries reported that at least 150 million women, or 1 out of 5 women. This study was conducted to analyze the determinants of unmet need in West Lombok that encompass socio-demographic factors, access to mass media, mother's knowledge on contraception and husband's approval on contraception use. This is a cross-sectional research with primary data of 170 women. The samples were taken using multistage random sampling. The data were analyzed by employing bivariate and multivariate analysis methods. The unmet needs in this research reached 12.5%, some variables related to the event of unmet needs were past contraception use status, access to media providing information on family planning, and husband's approval. Multivariate analysis results showed that women who had never used contraception were at fivefold risk (OR = 4.32) of experiencing unmet need in comparison to those who had, access to mass media (OR = 3.52), and husbands' approval (OR= 0.61).The improvement and betterment of counselling on contraception should be carried out by service providers. Proper counselling on contraception should be given not only to women but also their spouses. Counselling should be given not only during postpartum period, but also during antenatal care. A collaboration between the government and local mass media in broadcasting programs with interesting, easy to understand show concepts is needed.

Keywords: unmet need, family planning, contraception.

BACKGROUND

The substantial number and uneven distribution of population has become a population issue in Indonesia. This issue is followed by another more specific problem, which is relatively high number of fertility and mortality.[1] The phenomena of the potential of the occurrence of baby booming and Total Fertility Rate (TFR) stagnation, which reached 2.6 and took place in Indonesia during the period 2003-2012, needs attention both from the government and the community.

Some factors likely causing the high TFR and low Contraceptive Prevalence Rate (CPR), which are the indicators of population increase, are the community's poor knowledge on family planning, the high ideal number of children desired, the high number of unmet need and the strong sociocultural and religious influence on family planning.[2] According to the Indonesia Demographic and Health Survey (*Survey Demografi dan Kesehatan Indonesia*, abbreviated as SDKI) of 2002-2003, the percentage of unmet need, which remained around 8.6 percent, practically did not experience any significant decrease from the previous SDKI data. In 2007, the unmet need percentage rose back to 9.1 percent.[3] However, it plunged from 13.1 percent in 2007 to 11.4 percent in 2012.[4]

According to SDKI of 2012, the highest unmet need prevalence distribution, which was also greater than the national average, by provinces in Indonesia was 20 percent, gained by Papua, followed by West Papua at 16 percent, East Nusa Tenggara at 15.9 percent,

West Nusa Tenggara at 14 percent and Maluku at 14.5 percent.[4] Based on the BKKBP data of Lombok Barat Regency, the percentage of unmet need in Lombok Barat Regency by December 2016 is 11.3 percent. This percentage is still higher than the national average target specified. Through the KKBPK Work Program Plan of west of Lombok regency, the contraceptive prevalence rate (CPR) is planned to be increased to 60.1 percent and the unmet need rate is reduced to 6.5 percent. The CPR in west lombok regency is lower than the target of MDGs 2015 which is 65%, whereas CPR is one of the indicators of the event of unmet need, and also to realize one of the goals of the program SDGs, by 2030 ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

The standard unmet need measurement can be carried out using "Westoff-ochoa/DHS Method", which is known as core definition method. Nonetheless, there are some other wider unmet need measurement concepts that are constantly developed, including the wider definition of needs for contraception and the causes of unmet need.[5]

METHODS

This research aims to analyze the determinants of the event of unmet need in Lombok Barat Regency, including socio-demographic factors, access to media, mother's knowledge on contraception and husband's approval for contraception use. This study is an analytic research with cross sectional design. The population in this research were all married women aged 15-49 in Lombok Barat Regency, numbering 145,501. The samples in this research were qualified married women aged 15-49.

The size of the samples in this research was calculated based on the statistical calculation according to Lemeshow, numbering 170. The samples were taken by employing multistage random sampling method. The data used in this research were primary data directly obtained from the respondents through direct interviews. The types of analysis conducted in this research were descriptive (univariate) analysis, analytic (bivariate) analysis with chi-square test and multivariate analysis with logistic regression. Ethical approval of this study have been made and proposed for approval from the research ethics commission of Mataram University.

RESULTS AND DISCUSSION

The 170 samples in this research were married women of childbearing age (15-49). According to the results of the research and the univariate analysis, it was found out that out of the 170 respondents investigated, the highest number of respondents was within the age range of 20-34, which was 116 (68.2 percent). The majority of the respondents in this research were women with 1-2 living children, numbering 121 (71.2 percent) and the number of unemployed women was higher than the employed ones, numbering 117 (68.8 percent). The number of respondents who had the access to mass media providing the information on family planning with 1-2 kinds of media was 94 (55.3 percent), Islam was the religion adhered by the majority of the respondents, numbering 163 (95.8 percent) and 14 respondents (8.2 percent) stated that their husbands did not approve of the family planning. The majority of the respondents had ever used contraceptive method previously, numbering 119 (70 percent). The number of respondents with unmet need based on the univariate analysis in this research was 21 (12.4 percent), whereas those with met need numbered 149 (87.6 percent).

Table 1. Relationship between Socio-Demographic Factor, Access to Media, Mother's Knowledge on Contraception and Husband's Approval and Unmet Need

Covariate	Family Planning Need						x^2	P value
	Met Need		Unmet need		Total			
	n	%	n	%	n	%		
1. **Mother's age**								
- Healthy reproduction (20-34 years of age)	48	88.8	6	11.2	54	68.2	0.87	**0.77**
- At risk (< 20 years of age and ≥ 35 years of age)	101	87	15	13	116	31.8		
2 **Number of living children**								
- 1-2	105	86.7	16	14,3	121	71.2	2.27	**0.33**
- 3-4	38	92.6	3	7.4	41	24.1		
- ≥ 5	6	75	2	25	8	4.7		
3. Income								
- > Regional Minimum Wage	91	92.8	7	7.2	98	57.7	5.80	**0.016****
- < Regional Minimum Wage	58	80.5	14	19.5	72	42.3		
4. Employment								
- Employed	45	84.9	8	15.1	53	31.2	0.53	**0.47**
- Unemployed	104	88.8	13	11.2	117	68.8		
5. Access to Media								
- 1-2 kinds	77	81.9	17	18.1	94	55.3	6.38	**0.012****
- > 2 kinds	72	94.7	4	5.3	76	44.7		
6. Religion								
- Islam	142	87.1	21	13.9	163	95.8	1.02	**0.31**
- Hindu	7	100	0	0	7	4.2		
7. Knowledge on Contraceptive Method								
- > 6 methods								
- 4-6 methods	94	89.5	11	10.5	105	61.8	1.00	**0.60**
- 0-3 methods	51	85	9	15	60	35.3		
	4	80	1	20	5	2.9		
8. Husband's Approval								
- Approved								
- Disapproved	143	91.6	13	9.4	156	91.8	28.27	**0.000****
	6	42.8	8	57.2	14	8.2		
9. Contraceptive method use status								
- Never used								
- Ever used	39	76.4	12	23.6	51	30	8.40	**0.004****
	110	92.4	9	7.6	119	70		

Note: *** highly significant at the level of $p < 0.001$, ** significant at the level of $p < 0.01$, * significant at the level of $p < 0.05$

The results of the bivariate analysis using chi-square test showed that the variables significantly related to the event of unmet need were income, access to media, status of past contraception use, and husband's approval ($p < 0.05$). Meanwhile, the other variables including age, education, priority, occupation, religion and knowledge did not leave any significant impact on unmet need.

Table 4.4 Results of Multivariate Analysis using Logistic Regression

Selected Variables	x^2	P Value	OR
Access to media	6.38	0.012	3.53
Husband's approval	28.27	0.000	0.61
Status of contraception use	8.40	0.004	4.32

The variable of income is excluded for having OR the nearest to 1, which is 0.069

The variables that influenced the event of unmet need were access to media providing information on family planning, husband's approval and status of contraception use. The strength of the correlation can be seen from the OR values (EXP{B}). The strength of the correlation from the biggest to the smallest is status of contraception use (OR = 4.32), access to media (OR = 3.53) and husband's approval (OR = 0.61).

The results of this research are consistent with the results of research conducted in East New Delhi.[6] Based on the research subject classification by monthly family income, the highest unmet need was on women with income per capita lower than 30.8 percent. There was a significant influence between the income level and unmet need ($p = 0.014$).[6] Unmet need occurs when "cost of children" increases and the contraception price is affordable for some of the population. Women want and use contraception. However, not all Women can afford the contraception service. Some of the population having low income cannot afford the contraception service.[7]

At this stage, improvement in socioeconomic condition does not necessarily result in fertility number decrease. Rather, it increases the natural fertility but with lesser increase. Meanwhile, the "cost of children" rise and contraception price drop drive more people to use contraception compared to previous years, making fertility dependent on both matters. If the impact of socioeconomic improvement on natural fertility is smaller than the impact of contraception use, the fertility will decrease.[7]

The research conducted in Nigeria by Catherine Ogwuche (1999) shows that the access to mass media has a significant influence on the event of unmet need. New assumptions and hopes spread through communication media provide discussion legitimation on family planning.[8] There are discussions that previously were deemed taboo to be brought in public, for example the discussions on reproduction health. With television and radio broadcasts, the sense of shame from talking about family planning with friends or family members may be reduced. The broadcast of family planning programs via mass media is relatively effective in its function of spreading knowledge and innovation process as well as decision making, whereas interpersonal communication channels are more effective in its persuasive function.[9]

Husband's approval for the use of contraceptive method is the variable that had extremely significant influence on the event of unmet need. The influence of household and community environment could be very strong that they blur one's desire and norm in the community. Normally, one's social environment has a strong influence on the decision

making in relation to contraception use. For example, many Kenyan women when asked about their reasons of using certain method of contraception said that their decision of using or not using contraception as well as the reasons behind that decision were dependent on their husbands' wish.[10]

The status of contraceptive method use had an extremely significant influence on the event of unmet need (p = 0.004, p value < 0.05). According to the research conducted in Delhi some women who had never used any contraceptive method had several reasons for not using contraception, including the fear of side effects caused (75.5 percent), not understanding how to use contraception (43.7 percent), religious reason (31.85 percent), lack of knowledge (25.92 percent), family members' disapproval (14.07 percent) and husband's disapproval (8.88 percent). Although women with unmet need, in fact, wanted to postpone or limit number of births, but due to some reasons, they had never used any contraceptive method, which highly influenced the increase in number of unmet need directly causing TFR increase and indirectly influenced AKI because of unsafe abortion resulted from unintended pregnancy.[11]

CONCLUSIONS AND RECOMMENDATION

The variables influencing the event of unmet need are access to media providing information on family planning, husband's approval and status of contraception use. The strength of the correlation can be seen from the OR value (EXP{B}). The strength of correlation from the highest to the smallest are the status of contraception use (OR = 4.32), access to media (OR = 3.53) and husband's approval (OR = 0.61). The improvement and betterment of the method of counselling on contraception should be carried out by service providers. Proper counselling should be given not only to women but also their spouses so that the decision of using contraception is taken jointly and in order to increase women's role in decision making. Counselling should be given not only during postpartum period but also during antenatal care, giving the couples a clear understanding on contraception as early as possible. A collaboration between the government and local mass media in broadcasting programs, advertisements, or talk shows on contraception with regard to the conception process and women's reproduction health with interesting, easy to understand show concepts is needed.

REFFERENCE

1. Munthe SPS. Bom kependudukan perlu dijinakkan. BKKBN [online serial]. 2009 August 26 [diunduh 18 Mei 2010; 10.15am]. Tersedia dari: URL:http://www.bkkbn.go.id/Webs/index.php
2. Sardjoko S. RPJMN 2010-2014 dan RKP 2011 bidang kependudukan dan keluarga berencana. Bandung: BKKBN; 2010. h.11-14. pertemuan Konsolidasi Pemaduan Kebijakan Program dan Perencanaan Anggaran I (KOREN I) Pembangunan Kependudukan dan KB Tahun 2011. 21 Jun 2010: Bandung, Indonesia
3. BKKBN. Kebijakan dan strategi nasional jaminan ketersediaan kontrasepsi. Edisi ke-2. Jakarta: BKKBN; 2008
4. BKKBN. Angka unmet need di beberapa provinsi masih cukup tinggi: faktor-faktorapakah penyebabnya?. [online serial].2015. [diunduh 18 Mei 2010; 21.37]. Tersedia dari: URL: www.bkkbn.go.id/.../ANGKA%20**UNMET**%20**NEED**%20DI%20BEBERAPA%20PR...
5. Guttmacher Institute. Facts about the *unmet need* for contraception in developing countries. Guttmacher Pub. [online serial].2004 June [diunduh 15 Juli 2010;09.37pm];30(2):[5 halaman]. Tersedia dari: URL: https://www.**guttmacher**.org/**pubs**/2007/07/09/or37.pdf

6. Saini N.K, Bhasin S.K, Sharma R, Yadav G. Study of unmet need for family planning in a resettlement colony of East Delhi. IndMed. 2007[diunduh 28 April 2011;13.00]; 30 (2): 124-133. Tersedia dari: http://medind.nic.in/imvw/habaa.html
7. Cleland J. Education and future fertility trends, with special reference to mid transitional countries. [online serial]. 2003 [diunduh 26 April 2011;13.30] ; [sekitar 16 halaman]. Tersedia dari: http://www.un.org/esa/population/publications/completingfertility/completingfertility.htm
8. Bankole A, Rodriguez G, Westoff CF. Mass media messages and reproductive behaviour in Nigeria. Journal of Biocsocial Science.1996 [diunduh 15 April 2011;15.45];28(2):227-239. Tersedia dari: www. Biocsocial Science.com
9. Hernik R, Mc Anany.Theories and evidence: mass media effect and fertility change. [online serial]. 2001[diunduh 30 April 2011;23.20]; [sekitar 8 halaman]. Tersedia dari: National Academy Press.*www.unm.edu/…/reading 23.pdf*
10. Omwago MO, Khasakala AA. Factors influencing couples' unmet need or contraception in Kenya. Bioline International [online serial]. [diunduh 10 April 2011;23.25];[sekitar 27 halaman]. Tersedia dari: http://www.bioline.org.br/journals
11. Khokhar A, Gulati N. A Study of Never Users of Contraception from an Urban Slum of Delhi.Ind Medica. [online serial]. 2005 [diunduh 1 Mei 2011;11.17];25(1):2001-2003. Tersedia dari: http://www.indmedica.com/journals.php

P-04

Knowledge of Mothers about Nutrition with Nutritional Status of Children Aged 1-5 Years

Mira Susanti, Ira Titisari, Finta Isti Kundarti

Midwifery Department, Health Polytechnic of Health Ministry of Malang, Indonesia.
email: mirasanti12@gmail.com

ABSTRACT

One of the factors that affect the nutritional status of children is the mother's knowledge. Knowledge required for the application of the provision of food for the nutritional needs so that the nutritional status of children is known. The purpose of this study was analyze the correlation between nutrition knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in Kedawung Village. The research used cross-sectional design, that the subject is mothers who have children aged 1-5 years. The independent variable is the knowledge of mothers about nutrition and dependent variables is the nutritional status of children aged 1-5 years. The instrumen are use questionnaire, WHO table, and measurment body weight. Total population is 369 children, with proportional sampling techniques and random sampling found 74 respondens and their children as the sample. Data collected by questionnaire and analyzed using the Spearman rank correlation test. The results show respondents have sufficient knowledge about children nutrition is equal to 44.59%. While most respondents children have good nutrition (81.08%). With the Spearman Rank test results obtained ρ = 0,5 with t formula is t value (4,9) > t table (1.993), then Ho is rejected it means there is a correlation between nutrition knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in Kedawung village Ngadi health center. The conclusion is obtained that the better knowledge of the mother's so nutritional status of children will be close to normal. It's therefore suggested to provide information about nutrition.

Keywords : Children, Knowledge, Nutritional Status

BACKGROUND

Knowledge is the result of sensasion one of object. Knowledge is the result of understand something, and this occurred after the people perform sensing on a specific object. Sensing occurs from human senses, the senses of sight, hearing, smell, taste and touch. Most human knowledge is obtained through the eyes and ears. Knowledge is something that is known to be associated with the learning process.[1]

Nutrition is a process organisms use the food that consumed normally through the process of digestion, absorption, transport, storage, metabolism and elimination of substances that are not used to sustain their life. Nutritional status is an expression and balanced in the form of specific variables or form of nutriture in specific variables.[2]

Aged 1-5 years are an important period for child grow up. If the toddler food intake is not enough of nutrients and this situation lasted a long time, will result in metabolic changes in the brain, so that the brain is not able to function normally. When malnutrition is still on going and increasingly, it will cause stunted growth, the body is smaller. Besides malnutrition, it cause delays of motoric grow up, some case cause child be emotions, bad behavior. Emotional disturbances interrupt the child's behavior manifestation of the child's behavior such as damage to goods, disrupting sister, rolling, stammering and bedwetting.

During 2012, Health Department of Kediri has take action to improve the level of growth / nutritional. Based on the distribution of cases of malnutrition and malnutrition among children under five are the most common cause of cases because of poor parenting as much as 72.5%. Among them is because toddlers are not taken care of directly by the mother / deposited, hygiene sanitation is lacking, giving solids early, children under 2 years are not given good breast feeding and the eating of toddlers is not appropriate. The second, its because of under growth baby 15.4%, the third because of infectious diseases 4.4% and the fourth is gemeli with a percentage of 2.2%.[3]

Based on monthly report data on the nutritional in Kediri regency, explained that the nutritional situation in each region is different. Some 8.83% (263 infants) in Health Center of Ngadi experiencing less body weight, 2.28% (68 infants) were very less body weight. Some 12% (169 infants) in Health Center of Ngadi experiencing less body weight, 2.83% (40 infants) were very less body weight. Some 12.5% (309 infants) in Health center of Kepung experiencing less body weight, 1.01% (25 infants) suffered severely lacking body weight. Some 7.06% (100 infants) in Health center of Plosoklaten experiencing less body weight, 2.30% (32 infants) were very less body weight. Some 9:09% (96 infants) in Health center of Pelas experiencing less body weight, 1.13% (11 infants) were very less body weight.[3]

Results of Introduce studies in health centers of Ngadi explain that Kedawung village has the higher number of infants with malnutrition than other villages. More than 27 infants with malnutrition. Based on the phenomenon that researcher want to research about the correlation between knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in kedawung village ngadi health center working area.

METHODS

The study used cross sectional design. Survey is a cross sectional study to study the dynamics of the correlation between risk factors with effects, with the approach, observation or data collection at once at a time.[4] The data collection is done at once at a time / the same time, collection knowledge of mothers about nutrition data and measured children weight to know the nutritional status.

The population in this study are all mothers who have children aged 1-5 years and their child in kedawung village 2014 a number of 369 children. The sample consisted of affordable segment of the population that can be used as research subjects through sampling.[5] The size of the sample is determined by, if a large population of ≤ 1000, the samples can be taken 20% - 30% .[5] Then: 369 x 20% = 73.8 = 74. The sample used in this study are some mothers who have children aged 1-5 years and their babies as much as 74 mothers and babies in kedawung village ngadi health center working area.

The sampling technique used is proportional sampling is to obtain a representative sample, making the subject of each region is determined balanced in proportion to the number of subjects in each area.[6] Furthermore, to obtain an adequate sample proportionally then stratified sampling conducted are use strata sampling technique.[7] In this study, a sample of each posyandu will at random again using a technical randomly (simple random sampling), writing all children are there, then drew members (lottery technique).[3] Thus the way they were taken, when the number one has been taken, it needs to be restored again. If you have taken out again, be deemed invalid and returned again.[8]

Criteria for inclusion in this study are mothers who ready to be respondents and mothers who can read and write. Exclusion criteria in this study are mothers who have children at the time of a child's weight is sick, mothers who at the time of the study were not in the village / traveling in a long time, mothers and children who have been registered in the lottery but did not come on when weighing took place. The research are took place in kedawung Village at June 17 to July 17, 2014. This research analysis of the proportion or percentage, by comparing the distribution of a cross between two variables concerned. After that, analysis of the results of statistical tests, which test Spearman Rank Correlation for two variables were related or correlated and scale of data both ordinal scale.

RESULT

1. Knowledge of mother about Nutrition

The results of a questionnaire abaut Knowledge of mother about Nutrition:

Table 1: Distribution Knowledge of mother about Nutrition

	Category	Frequency	Percentage
1.	Good	24	32,43%
2.	Enough	33	44,59%
3.	Less	17	22,98%
	Total	74	100%

Based on Table 1 can be explained that half of the respondents have enough knowledge about the nutritional up to 44.59%.

2. Children Nutritional Status

Nutritional status of infants weighing results with the values in the WHO tabel:

Table 2: Distribution of Toddler Nutritional Status

	Category	Frequency	Percentage
1.	More Nutrition	1	1,35%
2.	Good Nutrition	60	81,08%
3.	Less Nutrition	13	17,57%
4.	Malnutrition	0	0
	Total	74	100%

Based on Table 2 it can be explained that the majority of respondents have a good nutritional status (81.08%).

3. The correlation between knowledge of mothers about nutrition with nutritional status

Knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in kedawung village ngadi health center working area is:

Table 3: Cross Table between knowledge of mothers about nutrition with nutritional status

	Nutritional Status				
Knowledge	More Nutrition	Good Nutrition	Less Nutrition	Malnutrition	Total
Good	0	23 (31,08%)	1 (1,35%)	0	24 (32,43%)
Enough	1 (1,35%)	27 (36,49%)	5 (6,76%)	0	33 (44,60%)
Less	0	10 (13,51%)	7 (9,46%)	0	17 (22,97%)
Total	1 (1,35%)	60 (81,08%)	13 (17,57%)	0	74 (100%)

Based on Table 3 cross table between mother knowledge about nutrition with nutritional status almost half of the respondents have enough knowledge and had a toddler with good nutritional status (36.49%).

Based on calculations using Spearman correlation test with a standard error of 5% (0.05) of the obtained results of calculation t = (4,9). Then t is compared with t table with df = n-2 is obtained t (4.9)> t table (1.993), then Ho is rejected and H1 accepted, meaning that there is a correlation between knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in kedawung village ngadi health center working area.

DISCUSSION

1. Knowledge of mothers about nutrition in kedawung village ngadi health center working area

Almost half of the respondents have enough knowledge about the nutritional up to 44.59%. Up to 33 people from the respondents have enough knowledge about nutritional, 24 other people already have a good knowledge and 17 others have less knowledge about nutritional. From 74 respondents almost a half of the respondents have enough knowledge about toodler nutrition. Most respondents did'n know what is nutrition. Only 21 respondents who could answer the questions properly. For about 33 respondents have enough knowledge, and 25 respondents do not understand the nutritional very well.

Mother knowledge about nutrition is still quite enough, the data reveal that most respondents still low knowledge about balanced nutrition for toddlers. Note that from 33 respondents who have enough knowledgeable, there are 29 respondents do'nt understance balanced nutrition for toddlers. Based on the situation, its mean that some respondents not understand what a balanced nutrition yet, because the first stage of knowledge is know, with do'nt know what is nutrtion, of course, its will makes lees knowleadge understanding. most respondents also do'nt understand to preparation of menus for toddlers precisely. There are 33 respondents who are knowledgeable enough, 25 respondents have not understood yet how to prepare the right menu.

Most women do'nt have a good knowledge to prepare the right menu. Especially in presentation and replacement of their meals for toddlers every day. Most respondents to replace the menu of food after their servings. So, the food served in less varied. Less of knowledge on preparation menu can be affected from their experience in application of menu. Its can be detected from the majority respondent have one toddler only. Knowledge is a way to acquire knowledge of truth by repeating back the acquired knowledge in solving the problems facing the past.[1]

Based on the characteristics that have been obtained from each respondent, many factors that influence the differences in the level of knowledge respondents. For example,

factors maternal, education, work and the resources that have been obtained. Based on knowledge is quite could be due to one factor that is of the mother's education level. More than 50% education of respondents are junior school, but 33 respondents who have enough education that most of the respondents are from the class of elementary school graduates. It could have been a supporting factor, because education is one of the supporting height of knowledge. In addition other factors affecting the lack of experience regarding the fulfillment of food marked with nearly 50% of respondents who are knowledgeable enough to have one toddler.

One of the factors that can influence the level of knowledge is age. Majority (63) of respondents aged 20-35 years (85.14%), its mean that respondent majority are adult , so they have mature process of think., more and more information about the arrests add to his knowledge. Then, based on the nutrient information, most respondents had the information about the nutritional (79.73%) yet. They have it from television, midwife etc. From many variation knowleadge of respondent about nutrition, there are many factor that corelation each other. Therefore knowledge of mothers in the kedawung vilage are variation because the different characteristics of respondent.

2. Nutritional Status of Children Ages 1-5 Years in Kedawung village,Ngadi healt center working area.

Based on the results from 74 toodler who to be respondents, most toddlers have good nutrition (81.08%). One way to know the nutritional status can be measured by weighing a toddler. The same age do not necessarily get the same weighing anyway. Many factors inside and outside affecting the nutritional status of children, as the number and quality of the food, infant health, economic level, education, behavior, (parent / caregiver), social, cultural or habits and the availability of food.[9] Nutritional status is an expression and a state of equilibrium in the form of specific variables or embodiment of nutriture in the form of specific variables.[10]

Based on the number of children can be explained that more than 50% of respondents have one child (60.82%). The number of families also influence of nutrition. Members of family is oneinfluence factor of nutritional problems. Lot of children in the family, can influence educed attention and affection to the children.[8] Another factors for example the number of children who owned more than 50% of respondents are of the children (60.82%) so she can focus on providing attention to the toddler. Another factor that the majority of infants receive care from both parents. It is possible attention and close interaction between children and parents can be a good factor for children growth.one of the main goals of parenting is to facilitate a child to develop skills in line with the stage of development. Upbringing of children is one of the basic needs of children's growth and development, mother and child interaction closely as an indicator of the quality and quantity of the mother's role in parenting.[8]

3. The correlation between knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in kedawung village ngadi health center working area.

The calculation of Spearman correlation test with a standard error of 5% (0.05) then obtained by calculating the value of t = 4.9> t table = 1.993, then the t count > t table means H0 is rejected or there is a correlation between knowledge of mother about nutrition with nutritional status children aged 1-5 years in Kedawung village. The results of bivariate analysis to determine the correlation knowledge of mothers with toodler nutritional status can be seen

that there are 23 respondents (31.08%) who have a good knowledge of having a toddler with good nutritional status anyway. Up to 27 respondents (36.49%) who have enough knowledge have a toddler with good nutritional status. Moreover 7 (9.46%) of respondents who have less knowledge also had a toddler with malnutrition status.

It is known that the respondents who have a good knowledge and also had a toddler with good nutritional status almost 50% of respondents already have a good knowledge about balanced nutrition and meal planning is right for babies. Also that respondents who have less knowledge and also had a toddler with less nutritional status of the majority of respondents have less knowledge about balanced nutrition and meal planning is right for babies.

Knowledge of good nutrition will certainly make good nutritional status anyway. Having knowledge about balanced nutrition is good, will bring an attitude to draw up a toddler with proper diet and varied. Basically knowledge will bring the attitude and form of behavior to act in toddler nutrition. So a good knowledge allow to have a good nutritional status as well.

Less of knowledge of mothers about nutrition can make a mother's behavior in regard toddler nutrition becomes less than the maximum. Surely it would be different to that already have a good knowledge. The majority of respondents who have less knowledge and had a toddler with malnutrition status, they are less good in preparing the menu for the toddler. Most provide the same diet for babies. In addition, respondents did not know the principles of balanced nutrition is the basis toddler toddler nutrition.

The factor of malnutrition in children under five year does not mean that their mother did not give much food for babies. But with the less of knowledge, the attitude of mothers in selecting, processing and serving food for toddlers become less true that the nutrients contained in the food decreased. Based on the analysis of multiple logistic regression showed that the mother's nutrient knowledge and attitude of maternal nutrition affects the nutritional status of children, knowledge variable maternal nutrition is the factor most strongly linked to the nutritional status of children, it is indicated with regression coefficient greater than the variable coefficients nutrition attitude.[8] Another thing that needs attention from the research is that there is one person of respondents (1.35%) who have a good knowledge but had a toddler with malnutrition, one of the respondents (1.35%) having sufficient knowledge had a toddler with more nutrition. Besides the 10 respondents (13.51) who have less knowledge can have a toddler with a good nutritional status.

Based on data obtained from the study, the presence of the respondents with good knowledge yet have the status of malnutrition caused due to other factors that cause different conditions than expected. This condition is due before sick toddler. But when weighing already healthy again. This caused the weight loss nutritional status of children under five become less. Besides weight gain relatively little each month can also make a consideration of why it happened. Other things, the presence of the respondent with sufficient knowledge but has better nutritional status due because the toddler has had weight relative fat from entering the age of five. Weigh recorded in 2014, that the respondents also have better nutritional status. It can also be influenced by genetic factors, could be due to the mother of a toddler also always have a relatively more weight.

In other side, there are respondents who have less knowledge but have toddler with a good nutritional status. It's because of the respondents there are cared for by a nanny that does'nt good knowledge so that services maximum. In addition, the routine to come Health Fasility where possible weigh midwife attention to the toddler be monitored nutritional status. It is influenced by several factors. There are amount and quality of food, infant health,

(presence or absence of disease). The external factors are influenced by the level of economic, educational, behavioral, (parent / caregiver), social, cultural or habits, the availability of food in the household.[7] The genetic factors are also the main capital in achieving the results of the growth process.[12]

The results showed the correlation between knowleadge of mother about nutrition with nutritional status. The better knowledge of mothers about nutrition, nutritional status of children will be closer to normal. Nutrition is important in making the mother's attitude, which will bring the behavior to provide good nutrition for babies. Mother knowledge about nutrition will make mothers more aware of the nutrients it needs child. The good knowledge of the mother will cultivate good behavior for food processing, serving and storing food so that nutrients contained not lost.

CONCLUSIONS

Knowledge of mothers about nutrition of children aged 1-5 years in Kedawung village Ngadi health center working area almost half of the respondents is enough. The majority of nutritional status of children aged 1-5 years in Kedawung village Ngadi health center working area are good. There is a correlation between knowledge of mothers about nutrition with nutritional status of children aged 1-5 years in kedawung village ngadi health center working area.

RECOMMENDATION

For Further Research, hope can develop this research about correlation between knowledge of mothers about nutrition with nutritional status of children. For Researcher, its can given this information is expected to mothers who have children can improve her knowledge about toddler nutrition. Its need the active role of medical workers to make promotif methods such as creating banners, leaflets as well as the promotion of health education in order to provide information on nutritional, so that people can know the information well.

REFERENCES

1. Budiman & A. Riyanto. Kapita Selekta Kuesioner. Jakarta: Salemba Medika; 2013. p. 3-7.
2. Sibagariang, E. Gizi Dalam Kesehatan Reproduksi. Jakarta: Trans Info Media; 2010. p. 96-98.
3. Notoatmodjo, S. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta; 2012. p. 4,37.
4. Nursalam. Konsep Dan Penerapan Metodologi Penelitian Ilmu Keperawatan. Jakarta: Salemba Medika; 2008. p. 55, 97.
5. Arikunto, S. Prosedur Penelitian. Jakarta: Rineka Cipta; 2006. p. 139.
6. Sugiyono. Statistika untuk Penelitian. Bandung: Alfabeta; 2010. p. 4, 45, 75.
7. Suyanto, S & U. Salamah. Riset Kebidanan, Metodologi & Aplikasi. Yogyakarta: Mitra Cendekia; 2009. p. 42.
8. Adriani, M dan Bambang W. Peranan Gizi Dalam Siklus Kehidupan. Jakarta: Kencana Prenada Media Group; 2012. p. 10, 225.
9. Family Health & Nutrition. Kediri Healt Department. Nutritional Data. 2012
10. Sibagariang, E. Gizi Dalam Kesehatan Reproduksi. Jakarta: Trans Info Media; 2010. p. 1, 96-98.
11. Supariasa, I.D.N. Pengantar Gizi Masyarakat. Jakarta: Kencana Prenada Media Group; 2012.

12. Almatsier, S. Prinsip Dasar Ilmu Gizi. Jakarta: Gramedia Pustaka Utama; 2005. p. 10-11.
13. Arikunto, S. Prosedur Penelitian. Jakarta: Rineka Cipta; 2006. p. 139.
14. Bungin, B. Metodologi Penelitian Kuantitatif. Jakarta: Kencana; 2010.
15. Dahlan, M.S. Statistik Untuk kedokteran dan Kesehatan. Jakarta: Salemba Medika; 2008.
16. Dewi, A.B.F.K. Nurul P. Ibnu F. Ilmu Gizi Untuk Praktisi Kesehatan. Yogyakarta: Graha Ilmu; 2013. p. 15,51.
17. Fisher, E. Hubungan Tingkat Pengetahuan Ibu Tentang Gizi Dengan Status Gizi Balita Di Desa Sioban Kabupaten Kepulauan Mentawai. Reasearch. Sumatera Barat: Universitas Negeri Padang; 2004. p. 4.
18. Family Health & Nutrition Kediri Healt Department. Nutritional Data. Kediri: Health Department; 2013
19. Mahfoedz, I. Teknik Menyusun KTI-Skripsi-Tesis-Tulisan dalam Jurnal Bidang Kebidanan, Keperawatan dan Kesehatan. Yogyakarta : Fitramaya; 2010. p. 58.
20. Nursalam. Konsep Dan Penerapan Metodologi Penelitian Ilmu Keperawatan. Jakarta: Salemba Medika; 2008. p. 55, 91.
21. Ngadi Health Center. Nutritional data 2013; 2013
22. _____. February 2014 children weighing Nutritional ; 2014.
23. Riduwan. Metode & Teknik Menyusun Tesis. Bandung: Alfabeta; 2010. p. 98
24. Santoso, S.dan Anne L. Kesehatan & Gizi. Jakarta : Rineka Cipta; 2009. p. 48
25. Septiari, B. Mencetak Balita Cerdas dan Pola Asuh Orang Tua. Yogyakarta: Nuha Medika; 2012. p. 98.
26. Soediaoetomo, A. D. Ilmu Gizi 1. Jakarta: Dian Rakyat; 2010. p. 239.
27. Sugiyono. Statistika untuk Penelitian. Bandung: Alfabeta; 2010. p. 245.
28. _____. Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta; 2011. p. 75.
29. Wawan, A dan Dewi. Teori & Pengukuran Pengetahuan, Sikap dan Perilaku Manusia. Yogjakarta : Nuha Medika; 2011. p. 18.
30. Zuraida, R dan Julita N. 2010. Hubungan Antara Pengetahuan Dan Sikap Gizi Ibu Dengan Status Gizi Balita Di Wilayah Kerja Puskesmas Rajabasa Indah Kelurahan Rajabasa Raya Bandar Lampung. Research. Lampung: Fakultas Kedokteran Universitas Lampung; 2014. p. 4.

P-05

STUDY OF MOTHERS CHARACTERISTICS AND BEHAVIOR IN FAMILY NUTRITION AWARENESS IN AMBARKETAWANG, GAMPING, SLEMAN

Waryana [1] Abidillah Mursyid [2,] Shinta[3]

[1,2] Lecturer in Nutrition Department, Health Polytechnic of Health Ministry Yogyakarta
[3.] Student of Nutrition Department, Health Polytechnic of Health Ministry Yogyakarta

ABSTRACT

Indonesia still has many malnutrition problems, such as less of vitamin A, iron deficiency anemia, and less iodine disorder. One of government Efforts to tackle problems of malnutrition is increasing nutritional status of household through family nutrition-awareness program. In Sleman percentage of Kadarzi is 65% and in Ambarketawang is 90.89%. This research aims to know characteristic of mothers (education and job) and family behavior in applying Kadarzi. This is descriptive research include observational research with *cross sectional* study design. 36 families in Ambarketawang, Gamping, Sleman were chosen as samples of research. Data were collected by interviewing mothers using a questionnaire and Iodine test. 52.8% families did not apply Kadarzi family behaviors. Reviews those were weighing toddlers regularly, giving exclusive breastfeeding and consuming various foods. Achievement of Kadarzi behavior in families with highly educated mother was higher than families with a mother who had basic education, as well as in families that did not apply Kadarzi well. Achievement of Kadarzi behavior in families with house-wife mother was higher than a working mother, as well as in families that did not apply Kadarzi yet.

Keywords: Education, Job, Mother, Kadarzi behavior

BACKGROUND

In Indonesia there's also the problem of nutrition. Such as malnutrition, lack of vitamin A, iron deficiency Anemia (AGB), Less Iodine Disorders (GAKI) and obesity. Nutritional problem becomes one of determining the quality of human resources. These nutritional problems occur during life cycle begins in the womb (fetal), infant, child, adult and elderly. If early in life toddlers do not aware the importance of nutrition behavior, then it may interfere with the growth and development positively and can reduce health condition [1.]

Riskesdas 2013, from 33 provinces in Indonesia Yogyakarta has a percentage of underweight children based on body weight for age is 16.2% [2.]. In Sleman district contained 4.29% underweight children consist of 0.37% malnourished children and 3.92% children with malnutrition. The prevalence of malnutrition in Sleman comparatively low, but it is still a problem for public health [3.]

According to Law No. 17 of 2007 on the National Long-Term Development Plan of 2005-2025, one of government's efforts in addressing issue of nutrition is to improve human resource development, improving public health and nutrition through improved nutritional status of family, by increasing nutrition services through Family Nutrition Aware (Kadarzi) [4.] From 2 villages in Gamping I Public Health Center (PHC), percentage of Kadarzi is various in Ambarketawang and Balecatur .Based on preliminary survey, achievement Kadarzi in Ambarketawang is quite high, but 3.5% of children 0-23 months are under red line (BGM) and 2 infants suffered malnutrition[5.] This study aims to know mother's characteristics (education

and job) and family behavior in applying family Nutrition Aware (Kadarzi) in Ambarketawang Gamping Sleman.

METHOD

This is an observational research with descriptive and using *cross sectional* design. This research was conducted in Ambarketawang, Gamping Sleman on May-June 2016. Population was all family of children who live in Ambarketawang, Gamping Sleman. Sample were chosen using *cluster random sampling* based on location of north and south sides Geographically from Wates street, then selected six hamlets of area as a place of a study and randomly selected sample of six hamlets. Samples in this study are 36 families of toddlers. Criteria families as sample are family with a toddler who lived and cared by mother.
Variable in this research include mother's Characteristics (Education and Job), Achievement Kadarzi, Families behavior in; weighing infants regularly, exclusive breastfeeding in infants, varied food consumption, use of iodized salt, and giving vitamin A in infants. Data was collected through interviews using questionnaires and tests iodine. Instrument used in this study are stationery, Approval After Explanation (PSP), *informed consent,* questionnaires and tests iodine. Data were analyzed descriptively in a frequency distribution table.

RESULTS AND DISCUSSION

Research Location

Ambarketawang located in Gamping, Sleman, Yogyakarta with an area of 6,358,975 m^2 and consists of 13 hamlets; Mejing Lor, Wetan Mejing, Mejing Kidul, Gamping Lor, Gamping Tengah, Gamping Kidul, Patukan, Bodeh, Tlogo, Depok, Kalimanjung, Mancasan and Watulangkah.

Table 1. Distribution of Population Ambarketawang based Education

Education	Population (people)	%
Can't read and write	7	0.07
Not completed primary school	307	3.04
primary school	1701	16.85
junior high school	1738	17.21
Senior high school	5259	52.08
High school	1085	10.75
Total	10 097	100

Source: Profile Ambarketawang 2014

Table 1 shows most of population in Ambarketawang completed senior high school 52.08%, junior high school 17.21%, 16.85% finished primary school, graduated from high school 10.75%, 3.04% did not complete primary school. While at least that 0.07%. people can't read and write

Table 2. Distribution of Population Ambarketawang based on Job

Work	Population (people)	%
Farmer	206	12.75
Farm workers	269	16.66
PNS / TNI / Police	672	41.61
Self Employed / Traders	147	9.10
Private employees	321	19.88
Total	1615	100

Source: Profile Ambarketawang 2014

Table shows job of population in Ambarketawang most of them as PNS / TNI / Police 41.61%, private employee 19.88%, 16.66% farm workers, farmers and 12.75% and entrepreneur / trader 9.10%.

Characteristics of Respondents Research

Table 3. Distribution of Respondent Based on Education

Education	Frequency (n)	Percentage (%)
higher education	28	77.8
basic education	8	22.2
Total	36	100.0

Sources: Primary data 2016

Table 3 shows majority (77.8%) of mothers have higher education that have completed high school and graduated from university and 22.2% mother who have with basic education that graduated from elementary school and junior high school graduation. Education is a learning experience that aims to influence knowledge, attitudes and behavior [8]. Relation low parental education will lead to limited understanding of nutritional health problems [8].

Table 4. Distribution of Respondent Based Jobs

Work	Frequency (n)	Percentage (%)
Work	14	38.9
Does not work	22	61.1
Total	36	100.0

Sources: Primary data 2016

Table 4 shows the majority (61.1%) of mothers did not bekarja or as housewives and mothers are 38.9% work. Works included in source of family income, where a family with a regular job would be relatively secure earnings every month. If families do not have a regular job, then family income each month can't be ascertained. Works closely related to salary received, higher position leads their higher salary to meet food needs of family [9].

Someone who has a job with a pretty solid time will affect to carry her children. One of them is level attendance in Posyandu. In general, parents do not have free time to take their children, so higher activity of job lead difficult to come to Posyandu [10].

Family Behavior in Implementing Nutrition Aware Family

Table 5. Distribution of Achievement Kadarzi Based on Hamlet

Village	Implementation				Total	
	Kadarzi		Not Kadarzi			
	n	%	n	%	n	%
Gamping Kidul	3	50.0	3	50.0	6	100.0
Gamping Lor	2	33.3	4	66.7	6	100.0
Gamping Tengah	2	33.3	4	66.7	6	100.0
Mancasan	3	50.0	3	50.0	6	100.0
Mejing Lor	3	50.0	3	50.0	6	100.0
Tlogo	4	66.7	2	33.3	6	100.0

Sources: Primary data 2016

Table 5 shows the highest achievement Kadarzi in hamlet Tlogo (66.7%). While the lowest target on village Gamping Lor and Gamping Tengah (33.3%). Data were taken from two areas, north side of Wates Street (hamlet Gamping Tengah, Gamping Lor and Mejing Lor) and south side of Wates Street (hamlet Gamping Kidul, Mancasan and Tlogo). This result suggests that achievement Kadarzi in north side of Wates Street is lower than south side. South side is southern region Ambarketawang area of Gamping hills or mountains.

Table 6. Distribution of Achievement Kadarzi Ambarketawang

Parameter	Frequency (n)	Percentage (%)
Not Kadarzi	19	52.8
Kadarzi	17	47.2
Total	36	100.0

Sources: Primary data 2016

Table 6 shows majority (52.8%) have not implement behavior Kadarzi families and 47.2% of have applied Kadarzi behavior. This is consistent with research on assessment of knowledge and behavior about Kadarzi mother, with result that sample studied shows results of achievement of family behaviors that have applied behavior Kadarzi lower than families that have not implemented behavior Kadarzi [11].

Kadarzi achieved by applying a minimum of five indicators. If one of the five indicators have not been done, family can't be categorized as Kadarzi [12].Kadarzi families who have a family that has not been able to identify and address nutritional issues family members. Attitude and practice of the family has not been guided by a balanced nutrition and healthy behavior. This can lead to problems of nutrition and health in the family. Such as growth disorders toddler, Protein Energy Malnutrition (PEM), Less Iodine Disorders (IDD) and Lack of Vitamin A (KVA).

According to Law No. 17 of 2007 on the National Long-Term Development Plan of 2005-2025, one of the government's efforts in addressing issue of nutrition is to improve human resources development, improving public health and nutrition through improved nutritional status of families, one of them with programs of education on importance of family aware of nutrition to improve the nutritional status of family [4].

Family Behaviour Based Indicators Kadarzi

Table 7. Distribution of Family Based on Behavior Weighing Toddler Regularly

Weighing Weight Toddlers Regularly	Frequency (n)	Percentage (%)
Good	24	66.7
A Not Good	12	33.3
Total	36	100.0

Sources: Primary data 2016

Table 7 shows majority (66.7%) of families apply weighing toddlers regularly. In line with research about relationship of knowledge and behavior about Kadarzi mother factory workers with nutritional status of children under five, which shows that most of sample weighing implement a toddler on a regular basis [13.] However, these results have not yet reached target participation rate indicator (84%) toddlers come to Posyandu once a month (D / S) of Gamping I PHC, to improve achievement of participation is adding extension used media is using posters and flip charts to enhance participation and understanding of participants counseling about importance of monitoring children's growth through neighborhood health center, so the goal can be achieved [5.]

Monitoring children development can be done from birth until children reaches five years is by weighing on a regular basis. The rate of growth and development of children can be monitored through measurements of several physical dimensions, weight. The weight gain children can be shown within a month. Therefore, child must be weighing every month. If on a month children do not go up, it shows growth retardation children [8.]

Table 8. Distribution of Family Based Behavior Exclusive Breastfeeding

Exclusive breastfeeding	Frequency (n)	Percentage (%)
Good	23	63.9
A Not Good	13	36.1
Total	36	100.0

Sources: Primary data 2016

Table 8 shows majority (63.9%) have implemented family of exclusive breastfeeding in infants and only 36.1% of families who have not applied exclusively breastfeeding infants. This is consistent with research on assessment of knowledge and behavior about Kadarzi mother, that most of sample has implemented the behavior of exclusive breastfeeding in infants [11.] Result shows scope of Exclusive breastfeeding have not reach targets (80%). Need efforts to improve achievement Exclusive breastfeeding. [5.]

Table 9. Distribution Toddler Based Giving First Time Beverages / Food In addition to breast milk

Giving First Time Beverages / Food In addition to breast milk	Implementation				Total	
	Yes		No			
	n	%	n	%	n	%
0 months	3	8.3	33	91.7	36	100.0
1 months	4	11.1	32	88.9	36	100.0
2 months	4	11.1	32	88.9	36	100.0
3 months	7	19.4	29	80.6	36	100.0
4 months	9	25.0	27.0	75.0	36	100.0
5 months	13	36.1	23	63.9	36	100.0
6 months	34	94.4	2	5.6	36	100.0

Sources: Primary data 2016

Table 9 shows 8.3% toddlers are given drinks / foods besides breast milk at age of 0 months and there were 36.1% children has been given a drink / food other than breast milk in less than 6 months of age. Based on interviews, various problems faced by mothers so that they fail to provide exclusive breastfeeding to children between because milk that comes out is not smooth, busy mothers and their perception where situation of children who are always crying assumed hungry.

Food and drink other than breast milk given too early (less from 6 months) may endanger the health of infants. Food or drink (even water) is likely to carry germs that cause infections (diarrhea). In addition, provision of breast-milk substitutes too early can increase risk of children suffer from Protein Energy Malnutrition (PEM) because child's digestive system is not ready to process food[14.] Breastfeeding routine is recommended for babies from newborn until the age of 2 years, because no single man can milk exceed nutritional content of breast milk [15.]

Table 10. Distribution of Family Based Food Consumption Behavior Various

Food Consumption Behavior Various	Frequency (n)	Percentage (%)
Good	26	72.2
A Not Good	10	27.8
Total	36	100.0

Sources: Primary data 2016

Table 10 shows majority (72.2%) families have implemented diverse food consumption behavior and 27.8% families have not implemented a various food consumption. This is not fit with Octaviani about relationship of knowledge and behavior about Kadarzi labor mother with nutritional status under five, with result that majority (76.9%) have implement various food consumption [13.]

Consumption of a variety of foodstuffs for infants may warrant completeness necessary nutrients the body, because each food contains different nutrients sources in terms of type and number [1.] The age of first and second year after baby is born is a period where baby should be be given food regulated appropriately and correctly, so that child's needs can be met and child can grow and develop optimally. No food has a complete nutritional content, it is necessary to consume a various foods, nutritionally balanced and safe in order to fulfill nutritional adequacy of individuals to grow and develop [16.]

Table 11. Distribution of Family Based on Usage Behavior Iodized Salts

Behavior Usage iodized Salt	Frequency (n)	Percentage (%)
Good	36	100.0
A Not Good	0	0
Total	36	100.0

Sources: Primary data 2016

Table 11 shows behavior of families in implementing use of iodized salt for cooking which reach 100%. These results are in line with research on assessment of knowledge and behavior about Kadarzi mother, that all samples studied have implemented use of iodized salt [11.]

Behavior of iodized salt consumption is one effort to prevent Less Iodine Disorders (IDD). In addition, iodine in salt also has an important function for the human body [1.] Iodine deficiency is prolonged will disrupt function of thyroid gland that gradually causes enlargement of thyroid gland. In this case the fetus can get cretinism and death, case in children, adolescents and adults can cause goiter, hypothyroidism, and mental disorder. Successful achievement of behavior of the use of iodized salt is not out of the iodized salt program of the government, so that all salt that is distributed in Indonesia already contains iodine [17.]

Table 12. Distribution of Family Based Vitamin A Capsule Consumption Behavior in Toddlers

Consumption behavior of Vitamin A in Toddlers	Frequency (n)	Percentage (%)
Good	36	100.0
A Not Good	0	0
Total	36	100.0

Sources: Primary data 2016

Table 12 shows behaviors in giving capsules vitamin A in toddlers in previous year were optimal, reaching 100%. In line with research Melati et al (2014) study on knowledge and behavior about Kadarzi mother, that all samples implemented give vitamin A in infants [11.] The success of achievement behavior of consumption vitamin A supplementation showed a high awareness and willingness to make program successful distribution vitamin A supplementation in young children, pregnant women and role PHC and cadres of posyandu in support this program. Posyandu cadres have responsible to do home visit to under five if infants are not coming to Posyandu during month administration of vitamin A.

Vitamin A is an essential nutrient that can only be filled from outside the body. Vitamin A serves to prevent immune deficiencies that can lead to body vulnerable to infection. Lack of Vitamin A (KVA) is one of nutritional problems that frequently occur in Indonesia. As a result of vitamin A deficiency can cause night blindness and blindness. How to prevent and to treat vitamin A deficiency is consumption of foods contain high vitamin A, such as chicken liver, green vegetables and colorful fruits. Another way to do is giving high-dose vitamin A capsules, which is given to children every 6 months [16].

Educational attainment Kadarzi Based Respondent

Table 13. Distribution Kadarzi Based on Mothers Education

Mothers Education.	Achievement Kadarzi			
	Kadarzi		Not Kadarzi	
	n	%	N	%
higher education	14	82.4	14	73.7
basic education	3	17.6	5	24.4
Total	17	100.0	19	100.0

Sources: Primary data 2016

Table 13 shows that 82.4% families with highly educated mothers behave Kadarzi and 17.6% of families with basic education mothers. Achievement Kadarzi in family with educated mother can reach higher than basic education in mother. A person's behavior or public health is not only determined by knowledge (education), but is also determined by attitudes, beliefs, tradition of people or communities concerned. In addition, availability of facilities for health such as health centers, hospitals, nutritious food and money will support and strengthen formation of behavior [18].

Educational attainment Kadarzi Based Respondent

Table 14. Distribution Achievement Kadarzi Based Mothers Work

Mothers Work	Achievement Kadarzi			
	Kadarzi		Not Kadarzi	
	n	%	n	%
Work	7	41.2	7	36.8
Does not work	10	58.8	12	63.2
Total	17	100.0	19	100.0

Sources: Primary data 2016

Table 14 shows that 41.2% of families with working mothers do behavior Kadarzi and 58.8% of families with mothers who did not work do behavior Kadarzi. Achievement Kadarzi in families with mothers who did not work is higher than in families with working mothers. In general, families are busy with their work and don't have free time to carry out their children, so higher activity of job affect more difficult to come to Posyandu[10].

A person's health behavior is not only determined by knowledge (education), but also determined by attitudes, beliefs, tradition of people or communities concerned. In addition,

availability of facilities to increase health behaviors such as health centers, hospitals, nutritious food and money will also support and strengthen the formation of behavior [18].

CONCLUSION

1. Achievement Kadarzi in Ambarketawang is 47.2%
2. Achievement of family behavior in weighing infants regularly is 66.7%
3. Achievement of family behavior in exclusive breastfeeding of 63.9%
4. Achievement of family behavior in serving various food consumption is 72.2%
5. Achievement of family behavior in usage of iodized salt 100.0%
6. Achievement of family behavior in applying consumption of vitamin A supplements for under fives is 100.0%
7. Family with mother's higher education has greater achievement in Kadarzi than family with mother's lower education.
8. Achievement Kadarzi behavior in families with mothers who do not work is higher than mothers who do not working.

SUGGESTION

It is needed to improve counseling about importance Kadarzi especially on aspects of weighing and growth monitoring of children, exclusive breastfeeding and various food consumption.

REFERENCES

1. Depkes RI. 2007. Pedoman Strategi KIE Keluarga Sadar Gizi (KADARZI. Jakarta : Direktorat Gizi Masyarakat
2. Kemenkes RI, 2014. Profil Kesehatan Indonesia Tahun 2013. http://www.depkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/profil-kesehatan-indonesia-2013.pdf diakses 3 November 2015
3. Dinkes Sleman. 2014. Profil Kesehatan Sleman Tahun 2014. Yogyakarta : Dinas Kesehatan Kabupaten Sleman
4. Depkes RI. 2009. Rencana Pembangunan Jangka Panjang Bidang Kesehatan 2005-2025. http://dinkes.ntbprov.go.id/sistem/data-dinkes/ uploads/2013/10/RPJPK- 2005_2025.pdf diakses 28 Januari 2016
5. Puskesmas Gamping I. 2015. Profil Puskesmas Gamping I tahun 2015. Yogyakarta : Pemerintah Kapupaten Sleman Pusat Kesehatan Masyarakat Gamping I
6. Desa Ambarketawang. 2014. Profil Desa Ambarketawang Tahun 2014. Yogyakarta : Pemerintah Kecamatan Gamping Kabupaten Sleman Yogyakarta
7. Machfoedz, Ircham, dkk. 2005. Pendidikan Kesehatan Bagian dari Promosi Kesehatan. Yogyakarta : Fitramaya
8. Moehyi, Sjahmien. 2008. Bayi Sehat dan Cerdas Melalui Gizi dan Makanan Pilihan. Jakarta : Pustaka Mina
9. Rafiqah. 2015. Pendidikan, Pekerjaan, dan Pendapatan Orangtua terhadap Tinggi Badan Anak Baru Masuk Skolah di SD Muhammadiyah Ngijon I Kecamatan Moyudan Kabupaten Sleman Yogyakarta (Karya Tulis Ilmiah). Yogyakarta : Poltekkes Kemenkes Yogyakarta
10. Kurnia, Nita. 2011. Faktor-Faktor yang Berhubungan dengan Pertisipasi Ibu Balita dalam Pemanfaatan Pelayanan Gizi Balita di Posyandu Kelurahan Sukasari Kecamatan

Tangerang Kota Tangerang Tahun 2011 (Skripsi). Jakarta : Universitas Islam Negeri Syarif Hidayatullah Jakarta
11. Melati, Meilina Arum. 2014. Kajian Pengetahuan Ibu Tentang KADARZI dan Perilaku KADARZI pada Ibu Balita Di Desa Balecatur Kecamatan Gamping Kabupaten Sleman D.I Yogyakarta (Karya Tulis Ilmiah). Yogyakarta : Poltekkes Kemenkes Yogyakarta
12. Depkes RI. 2007. Pedoman Operasional Keluarga Sadar Gizi di Desa Siaga. Jakarta : Direktorat Jenderal Bina Kesehatan Masyarakat, Direktorat Bina Gizi Masyarakat
13. Octaviani, Irma Aryani dan Ani Megawati. (2012). Hubungan Pengetahuan dan Perilaku Ibu Buruh Pabrik tentang KADARZI (Keluarga Sadar Gizi) dengan Status Gizi Anak Balita (Studi di Kelurahan Pageransari Ungaran). Jurnal of Nutrition College, 1 (1), 46-54
14. Soekirman, dkk. 2006. Hidup Sehat Gizi Seimbang dalam Siklus Kehidupan Manusia. Jakarta : PT. Primamedia Pustaka
15. Aryani, Wahyu. 2010. Aneka Menu Sehat Bayi. Yogyakarta : Insania
16. Cakrawati, Dewi dan Mustika. 2011. Bahan Pangan, Gizi, dan Kesehatan. Bandung : Alfabeta Bandung
17. Zulaifah, Heni. 2012. Hubungan antara Tingkat Pengetahuan Ibu Tentang Sadar Gizi dengan Status KADARZI Pada Keluarga Anak Usia 6-24 Bulan Di Kecamatan Banguntapan II Kabupaten Bantul (Karya Tulis Ilmiah). Yogyakarta : Poltekkes Kemenkes Yogyakarta.
18. Notoatmodjo, Soekidjo. 2005. Promosi Kesehatan Teori dan Aplikasi. Jakarta : Rineka Cipta

P-06

THE DEVELOPMENT OF CADRE'S PERFORMANCE WITH THE TRAINING OF NUTRITIONAL ASSESSMENT ON CHILDREN IN POSYANDU

Fery Lusviana Widiany

Department of Nutrition, Respati University of Yogyakarta, Tajem St. Km.1,5, Depok, Sleman, Special Region of Yogyakarta
e-mail : fer_luzz_wee@yahoo.com

ABSTRACT

Background : The cause of toddler's nutritional problem is multifactorial, including the role of Posyandu is still lacking. The cause of the malfunction of one of them because of the ability of cadres in Posyandu are still low. Cadre plays an important role in the effort of optimizing nutritional status of toddler through nutritional status assessment activities.
Purpose : To provide knowledge and skills to cadres on how to assess nutritional status correctly, in order to improve the cadres's performance in malnutrition's screening process.
Method : Community service activities in the form of training is done in the hamlet Santan, Maguwoharjo, Depok, Sleman, with 7 cadres were participated. The training was using FGD (Focus Group Discussion) method with the topic of nutrition status assessment includes anthropometric measurements, anthropometric assessment, and toddler's intake.
Result : The activities run smoothly, participants discussed actively, sharing about how nutrition status assessment that had been done in Posyandu, as well as provide positive feedback by telling some of the nutritional problems found during the Posyandu. Participants can better understand how assess toddler's nutritional status and how to solve nutritional problems.
Conclusion : The attitude and behavior of Posyandu cadres in general is good, but there are still some obstacles, including lack of cadre's knowledge and skill in nutritional status assessment of toddler, lack of public awareness to participate in Posyandu activities, as well as the process of monitoring the growth of toddler which not maximal.

Keywords : Nutritional status assessment, toddler, cadres.

PRELIMINARY

In order to establish a fair and prosperous society, the development is done in all fields. Health development is an integral part of national development as a whole which should be encouraged[1]. One of the goals of the Sustainable Development Goals (SDGs), which was agreed by 193 countries in the world in August 2015 was in terms of alleviation of hunger, include ending hunger, achieve food security and nutrition improvement, and promoting sustainable agriculture.

WHO data on year 2002 show that each year approximately 11 million toddler worldwide die from infectious diseases such as respiratory infections, diarrhea, malaria, measles, and others. Ironically, 54% of the deaths were related to the lack of nutrition. In 2004, Bappenas mentioned toddler mortality rate in Indonesia is the highest in ASEAN. Profile of Sleman District Health Office in 2014 shows the results of monitoring the nutritional status based on indicators Weight for Age (W/A) in Sleman with totally 56.071 toddlers appoint magnitude of nutritional problems in Sleman, namely malnutrition as much as 3.538 and severe malnutrition as much as 246.

The problem of malnutrition is generally caused by poverty, lack of availability of food, poor sanitation, lack of public knowledge about nutrition, the imbalance of diet and health.

Nutritional problems are caused by multifactorial, therefore in tackled effort must involve a wide range of related sectors, one of which is the role of Posyandu[2].

Posyandu is a real activities that involve community participation, from, by and for the people in the health care effort that carried out by cadres[3]. One of the causes of malnutrition in the community is the lack of a functioning social institutions in society, such as Posyandu, which resulting toddler nutrition monitoring is not working as it should. The weighing process of the toddler who should have as principal activity can only be a side activity[4].

The cause of the malfunction of Posyandu because of the ability of the cader which still low. Implementation of Posyandu once a month depending on the presence and encouragement of health workers and the activities of the health cadres. However the level of ability, thoroughness and accuracy of the data collected cadres still low, and 90% of cadres made a mistake. One mistake cadre of the most frequently encountered is the lack of skill on the weighing process technique[4].

Nutritional education and training on cadres in Posyandu with approach for weighing process and recording the growth of the toddler's weight at KMS and interpret KMS well, is the key to success of Posyandu[5]. Cadre plays an important role in the effort optimizing nutritional status of toddler through nutritional status assessment activities. Therefore, it is important to hold community service activities such as training of cadres about nutritional status assessment of toddler, in order to be success in malnutrition screening process especially on toddler.

.

METHOD

This community service activities performed in the hamlet Santan, Maguwoharjo, Depok, Sleman, with 7 cadres participated. The activities carried out in the form of training of nutritional status assessment on toddler, which included anthropometric measurements (weight, height), assessment of nutritional status using the indicator W/A, H/A and W/H, as well as the assessment of nutritional status based on the intake of toddler.

The training was using FGD (Focus Group Discussion) method, ie, all the participants involved in discussions regarding the assessment of the nutritional status of toddler. With this method, each participant has an equal opportunity to argue and sharing each other's experiences for the improvement of the system implementation in the process of nutritional status assessment of toddler in the Posyandu in the Santan area. Topics covered may be developed in accordance with the existing problems when Posyandu is held.

RESULT

The activities run smoothly, participants discussed actively, sharing about how nutrition status assessment that had been done in Posyandu, as well as provide positive feedback by telling some of the nutritional problems found during the Posyandu, among others, the diet on cases of child obesity, the slowing of the growth process and development in childhood, cases of toddler with cancer and one kidney, malnutrition in the Santan area, toddler's diet, as well as preparation for Posyandu menu cycle.

Based on the evaluation of activities, Posyandu's cadres can better understand how ratings nutritional status of toddler and how to deal with the problems of nutrition in the Santan area. Participants asking for similar activities are held on an ongoing basis in order to improve their knowledge and performance while running role as volunteers.

DISCUSSION

Posyandu is a community center for health services among others include: (1) the family planning program, (2) nutrition program, (3) immunization program, (4) diarrhea prevention program, (5) maternal and child health program. Posyandu is a continuation of the park nutritional / postal weighing, which has been carried out by the PKK, and then fitted with a family planning health services. Posyandu is a social institution functioning as child growth monitoring[5].

In an effort to optimize the development of the child, should involve three aspects: nutrition, health, and parenting. The role of women in caring for and raising toddler is so important, so make education for women is especially significant[6].

Currently, there are various problems are arising in the implementation of Posyandu, among others: (1) only about 40% of posyandu be able to function properly, (2) the equipment is inadequate, (3) did not have a decent service, (4) the provide guidance to posyandu yet evenly distributed, (5) the coverage posyandu still low (<50%) and the majority are children under the age of 2 years, (6) almost 100% of mothers had heard posyandu, but were present at the posyandu activities less than half, and (7) do not have a sufficient cadre amount when compared with the target, or although the amount is sufficient but not active cadres[7].

Being a cadre is one form of participation as members of the community to improve efficiency on the basis of limited services in the operation of public health services. In general, the cadres are not professionals but merely assist in health care, where activities which can be performed cadres in Posyandu is carrying out the registration, carrying out a child's weighing process, recording the child's weight, provide counseling, and help provide services and refer.

The results of this public service activities in accordance with previous similar activities in the Kuok District that the characteristics of the trainees can be seen from the attitude and behavior of the overall show good results[8]. Nevertheless, there are still some obstacles in the process of determining the nutritional status of toddler during the Posyandu, including lack of knowledge and skill of cadres in nutritional status assessment of toddler, lack of public awareness to participate in Posyandu activities, as well as the process of monitoring the growth of toddler which not maximal.

Knowledge of cadres is the potentially sustainable in their role as a volunteer. The admission process will be a lasting new behavior when it is based on knowledge, awareness and positive attitude. The lack of knowledge and lack of experience are the main trigger of less active participation of health cadres. In addition, other triggers are the preoccupations of cadres in household affairs so that cadres could experience lacking on understanding and service skills, causing cadres to experience more less independent so it depends on health workers and community health centers. Therefore, during the Posyandu implemented, the role of cadres often do not function properly. Whereas reduction of malnutrition prevalence requires the accuracy, speed and thorough[9].

Lack of cadres role in monitoring the growth of toddler shows that the importance of health education to the cadre in monitoring the growth of toddler so that the growth and development of toddler can be monitored to obtain optimal results[10].

Health education can enhance the role of cadres in which the role with enough categories increased from 39.4% to 63.6% and a role in the poor category decreased from 51.5% to 24.2% 10. It shows that health education has a very big role in health care, including in this community service activities. With increasing knowledge of the cadres about nutritional

status assessment of toddler, is expected to enhance the role of the volunteer in the effort to address problems related to the nutritional status of toddler in the Santan area.

CONCLUSION AND RECOMMENDATION

The results showed that the attitude and behavior of Posyandu cadres in general is good, but there are still some obstacles, including lack of knowledge and skill of cadres in nutritional status assessment of toddler, lack of public awareness to participate in Posyandu activities, as well as the process of monitoring the growth of toddler which not maximal.

From these results, it can be suggested among other things the Government needs to do a variety of activities to stimulate, encourage and increase the participation of cadres Posyandu by providing incentives and rewards as motivation of cadres in carrying out various activities. Besides, it should also be trained on an ongoing basis in order to improve the knowledge and skills of cadres in carrying out its role and function as a cadre, especially in terms of nutritional status assessment, which is expected to achieve optimal health status in toddler.

REFERENCES

1. Maisya IB, Putro G. Peran Kader dan Klian Adat Dalam Upaya Meningkatkan Kemandirian Posyandu di Provinsi Bali (Studi Kasus di Kabupaten Badung, Gianyar, Klungkung dan Tabanan). Buletin Penelitian Sistem Kesehatan 2011; 14 (1) : 40–48.
2. Supariasa, Bakri B, Fajar I. Penilaian Status Gizi. Jakarta : Buku Kedokteran; 2002.
3. Ambarwati E. Asuhan Kebidanan Komunitas. Yogyakarta : Nuha Medika; 2011.
4. Sukiarko E. Pengaruh Pelatihan Dengan Metode Belajar Berdasarkan Masalah Terhadap Pengetahuan Dan Keterampilan Kader Gizi Dalam Kegiatan Posyandu. Semarang : Program Pascasarjana Universitas Doiponegoro Semarang; 2007.
5. Soekirman. Perlu Paradigma Baru untuk Menanggulangi Masalah Gizi Makro di Indonesia. Diakses dari http://www.gizi.net./pada tanggal 18 Oktober 2016. 2001
6. Devi M. Analisis Faktor-faktor yang Berpengaruh terhadap Status Gizi Balita di Pedesaan. Teknologi dan Kejuruan 2010; 33 (2) : 183 – 192.
7. Uci Sanusi. Beberapa faktor yang berhubungan dengan keaktifan kader Posyandu di wilayah UPTD puskesmas pasawahan kabupaten Kuningan Tahun 2006. Tasikmalaya : Fakultas Kesehatan Masyarakat Universitas Siliwangi; 2006.
8. Mahyarni. Penyuluhan Sosial Bagi Para Kader Pos Pelayanan Terpadu Untuk Meningkatkan Gizi Balita di Kecamatan Kuok. Kutubhanah Jurnal Penelitian Sosial Keagamaan 2015; 18(2).
9. Djuhaeni H, Gondodiputro S, Suparman R. Motivasi Kader Meningkatkan Keberhasilan Kegiatan Posyandu. MKB 2010; 42 (4).
10. Kurniawati A. Pengaruh Pendidikan Kesehatan Tentang Pemantauan Pertumbuhan Balita Terhadap Peningkatan Peran Kader di Desa Tambong Wetan Kalikotes Klaten. INFOKES 2014; 4 (2).

P-07

THE IMPACT OF PSYCHOLOGICAL TRAUMA ON VICTIMS OF TRAFFIC ACCIDENTS: Literature Review

Julian Pakpahan[1]

[1]Postgraduate Student Master of Nursing, Faculty of Medicine-Brawijaya University
julianapakpahan21@gmail.com, 082244392860

ABSTRACT

Background: Traffic accident is a traumatic event that not only cause physical trauma to the experience, but will also lead to psychological disorders such as post-traumatic stress disorder (PTSD). From these reasons, it will need to know how the effects of psychological trauma on victims of traffic accidents
Aim: The main objective of this study was to determine and identify the impact of psychological trauma in the form of post-traumatic stress disorder called Post Traumatic Stress Disorder (PTSD) victims of traffic accidents
Methods:. This study uses a method by applying a literature search through the English research articles published in journals between 2010 and 2015 were carried out. A computerized search of ProQuest, Science Direct and EBSCOhost databases is done by using the search term "psychological trauma in a traffic accident".
Results:the psychological impact of a traffic accident can cause symptoms such as nightmares, flashbacks, and / or recurrent and distressing memories of the traumatic event. Avoidance considering the trauma that happens, adverse changes in mood, cognition associated with trauma (eg, dissociative amnesia, loss of interest, and feelings of detachment), and significant changes in activity after trauma (outburst of anger is unwarranted, hypervigilance, and the response is exaggerated) the direct effects of acute psychological trauma including emotional as intense fear and helplessness.
Conclusion: The psychological impact of traffic accidents, better understanding and treatment efforts have not received maximal attention. The attention given to victims of traffic accidents are usually more focused on the handling of physical, psychological treatment while often gets the last priority.

Keywords: Psychological trauma, traffic accidents, impact.

BACKGROUND

Someone who experienced traumaticthings in life, such as traffic accidents are quite severe, can result in injury or settled temporarily in the body and may also have a physical disability to partial loss of limbs. Someone who previously was able to move with complete limbs and living independently, after an accident and have a physical disability, life becomes changed. Daily activities becomes blocked, limited and often become dependent on others. Traffic accident is a traumatic event that not only cause physical trauma to the experience, but will also lead to psychological disorders such as disorders post-traumatic stress or a so-called Post Traumatic Stress Disorder (PTSD) (8).

According to WHO, traffic accidents an estimated 1.2 million deaths worldwide in 2010. Ninety two percent of traffic accidents occur in countries with low and middle income East Asia and Africa have the highest rates. Meanwhile, according to data from the Central Statistics Agency (BPS), in 2012 the number of traffic accident victims reach 117 949 by the victim died as many as 29 544, 39 704 severe injuries and minor injuries as much as 128 312. According to the Australian Centre for Post-traumatic Mental Health In 2013, motor

vehicle accidents can cause psychological trauma to those who experience it, accounts for 13-25% of psychological trauma disorders caused by motor vehicle accidents. During the first months after the accident, PTSD rate varies between 16% and 41% of the data from evaluations conducted four months after the accident were approximately 40% and when the evaluation carried out six months after the accident, the rate of PTSD ranged from 6% to 26%. Twelve months after the accident, the rate of PTSD range from 2% to 30% (10). There are factors that have been identified to predict PTSD. Among these are the pre-crash factors and accidents, a factor pre-crash included socio-demographic factors such as age, sex, socio-economic factors, mental illness before, a road traffic accident earlier are the factors that influence the development of PTSD, the factors of accidents including impacts perceived influence led to the development of PTSD in victims (10).

Trauma management is multidimensional and very challenging task. The patients Traumatic events after a road traffic accident (RTA) is usually handled in the emergency room (ER) by the surgeon orthopedic or trauma trained in managing only physical injuries, while psychological problems not handled properly, resulting in a significant impact on the victims , the victim's family, and ultimately society as a whole. Psychological concerns, if not handled properly, can cause mental health condition is acute or chronic.

AIM

The main objective of this study was to review the literature to determine and identify the impact of psychological trauma in the form of post-traumatic stress disorder called Post Traumatic Stress Disorder (PTSD) victims of traffic accidents.

METHOD

This study uses a method by applying a literature search through the English research articles published in journals. A computerized search of ProQuest, Science Direct and EBSCOhost databases is done by using the search term "psychological trauma in a traffic accident". Literature qualified in the inclusion criteria is literature that focuses on the "psychological trauma in a traffic accident.

RESULTS AND DISCUSSION

Some studies suggest that there are gender differences in the psychological responses after MVA (motor vehicle accidents), and this study demonstrates the fact that women show psychological disorders more often than men, especially Acute Stress Disorder (ASD) and Posttraumatic Stress Disorder(PTSD). The samples studied are likely victims with and without severe injury and did not take into account the severity of the accident, which could explain the inconsistent results obtained. To evaluate the diagnosis of PTSD four months later and to analyze the predictive power peritraumatic dissociation and symptoms of ASD to explain later psychological disorders (PTSD)(10). According to(1); in the DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision), has led the response involving fear, intense fear, or despair. Accidents resulting in pathological responses that involve a number of cognitive, psychological, and behavioral processes, including symptoms of numbness and avoidance. However, previous studies have questioned the DSM criteria for PTSD, with a lot of criticism about the usability criteria (5) recommendation.

Recent for DSM-V revision involves, or even the removal of a number of psychological problems of clinical significance have been associated with serious MVA, but the most consistent disorders reported among the victims were post-traumatic stress disorder (PTSD). The accident victim may feel fear, nightmares, and even hallucinations. NICE (National Institute for Clinical Excellence), (10), states that, in addition to these psychological symptoms, can also be accompanied by physical symptoms such as trembling and sweating are all symptoms lasted for at least one month after the occurrence of traffic accidents.The trauma that would interfere with daily activities, especially in terms of productivity and the need to socialize with other people will be disturbed. Not to mention the physical conditions of people with disabilities, the mobility would be hampered.

Meanwhile, according to (2) the psychological impact of a traffic accident can cause symptoms such as nightmares, flashbacks, and / or recurrent and distressing memories of the traumatic event. Avoidance considering the trauma that happens, adverse changes in mood, cognition associated with trauma (eg, dissociative amnesia, loss of interest, and feelings of detachment), and significant changes in activity after trauma (outburst of anger is unwarranted, hypervigilance, and the response is exaggerated) the direct effects of acute psychological trauma including emotional as intense fear and helplessness.

Handling of PTSD in addition to pharmacological treatment such as antidepressants and anti-anxiety, can also be dealt with using psychotherapy. Cognitive Behavioral Therapy (CBT) is a psychotherapy that combines behavioral therapy and cognitive therapy which is based on the assumption that human behavior is simultaneously influenced by the ideas, feelings, physiological processes and consequences on behavior. Psychotherapy approaches with methods Cognitive Behavioral Therapy (CBT) is said to be one of the treatment methods of psychotherapy are most effective in addressing PTSD (7). Meanwhile, according to the EMDR International Association, (2009) Eye Movement Desensitization and Reprocessing (EMDR) is a method that is scientifically validated gradual, integrative psychotherapy approach based on the theory of psychopathology caused by traumatic experiences or events that disrupt the journey of life. (6) states that EMDR treatmentproved to be the most consistently provide a positive effect to overcome the trauma. While stabilization techniques are part of EMDR therapy, but more emphasis on maintaining and restoring the basic functions of the individual after an interruption. The above data reveal the number of traffic accidents can result in psychological harm themselves victims of accidents both weight and minor accidents. Traffic accidents can result in psychological effects such as trauma, mental disorders on the victims or their families who are still alive.

CONCLUSION

The psychological impact of traffic accidents, better understanding and treatment efforts have not received maximal attention. The attention given to victims of traffic accidents are usually more focused on the handling of physical, psychological treatment while often gets the last priority. Assistance and recovery efforts of victims of traffic accidents should be done immediately, because this disorder if it continues will cause chronic disorders and will greatly disturb social life and work of the individual. Traffic accidents, especially those that resulted in serious injuries for most people is a severe traumatic experiences. Traffic accident victims is expected to overcome the psychological anxiety that may arise as a result of accidents suffered. However, not all victims of traffic accidents to emerge from traumatic experiences. This is caused by the way of meaning, respond to and cope with traumatic events and efforts to adapt to the problems differ from one person to another.

RECOMMENDATION

There needs to be a coordinated effort at the national level or the state's level for the strong trauma system to support victims of traffic accidents so as to reduce the psychological impact of the trauma.

REFERENCE

1. Brewindan, Holmes.Psychological Theories of Posttraumatic Stress Disorder.ClinPsychol Rev. 2003 May;23(3):339-76.
2. C, Das P, Bhoi S, KashyapR..PTSD in Post-Road Traffic Accident Patients Requiring Hospitalization in Indian Subcontinent: A Review on Magnitude of The Problem and Management Guidelines. Journal of Emergencies, Trauma, and Shock 2014;7:4 I Oct - Dec.
3. Epigee. CBT for Post Traumatic Stress Disorder. (online), 2009 (http://www.epigee.org/ptsdcbt.html, diaksestanggal 17 Januari 2014).
4. Kazantzis*et al*. Predictors of Chronic Trauma-Related Symptoms in a Community Sample of New Zealand Motor Vehicle Accident Survivors. Cult Med Psychiatry 2012; 36:442-464 DOI 10.1007/s11013-012-9265-z
5. Kilpatrick *et al*. National Estimates of Exposure to Traumatic Events and PTSD Prevalence Using *DSM-IV* and *DSM-5* Criteria. J Trauma Stress. 2009 October; 26(5): 537–547. doi:10.1002/jts.21848
6. Leitch, M.L. Somatic Experiencing Treatment wit Tsunami Survivors in Thailand: Broadening the Scope of Early Intervention. Traumatology 2007; 13(11). Sage Publications.
7. National Centre of PTSD. Understanding PTSD Treatment, (online) 2011 (http:/www.nctsn.org/research/public-awareness/national-ptsd-awareness-day).
8. Sadock, B.J. &Sadock, V.A. Kaplan &Sadock's Synopsis of Psychiatry Behavioral Sciences/Clinical Psychiatry. 10th edition. 2007 Philadelphia: Lippincott Williams and Wilkins.
9. NICE (National Institute for Clinical Excellence). 2005
10. Pires & Maia. Posttraumatic Stress Disorder Among Victims of Serious Motor Vehicle Accidents: an Analysis of Predictors Transtorno de estresse pós-traumático em vítimas de acidentes rodoviários graves: análise de fatores preditores. Pires TSF, Maia AC / Rev Psiq Clín. 2013;40(6):211-4

P-08

KNOWLEDGE CHARACTERISTIC CONCERNING LACTATION WITH BREASTFEEDING TECHNIQUE AMONG POSYANDU CADRE

Wira Daramatasia[(1)], Nurma Afiani[(2)]

1,2 Nursing Science of Widyagama Husada Health Science College
email: Wira.daramatasia@gmail.com

ABSTRACT

Health Data It is known that scope of Exclusive breastfeeding in Malang is 58,47%, this number is still low compared to national target of 80%. To obtain success in giving breastmilk for infant, it should be supported by good lactation management and good breastfeeding technique so that benefit of Exclusive breastfeeding could be gained. An active role of Posyandu cadres in contributing their mind and effort to improve community health is highly important. This study aims to investigate the characteristics of knowledge about lactation breastfeeding technique at the Posyandu cadres in Malang city, and the relationship with the attitude of cadres Posyandu knowledge about breastfeeding techniques. This study method was analytical survey with cross sectional approach. Sample was collected by simple random sampling technique. Total of sample is 50 respondents from total population of Posyandu cadres representing 5 districts in Malang. This study instrument was questionnaire and check list observation sheet. Data analysis was using Somers'd Correlation. Knowledge of Posyandu cadres regarding breastfeeding was mostly good (68%), attitude of Posyandu cadres regarding breastfeeding technique was still lacking (62%). There was no meaningful correlation between knowledge of Posyandu cadres and attitude regarding breastfeeding technique (p>0,05).This study proved that good knowledge among Posyandu cadres regarding lactation is still less supported by attitude of Posyandu cadres in giving explanation regarding breastfeeding technique. Therefore, we need to optimize extension and training by health personnel toward Posyandu cadres regarding lactation management.

Keywords: Posyandu cadres, Lactation, Breastfeeding technique

INTRODUCTION

Infant mortalityrate is one of health measure parameter in a country. Based on UNICEF data, infant mortality rate in the world would reach 4 million per year. In Indonesia until 2012, infant mortality still holds in 32 mortality per 1000 delivery. This figure was still far from *Millenium Development Goals* (MDGs) target with 23 per 1000 delivery [(1)] . After more examination, the main cause of infant mortality after birth and for infant under five years old would be no early breastfeeding initiation and exclusive breastfeeding. Lower number of exclusive breastfeeding has stimulated lower rate for infant and babies nutritional status. Giving exclusive ASI would be able to suppress infant mortality by reducing approximately 30.000 infant mortality in Indonesia and 10 million infant mortality in the world through giving exclusive breastfeeding for the first six month after birth without giving additional food or drink toward infant and babies.

Based on data from UNICEF, exclusive breastfeeding in Indonesia was still far from world average with only 38%. While according to SDKI, it show that number of babies who got exclusive breastfeeding has decrease to 7,2%, however for formulated milk the number is increasing to 27,9%. According to Dinas Kesehatan Malang, scope of mother who gave exclusive breastfeeding in Malang still about 58,47 %, this figure is still far from target figure

of scope exclusive breastfeeding in Malang which is 80 %, this number also become the target for scope of national exclusive breastfeeding. To gain success in giving breastfeeding for babies, it should be supplemented by good lactation management so that benefit of breastfeeding was optimized.

In an effort to increase utilization of breastfeeding it shows that key obstacle of breastfeeding utilization is lack of mother's knowledge about exclusive breastfeeding and breastfeeding technique. Exclusive breastfeeding and breastfeeding technique was generally assumed as ubiquitous and there was no need to learn about it. Lactation management or incorrect breastfeeding and other misleading myths have impede breastfeeding for infant [(2)]. Lower figure in success of exclusive breastfeeding has been influenced by several factors such as change in social culture aspect for example, working mother, thus infant was given food addition to breastmilk before 6 month old, and there was belief that formulated milk is more prestigious than breastmilk. Other factor that supports this lower figure is lack of support from the family or the surrounding environment to give exclusive breasfeeding for 0-6 months old [(3)].

Realizing the importance of community active role in supporting development success for health, it is in need for development agents that could raise people awareness to participate in development. People participation in health development with great role is as Maternal and ChildHealth Centre (PosPelayananTerpadu – Posyandu) Cadre [(4)]. Posyandu cadres generally volunteer from community figure that assumed to be more affluent than other member of the community [(5)].

Effort to improve role of community member would be through caderization system by training, extension, and guidance to raise independence and thus able to dig and use the available resources and to raise and solving problems for optimum service. For this purpose, we would need good health cadre, those who can contribute their mind and energy to improve community's health [(6)].

PURPOSE

This study aimed to discover relationship between knowledge of Posyandu cadre about lactation and breastfeeding technique in Malang. It was expected that result of this study could be used as cadre material to increase the scope of exclusive breastfeeding.

METHOD

Design in this study was using analysis survey and data collection was using cross sectional technique. This study was done to discover about relationship between Posyandu cadre knowledge concerning lactation with breastfeeding technique.

Sample was collected by *simple random sampling* technique. Total of sample is 50 respondents from total population of Posyandu cadres representing 5 districts in Malang(Klojen, Kedungkandang, Sukun, Blimbing, and Lowokwaru). Implementation was done by maintain the *privacy* and confidentiality of respondent.

Statistical analysis in this study would consist of univariate and bivariate analysis. Univariate analysis consists of: age, education, occupation, and duration/length when one become Posyandu cadre. Bivariate analysis in this study consists of cadre knowledge regarding lactation and breastfeeding technique. Statistical test was using correlation test from Somers'd.

RESULT AND DISCUSSION

Respondent Characteristic

Respondent characteristic of Posyandu cadre was taken from 5 districts in Malang (KecamatanKlojen, KedungKandang, Sukun, Blimbing and Lowokwaru). Respondent characteristic reviewed in this study consist of: age, education, occupation and duration/ length in becoming Posyandu cadre. Table 1 below illustrated respondent's characteristic of Posyandu cadre in Malang.

Table 1: Respondent Characteristic of Posyandu Cadre in Malang for July – September 2014

No	Respondent Characteristic	N	%
1	Age Range		
	< 30 years old	0	0
	30 - 40 years old	6	12
	40 - 50 years old	18	36
	> 50 years old	26	52
2	Education Level		
	Primary school	9	18
	Junior High	4	8
	Senior High	26	52
	Higher Education	11	22
3	Occupation		
	Housewives	46	92
	Private	4	8
4	Duration as Cadre		
	< 5 year	9	18
	5 - 10 year	9	18
	> 10 year	32	64

(N=50)

Table 1 above has illustrated respondent characteristic of Posyandu cadre who participated in this study. Univariate analysis result showed that most respondent in this study was more than 50 years old that is 26 people (52%). Most people have senior high school as their education level that is 26 people (52%). Univariate analysis result also showed that most cadre works as housewives, with 46 people (92%). Large number of housewives respondent was caused by housewives has lots of leisure time therefore participating in this activities could used up some of these leisure time and to increase knowledge in health, also become a Posyandu cadre would improve socialization in the eye of community. Duration or length of respondent act as Posyandu cadre was mostly for more than 10 year, about 32 people (64%). This duration was due to reasoning that as part of the community, respondent feel proud to be able to participate, actively engaged and voluntarily involved in increasing people's health, this is in accord with cadre formation purpose that is to actively engage the community member in responsible manner. Community member's involvement in increasing service efficiency is the basic for limited power and by operational of Posyandu would be able to utilize the existing resources in optimum manner **(5,6)** .

Other characteristic of Posyandu cadre being reviewed would be level of knowledge and attitude of Posyandu cadre regarding lactation. Below was Table that showed level of knowledge and attitude of Posyandu cadre regarding lactation (Table 2).

Table 2: Characteristic for Knowledge Level and Attitude of Posyandu Cadre Regarding Lactation

No	Respondent Characteristic	N	%
1	Level of knowledge Posyandu cadre regarding lactaction		
	Good	34	68
	Medium	16	32
	Less	0	0
	Poor	0	0
2	Attitude of Posyandu cadre regarding lactation		
	Good	0	0
	Medium	1	2
	Less	31	62
	Poor	18	36

(N=50)

Based on Table 2 univariate analysis for level of knowledge of Posyandu cadre regarding lactation, most has good knowledge that is for 34 people (68%) and the remaining has medium knowledge with 16 people (32%). Although most respondent has good knowledge regarding lactation, but based on knowledge questionnaire item concerning lactation there were still lots of respondent who did not know the answers (answering wrongly). Several knowledge that not yet known by respondent regarding lactation would be: mother who breastfeed the babies would succeed though her nipple is sunken or flat, since shape and size of nipple won't become the obstacle in breastfeeding. The need of babies to breastfeed is not schedule-based but rather on demand, thus more frequent the mother breastfeed the baby the amount of breastmilk produced would increase, also amount of breastmilk by breast would depend on babies suction, since babies suction is stimulation for breastmilk production, through prolactin reflex and letdown reflex [(3)] .

Other knowledge item that was less known by respondent would be the benefit of breasfeeding other than to increase baby's immune system. It would also affect baby's development and intelligence. It was also known that breastfeeding could prevent lots of infection-related illness (diarrhea, respiratory infection, ear infection, pneumonia, bladder infection) and other illness (obesity, diabetes, allergic, digestion inflammation, cancer) [(3,7)] . This was due to breastmilk contain Sig A (*Secretory Imunoglubulin A*) which is body immune system particularly in maturity of babies digestion tract. Acid condition formed due to breastmilk was signal for mucous formation in digestive tract. Increase in Sig A content was correlated with increase in digestive tract immune system toward infection, while mucous layering the digestive tract surface would act as barrier so that microorganism wouldn't be able to enter the blood circulation. Breast feeding should be encouraged and highly recommended in the first two years of life as it provides Secretory IgA to breast fed infants who in turn protect them against epithelial damage caused by Rota viral gastroenteritis [(8)]. Good position in breastfeeding is knowledge less known by most respondents. It was started with preparation, during and after breastfeeding, particularly in attachment of mother's breast and baby's

mouth. By knowing the correct position when mother breastfeeding correctly is one of the key successes in breastfeeding[9] .

Attitude of Posyandu cadre in explaining about breastfeeding technique (lactation) toward people, particularly pregnant woman and breastfeeding women is still lacking with only 31 people (62%). This lack of attitude concerning breastfeeding technique was shown particularly for during breastfeeding, in preparation and after breastfeeding. Likelihood in lacking attitude from Posyandu cadre in explaining breastfeeding technique toward community member was caused due:

1. Extension toward Posyandu cadre by health personnel regarding lactation management was not accompanied by special training regarding breastfeeding technique (if there was, it would demonstration in nature) thus not all Posyandu cadre able to do breastfeeding technique in practice.
2. None/lack of direct companion by health personnel toward Posyandu cadre during extension and implementation of breastfeeding technique toward community member particularly toward pregnant and breastfeeding women.
3. Lack/almost none of evaluation from health personnel from community health center particularly toward community satisfaction (particularly pregnant women and breastfeeding mother) regarding breastfeeding technique given by Posyandu cadre. Success in breastfeeding would be supported by good and correct breastfeeding technique, begins with baby's positioning, stimulation for breastfeeding, attaching baby's mouth with mother's nipple until how to burping babies after breastfeeding [9,10,11] .

Relationship Between Knowledge of Posyandu Cadre regarding Lactation with Attitude of Breastfeeding Technique

Bivariate analysis in this study was done to discover the relationship between knowledge of Posyandu cadre regarding lactation and breastfeeding technique. Below is the table that revealed result of bivariate analysis of relationship between knowledge of Posyandu cadre regarding lactation with breastfeeding technique.

Table 3: Relationship between Knowledge of Posyandu Cadre Regarding Lactation with Attitude of Breastfeeding Technique

		Attitude			Total	r	p
		Medium	Lacking	Poor			
Knowledge	Good 0		23	11	34	0,072	0,651
	Medium 1	8		7	16		
Total		1	31	18	50		

Based on Table 3 regarding relationship between knowledge of Posyandu cadre regarding lactation and attitude of breastfeeding technique analyzed using correlation test Somers'd obtained r value=0,072 (very weak) with p value=0,651 (p>0,05). There was no meaningful correlation between knowledge of Posyandu cadre and attitude of breastfeeding technique. Event cross tabulation between knowledge of Posyandu cadre regarding lactation with attitude of breastfeeding technique also showed that Posyandu cadre with good knowledge has lack of attitude regarding breastfeeding technique for about 23 people (46%) and poor attitude for about 11 people(22%). Lower relationship between knowledge

of Posyandu cadre about lactation with attitude of breastfeeding technique was due to most Posyandu cadre was more than 50 years old and most of them were housewives. With most cadre were 50 years old, they have physical limitation and only becoming Posyandu cadre to use up their spare time. This has cause Posyandu cadre is not maximized (unwilling) to develop their knowledge, though several Posyandu has mostly given extension/briefing regarding lactation management with breastfeeding technique [4,5].

In extension/briefing, lactation management given by health personnel from Community health center consist of breastfeeding technique material but it mostly demonstration in nature. If there was cadre who practice it, it would only count for only few people. This was due to limited time in extension thus to improve practicing (improve *soft skills*) is highly limited, besides various material for Posyandu extension would need its own allocated time to deliver it. Limitation in extension time along with training should be scheduled and supplemented with training result implementation directly toward community member particularly for pregnant women and breastfeeding mother. Therefore good knowledge would be supported by good attitude [12] .

CONCLUSION

Based on study stages conducted by author, conclusion may be inferred as follows:

1. Knowledge of Posyandu cadres regarding breastfeeding is quite good (68%),
2. Attitude of Posyandu cadres regarding breastfeeding attitude is still lacking (62%).
3. There was no meaningful correlation between knowledge level of Posyandu cadres and attitude regarding breastfeeding technique

RECOMMENDATION

Result of this study has proven that good knowledge among Posyandu cadres concerning lactation is less supported by attitude of Posyandu cadres in giving explanation regarding breastfeeding technique. Therefore, author would like to suggest several things below:

1. Maximizing extension and training by health personnel (particularly health personnel from community health center) toward Posyandu cadres regarding lactation management, in particular breastfeeding technique by practicing (improving *soft skills*) (Stuebe and Schwarz,, 2010)
2. Directly implementing training result of Posyandu cadres toward community member particularly for pregnant woman and breastfeeding woman, also companion of Posyandu cadre by health personnel particularly in initial implementation of how to do the correct breastfeeding technique.
3. Health personnel particularly health personnel from community health center would always evaluate Posyandu cadre in periodical interval regarding implementation of lactation management toward member of the community.

ACKNOWLEDGMENT

Author would like to thank community health center in Malang city and Nursing Science of WidyagamaHusada Malang Health Science College for its participation in implementation of study Knowledge Characteristics concerning Lactation with Breastfeeding Technique Among Posyandu Cadres in Malang.

REFERENCES

1. SDKI. Survey Demografi dan kesehatan Indonesia . Available at: www.infodokterku.com . Accessed September 19, 2013.
2. Stuebe A, Bonuck K. What Predicts Intent To Breastfeed Exclusively? Breastfeeding Knowledge, Attitudes, And Beliefs In A Diverse Urban Population. Breastfeeding Medicine. 2011. Volume 6, Number 6.
3. WHO. Exclusive breastfeeding for six months best for babies everywhere, 15 January 2011 Statement. 2011. Available at: http://www.who.int/mediacentre/news/statements/2011/breastfeeding_20110115/en/. Accessed September 27, 2013.
4. Emi M, Partisipasi Masyarakat dalam Posyandu. . 1th ed. Jakarta: Salemba Medika. 2006. P 23-29.
5. Hemas. Kader Posyandu. 2012. Available at: www.wordpress.com Accessed September 15, 2013.
6. Dinas Kesehatan Jawa Timur. Peran Serta Kader Posyandu. 2011. Available at: www.peran serta kader posyandu.Com. Accessed April 17, 2013.
7. Motee A, Jeewon J. Importance of Exclusive Breast Feeding and Complementary Feeding Among Infants. Current Research in Nutrition and Food Science 2014 Vol. 2(2), 56-72.
8. Duc M, Johansen FE, Corthésy B. Antigen binding to secretory immunoglobulin A results in decreased sensitivity to intestinal proteases and increased binding to cellular Fc receptors. J Biol Chem. 2010;285(2):953–60.
9. Ram C. Breastfeeding practices: Positioning, attachment (latch-on) and effective suckling – A hospital-based study in Libya. J Family Community Med. 2011 May-Aug; 18(2): 74–79.
10. Yin Lau. Maternal, Infant Characteristics, Breastfeeding Techniques, and Initiation: Structural Equation Modeling Approaches. Available at: http://dx:doi.org/10.1371/journal.pone.0142861. Accessed November 15, 2015.
11. Drew K. Strategies for Breastfeeding Success. Am Fam Physician. 2008 July 15;78(2):225-232.
12. 12. Stuebe AM, Schwarz EB. The risks and benefits of infant feeding practices for women and their children. Journal of Perinatology (2010) 30, 155–162.

P-09

IMPORTANCE OF ASSISTANCE TO CHILDREN WITH CANCER

Professor Muhammad Raftaz Kayani*) & Jenita DT Donsu)**

E-mail: kayani4u@gmail.com

*Department of Physics Islamabad Model College H-9 Islamabad Pakistan

**Health Polytechnic of Health Ministry, Yogyakarta, Indonesia

ABSTRACT

Handling children with cancer does not only depend on the medical team only, because treatments for cancer patients not only in terms of the medical but also the views of the whole problem of suffering that includes psychological and social aspects. One element that can help provide non-medical treatment to patients are volunteers. Therefore, the purpose of this paper is to understand the role of volunteers for children with cancer and their families. This study examined aspects of care and assistance that are important for 8-12 years old children with cancer. Data were gathered through interviews with 25 children, 31 parents, and 32 nurses. Each participant was asked: "What caring aspects are important for you/your child/the child to feel cared for?" and "What help, if any, do you/your child/the child need outside the hospital?" Data were analyzed by content analysis. The following important caring aspects were identified: amusement, clinical competence, continuity, family participation, honest communication, information, participation in decision making, satisfaction of basic needs, social competence, and time. Children most frequently mentioned the importance of social competence, amusement, and satisfaction of basic needs. Parents and nurses most frequently mentioned the importance of information, social competence, and participation in decision making. The following important assistance aspects were also identified: emotional support, family life, meeting friends, practical support, rehabilitation, and school support. Two-thirds of the children did not mention that they needed any help outside the hospital. According to parents and nurses, one third of the children needed emotional support, whereas none of the children mentioned a need for this.

Keyword: Assistance, Children, Cancer

BACKGROUND

Cancer can affect any part of the human body and at any age. Cancer can also occur in children. For cancer patients, coping with cancer and its treatment procedure is not an easy thing. It is of course also strongly felt by children with cancer. In addition, if one family member affected by cancer, the impact is felt by the whole family.

With a large number of children surviving cancer worldwide, there are now many survivors who experience residual physical, behavioural, emotional, or social sequelae associated with the disease or its treatment. Numerous studies have documented an increased occurrence of psychosocial problems in childhood cancer survivors. In contrast, other studies have suggested normal psychosocial adjustment of survivors with only minor problems and differences relative to healthy controls. These discrepancies could be attributed to methodological differences and heterogeneous survivor subject groups.[1]

Much of the literature regarding children's experiences of cancer report the results of generic measures of psychiatric symptoms by parents and the health-care team treating the children. It cannot be assumed that reports from parents or the health-care team accurately reflect the views of the children.[1]

Children who have had cancer now have an excellent chance of surviving their disease with 80% of patients live 5 or more years from diagnosis. However previous studies have shown these patients are at a higher risk of death from other causes in later life, primarily as a result of recurrence or continuation of their cancer, but also due to the side effects of treatment leading to second cancers and cardiac disease.[2,5]

PURPOSE

The purpose of this paper is to understand the role of volunteers for children with cancer and their families.

METHOD

Information on each patient's sex, age, date of diagnosis and cancer type was included with the latter classified into ten main groups based upon their code. In a small number of cases where death was recorded and a cause of death could not be identified. This study examined aspects of care and assistance that are important for 8-12 years old children with cancer. Data was gathered through interviews with 25 children, 31 parents, and 32 nurses.

DISCUSSION

Based on field findings, it can be seen that the shape of the role that volunteers provide assistance to children with cancer and their families seemed like a form of social worker role. Therefore, it is important to involve social worker order services integrated treatment can be given to patients and families which have any kind of chronic illness and in all age groups, as a social worker has sufficient knowledge (knowledge), skills (skills), and value (value), as a form of unity of the helping profession.[3,4]

During treatment, children must be made happy and cared for lovingly, for example, provide a number of entertaining activities. In addition to parents, volunteers and psychologists can assist the children in the hospital, as their second home. The healing process would be better if parents encourage without showing a sad face[6].

Children should be made comfortable during treatment because the process of treatment to cure a child with cancer will take quite a long time[7,8].

CONCLUSION

The importance of considering the child with cancer within the context of the family and other social systems is one of the core assumptions of the Pediatric Medical Traumatic Stress (PMTS) model. This model considers family members' reactions to children cancer along a continuum of post-traumatic stress symptoms ranging from normative, acute stress reactions to long-term, impairing reactions. Medical events are termed ''potentially traumatic'' to reflect the subjective nature of trauma experiences, which may be influenced by pre-existing factors such as parental mental health, social support, or coping skills, as well as the manner in which the cancer is perceived.

RECOMMENDATION

1. Children who have any type of cancer should get the assistance of the immediate family, especially the parents. Emotional stability must be maintained and avoid the stress that can occur at any time and if it is not maintained can lead to accelerate disease severity.
2. Be bearers of hope that can give encouragement to the children with cancer worldwide.

REFERENCES

1. Takei, Y., Ogata, A., Ozawa, M., Moritake, HY., Hirai, K., Manabe, A. & Suzuki, S., 2015. Psychosocial difficulties in adolescent and young adult survivors of childhood cancer. *Pediatrics International*, 57, 239–246
2. Donnelly, D.W., Gavin, A.T. 2016. Mortality among children and young people who survive cancer in Northern Ireland, *Ulster Med J,* 85, 3, 158-163.
3. Deodhar, N.J.K., Muckaden M.A. 2015. Continuing professional development for volunteers working in palliative care in a tertiary care cancer Institute in India: A cross-sectional observational study of educational, *Indian Journal of Palliative Care,* Vol. 21, 158-163.
4. Barroso, D.G., Pérez, J.G., Abente, G.L., Uria, I.T., Piga, A., Romaguera, E.P., & Ramis, R. 2015. Agricultural crop exposure and risk of childhood cancer: new findings from a case–control study in Spain. *International Journal of Health Geographics*, 12, 942,016-047.
5. Long, K.A., Marsland, A.L. 2011, Family adjustment to childhood cancer: A systematic review, *Clin Child Fam Psychol Rev,* 14:57–88.
6. Katja, J., Becker, K., Mattejat, F. 2013.
7. Impact of family-oriented rehabilitation and prevention: an inpatient program for mothers with breast cancer and their children, *Psycho-Oncology,* 22: 2684–2692.
8. Kratzke, C., Vilchis, H., Amatya, A. 2013. Breast cancer prevention knowledge, attitudes, and behaviors among College women and mother–daughter communication, *Journal Community Health,* 38:560–568.
9. Sto¨ver, L.A., Hinrichs, B., Petzold, U., Kuhlmei, H., Baumgart, J., Parpart, C., Rademacher, O., Stockfleth1, E. 2013. Getting in early: primary skin cancer prevention at 55 German kindergartens, *British Journal of Dermatology,* 10, 3-63.

P-10

The Benefits of *Gembili* (*Dioscorea esculenta*) Flour Probiotic on The Amount of *Lactobacillus casei* Probiotic Bacteria by In Vitro

Eni Kurniati, Suyana

Medical Laboratory Technology Department of Health Polytechnic of Health Ministry in Yogyakarta
email : eni.kur@gmail.com

ABSTRACT

Background: In the field of health and functional food science lately has evolved in a way that can be done to keep the body healthy. It can be done by consuming foods that contain "probiotic". Probiotic is "feed supplement" of live microbes that beneficially affect the host by improving parent balance of microorganisms in the digestive tract
Objective: To examine the effect of adding various concentrations of *gembili* (*Dioscorea esculenta*) flour to the number of probiotic bacteria *Lactobacillus casei* by in vitro.
Method: The study was experimental in which researchers provide treatment or intervention to a variable. The study design was post-test with control .
Result: The concentration of yam flour used is 0 %, 1 %, 3 %, 5 %, 7 % and 9 %. The higher concentration of yam flour is added, giving the results of increasing the number of bacteria *Lactobacillus casei*
Conclusion: There is the influence of yam flour toward an increase in the number of bacteria Lactobacillus casei. Big influence of yam flour toward an increase in the number of bacteria *Lactobacillus casei* 94.9 %

Keywords: *Gembili* flour, *Lactobacillus casei,* amount of bacteria

INTRODUCTION

Lactobacillus casei is the one of member of genus *Lactobacillus* which has defend ability from gastric acid condition and the low surface tension of a liquid bile order to be able to live to in the colon. *Lactobacillus casei* can improve the normal bacteria activity and other useful bacteria, absorbing dangerous material, immobilize and kill pathogenic bacteria and have the effect of anti tumor which stronger than other bacteria[1].

In general, limitation of probiotic is indigestible foodstuff by upper gastrointestinal tract so it can reach the colon and support good bacteria growth in intestines. Commonly, non-digestible probiotic is carbohydrate. Which include in carbohydrate is fructose, lactose, raffinose, inulin and resistant starch (RS) which can be the source of carbohydrate for advantage bacteria in alimentary tract[2].

According to Lehmann, RS has some benefits i.e. not causing constipation (difficult defecate), lowering cholesterol and capable of lowering glycemic index (numbers which shows potentially increasing blood sugar of carbohydrates which available on a foodstuffs)[3].

Gembili is tubers variety which growth vines with greeny leaf and thorny stems. Its fruit like sweet potato with adult's fist shape, russet and thin skin. *Gembili* usually cooked by boiling, and its skin shall become dry after boiling. Its tuber is white clean colour, its texture like sweet potato and has peculiar flavor. *Gembili* contains ethanol which can be used as a raw bio-ethanol or alcoholic beverages.

Research conducted by Zubaidah, Elok and Akhadiana, Wilda reveals the benefits of inulin which contained in *gembili* (*dioscorea esculenta*). Inulin is a polymers from fructose which the components are composed of β chain [1.2] fruktofu-ranocide. Inulin included in carbohydrates with length of the chain 2-60 unit. Long chain inulin (22-60) unit be less soluble and a more condensed so they could be used as a substitute for fat[4].

Inulin is one of groceries component parts that utilized as functional because food has high fibers. Inulin is probiotic where it cannot be digested by digestion enzymes, but in colon, inulin will fermented by bifidobacterium which gives health benefits to the body[4].

Based on the discussion, researchers interested to have a research on the benefits of probiotic of *gembili* (*dioscorea esculenta*) flour toward the amount of *Lactobacillus casei* probiotics bacteria in vitro.

OBJECTIVE

To know the influence of adding various concentration to *gembili* (*dioscorea esculenta*) flour toward the amount of *Lactobacillus casei* probiotics bacteria in vitro.

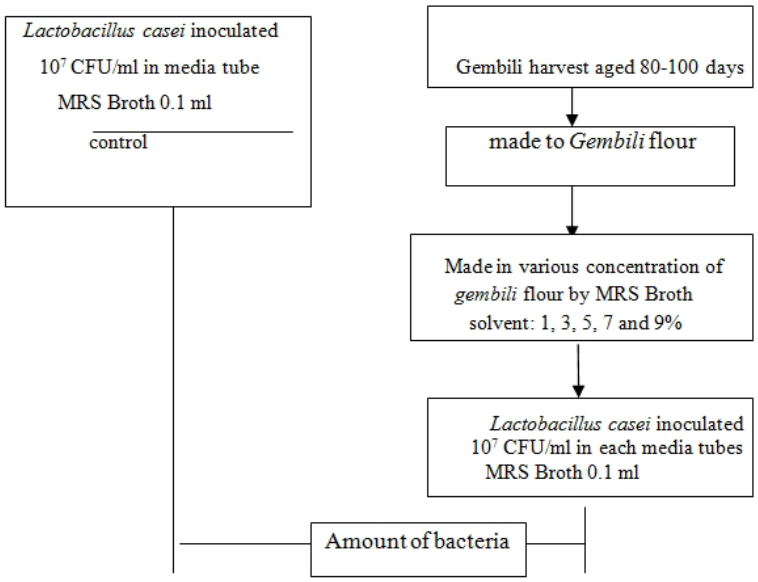
TYPE OF RESEARCH

It was experimental, where the researcher gave treatment or intervention toward one variable.

MATERIAL

a. Gembili flour
b. Lactobacillus casei
c. Sodium Chloride 0,5%
d. Distilled water
e. MRSB
f. MRSA

METHOD :



RESULT AND DISCUSSION

This research was conducted in August -September 2015 in Bacteriology Laboratory of Medical Laboratory Technology of Health Polytechnic of Health Ministry in Yogyakarta. This research was using five concentration variations of *gembili* flour, i.e. by concentration 1%, 3%, 5%, 7% and 9% and one group control.

Table 1. Amount of *Lactobacillus casei* bacteria on *gembili* flour

Replication	Concentration of *Gembili* Flour (in %)					
	0	1	3	5	7	9
	Amount of *Lactobacillus casei* bacteria					
1	1400	2200	5400	8500	10100	13800
2	3300	4700	5000	8300	9800	14200
3	1600	4700	5600	7600	10900	14000
4	2500	4200	6500	8900	11000	14800
5	2800	4500	6800	8000	11200	16300
6	3000	4600	6600	7600	9900	15600
Average	2433	4150	6100	8150	10483	14783

1. Descriptive Analysis

   The result shows that higher *gembili* flour added, increasing *Lactobacillus casei* bacteria.

2. Statistic Analysis

   Determination Coefficient Test (R^2)

   R square used to know the large impact. In this analyze, R^2 was 0.949, it means that the influence of *gembili* flour influence towards the increasing of *Lactobacillus casei* 94.9%.

   Gembili is food which contains many inulin. Inulin is one of components food which commonly used as functional food because it has high fibers. Inulin is probiotic where inulin cannot be digestible by digestion enzyme, but in colon, inulin will fermented by Bifidobacterium bacteria which bring a lot of health benefits in the body[4].

   The bigger concentration of *gembili* flour, probiotic levels for growth nutrition of probiotics *Lactobacillus casei* bacteria also will bigger. Good prebiotic requirement i.e. it cannot be hydrolyzed in the upper gastrointestinal, digestible by god bacteria in colon so able to press the growth of pathogen bacteria. More adding of *gembili* flour, so the alt *Lactobacillus casei* will be higher.

   The characteristic of anaerobic *Lactobacillus casei* is facultative, i.e. need less oxygen, *gembili* flour which added in MRS Broth media can increase anaerobic condition, so can enhance conformity the need of oxygen for *Lactobacillus casei* growth. *Lactobacillus casei* incubation in a MRS media was 48 hours, it means to maximize *Lactobacillus casei* growth in MRS media combined with various concentration of *gembili* flour and MRS media only in a tube control.

   In former research by Reski Praja Putra with entitled “The Resistance of Starch and the Functional Characteristic of Horn Banana Flour (*Musa paradisiaca formaaatypica*) Modified through Lactic Acid and Autoclave Heating”, horn banana flour can be used as alternative source of forming material of resistant starch (RS) because it has high amylase. RS has a function as probiotic which can raise lactic acid bacteria[4].

CONCLUSION

There's some effects on giving *gembili* flour toward the number of *Lactobacillus casei* bacteria

SUGGESTION

1. For the people, consuming *gembili* is useful for health because can increase and fertilize the amount of probiotic bacteria in colon
2. For the next researchers can increase *gembili* flour concentration, so can get the optimum concentration
3. Need further research in In vivo

BIBLIOGRAPHY

1. Mulyani, S., Legowo, A., M., & Mahanani, A., A. 2008. Viability of Lactic Acid Bacteria, Acidity and Melting Time of Prebiotic Ice Cream Using starter *Lactobacillus casei* and *Bifidobacterium bifidium. Journal of The Indonesian Tropical Animal Agriculture*. FPU Undip 33(2).
2. Crittenden, R., G. 1999. Prebiotics *In*: Probiotics: A Critical Review. Horizon Scientific Press, Wymondham pp.141 – 156.
3. Lehman, U.,G., Jacob Asch & Schmiedl, D. 2002. Characterization of Resistant Starch Type III from Banana (*Musa acuminate*). *Journal of Agricultural and Food Chemistry*
4. Zubaidah Elok, Akhadiana Wilda, 2013. *Comparative Study of Inulin Extracts from Dahlia, Yam, and Gembili Tuber as Prebiotic*. Agricultural technology Faculty, Brawijaya, University, Malang, Indonesia.
5. Reski, P., P. 2010. Pati Resisten dan Sifat Fungsional Tepung Pisang Tanduk (Musa pradisiacal Formatypica) yang dimodifikasi Melalui Fermentasi Bakteri Asam Laktat Dan Pemanasan Autoklave. Bogor ; Institut Pertanian Bogor. Skripsi

P-11

THE USAGE OF TOOTH PASTE IN DECREASING PLAQUE SCORE IN ELEMENTARY STUDENTS MASSAL TOOTH BRUSHING

Wiworo Haryani[1], Almujadi[2,] Irma Siregar[3]

[1.2)] Jurusan Keperawatan Gigi Poltekkes Kemenkes Yogyakarta, Jl. Kyai Mojo no. 56, Pingit, Yogyakarta 555243.

[3)] Jurusan Keperawatan Gigi Poltekkes Kemenkes Semarang

E-mail: haryaniwiworo@gmail.com

ABSTRACT

Elementary school students are the high risk community on caries. Their ages are the golden age on practicing their motoric skills in tooth brushing which is the primary prevention of caries. Toothpaste is paste or gel using for tooth brushing to clean food debris on teeth. This study wanted to know the effect of toothpaste in decreasing plaque score. This study was quasi experiment with cross sectional aproach, pretest-posttest design with control group. The samples, taken from SD IT Salsabila 3 Banguntapan, Bantul, Yogyakarta on April 2014, were 30 samples with inclusion criteria : registered on class 3 and 4, no caries, willing to be respondents and cooperative, presented on the day of research. The measurment of plaque score was PHP-M (Personal Higiene Performance-Modified) technique. The data were analyzed with Wilcoxon test. The result showed that plaque score decreased from 2.63 to 1.00 after toothbrushing with toothpaste group and on the group of toothbrushing without tooth paste, it decreased from 2.60 to 1.20 (p value : 0.000). It concluded that there was significant effect on decreasing plaque score by using toothpaste on massal toothbrushing activity.

Keyword : tooth paste, tooth brushing, plaque score.

INTRODUCTION

Dental health must be maintained since young ages due to the vulnerable condition of teeth. Process of the defect of teeth is started by formation of decay which is called caries. This caries happens due to the bacteria activity in plaque which is covered the teeth surface[1]. Toothbrushing is the effective mechanic method to cleaning tooth plaque [2]. Toothpaste used in toothbrushing has the effect of cleaning and smoothing the teeth surface and refreshing the mouth due to the aroma on it [3]. This process of toothbrushing must be followed with rinse the mouth.[4]

Prelimenery research had been done on 20 students SD IT Salsabila 3 Banguntapan Bantul. It was found that 25% sudents didn't use tooth paste while brushing their teeth. According to this condition, we would like to know is there any effect of tooth paste in decreasing plaque score?

METHOD

This study was quasi experiment with corss sectional approach which observed one occasion in the same period of time.[5] Research's design was pretest-posttest with control group. The samples were 30 students of class 3 & 4 in SDIT Salsabila 3 which taken randomized. On the first day, they brushed their teeth with tooth paste and on the second day they brushed without tooth paste. Dependent variable was plaque score and independent

variable was toothbrushing with modification technique, using straight handle toothbrush with flat brushes in two minutes. Tooth paste contained of fluoride. The instruments used were diagnostic instruments, phantom, tooth brush, mask and handschoen, rinse glass, mirror and form of PHP-M scores. The material used were 70% alcohol, tooth paste, disclosing solution, cotton pellet and tissue paper. The data were analyzed statistically by Wilcoxon test.

RESULT AND DISCUSSION

1. Respondents Criteria
   Respondents frequency discribed as bellow:

Table1. Frequency Distribution of Respondents

Characteristic	Jumlah	Percentage (%)
Based on Sex		
Girls	20	66,7
Boys	10	33,3
Total	30	100
Based on Age		
9 years old	18	60
10 years old	12	40
Total	30	100

The biggest respondents were girls (66.7%). Most of the respondents were 9 years old (60%)

2. Plaque Score Criteria

Tabel 2. Frequency distribution of Plaque Score

Plaque Score Criteria	Before		After	
	N	%	N	%
With tooth paste				
Good (0-20)	0	0	30	100
Moderate (21-40)	11	36,7	0	0
Poor (41-60)	19	63,3	0	0
Total	30	100	30	100
Without tooth paste				
Good (0-20)	0	0	24	80
Moderate (21-40)	12	40	6	20
Poor (41-60)	18	60	0	0
Total	30	100	30	100

There were no students who had good plaque score. There were 63.3 % respondents who changed from poor and 36.7% from moderate to good criteria after brushing their teeth with tooth paste. All respondents (100%) became good criteria after brushing their teeth with tooth paste. The usage of tooth paste could clean the teeth surface and remove plaque and bacteria[6]. Acoording to Panjaitan (1977), the usage of tooth paste could result foam, remove food debris on teeth surface, clean and give fresh effect[7]

There were only 60 % respondents who changed from poor to good after brushing their teeth without tooth paste. Not all respondents became good criteria after brushing their teeth without tooth paste. There were only 80% respondents who became good criteria.

3. Plaque Score Difference

Table 3. Plaque Score Difference On Brushing Teeth With And Without Tooth Paste

Variable	N	Mean (x)		Difference
		Before	After	
Brushing teeth with toothpaste	30	2,63	1,00	1,63
Brushing teeth without toothpaste	30	2,60	1,20	1,40

Table 3 showed that the plaque score difference using tooth paste 1.63 and 1.40 without tooth paste. Brushing teeth without toothpaste had the weakness which was it coudn't clean inter dental surface effectively and give fresh effect to the mouth.[8]

4. Statistic Analysis

Table 4. The Result of Wilcoxon Test on Plaque Score Difference

Variable	N	Sig.	z hitung
Brushing teeth with toothpaste	30	0,000	-4,964
Brushing teeth without toothpaste	30	0,000	-4,949

Statistical analysis with Wilcoxon showed that p value 0.000 < 0.05. It meant that there was th significat effect between brushing teeth with and without toothpaste toward plaque score. The usage of tooth paste with fluoride.coutd decrease the acumulation of plaque and caries incidence[9]. Principally, plaque could be removed by brushing teeth without tooth paste if the technique of toothbrushing was good and correct.[10]

CONCLUSION

1. Plaque score criteria before brushing teeth with tooth paste was poor and it became good after.
2. Plaque score criteria before brushing teeth without tooth paste was poor and it became good and moderate after.
3. There was a signifficatn difference between brushing teeth with and without toothpaste toward plaque score (p=0,000<0,05, Wilcoxon test)

RECOMENDATION

1. It's better to brush teeth with toothpaste containde with fluoride for elementary school students because it helps remove food debris and plaque, smooth the teeth surface and give freshness impact
2. This study could be the refference for promotion activity in maintaining oral hygiene for society especially students.

REFERENCES

1. Kusumawardani, E. (2011). Buruknya Kesehatan Gigi dan Mulut Memicu Penyakit Diabetes , Stroke dan Jantung. Siklus Hanggar Kreator, Yogyakarta.
2. Natamiharja, L., dan Dewi, O. (2002). Efektifitas Penyingkiran Plak antara Sikat Gigi Berserabut Posisi Lurus dan Silang (Exceed) pada Murid Kelas V Sekolah Dasar, Dentika Dental Journal, 7(1): 6-10.
3. Hiranya Putri, M., Herijulianti, E., Nurjannah, N. (2009). Ilmu Pencegahan Penyakit Jaringan Keras dan Jaringan Pendukung Gigi. Penerbit Buku Kedokteran EGC, Jakarta.
4. Dharmayanti, A. (2011). Manfaat Sikat Gigi Kondisi Kering. Diunduh tanggal 25 Oktober 2013 dari http://aridharmayanti.wordpress.com.
5. Riwidikdo, H. (2013). Statistika Kesehatan. Rohima Press, Yogyakarta.
6. Pratiwi, D. (2009). Gigi Sehat dan Cantik. PT Kompas Media Nusantara, Jakarta.
7. Panjaitan, M. (1997). Ilmu Pencegahan Karies Gigi. Universitas Sumatera Utara Press, Medan.
8. Musyrifin, A. (2011). Salah Satu Keajaiban Sunnah. Diunduh tanggal 14 Januari 2012 dari http://coretankoe.blogdetik.com/berkumur-salah-satu-keajaiban-sunnah//.
9. Tajudin, S. (2013). Pengaruh Jumlah Asupan Biskuit Cokelat Terhadap Akumulasi Plak Gigi pada Anak Usia 9-10 Tahun. Skripsi. Yogyakarta.
10. Tan. (1993). Ilmu Kedokteran Gigi Pencegahan (terj.). Gadjah Mada University Press, Yogyakarta.

P-12

Effect of Orange-Flavored Soft Drinks Against TheLevel of Acidity Salivary pH In Elementary School Students

Siti Sulastri[1] Dwi Eni Purwati[2]

[123]Jurusan Keperawatan Gigi Poltekkes Kemenkes Yogyakarta, JL. Kyai Mojo No.56 Pingit Yogyakarta 555243. (0274-514306).
sitislstr7@gmail.com

Abstract

Background: The rest of the food or beverage can form plaque that will affect the pH of saliva are other detrimental oral health. Based on preliminary studies to 10 students fromPanggang elementary school average data obtained saliva pH less than 7 below normal.
Problem: Is there any influence of drinking soft drinks orange flavor to the salivary pH in elementary school students?
Methods: The experiments, with pretest and posttest with control group design. Samples: 100 samples with stratified random sampling technique. Statistical Test Non Parametric Tests. Test T-test with Wilcoxon test.
Research purposes : knowing the effect before and after drinking soft drinks the pH of saliva.
Result: The pH before and after drinkingorange flavor soft drinks of significance is p = 0.03 <0.05.
Conclusion: The existence of significant influence drinking orange-flavored soft drink to the pH value of the students.

Keywords: orange-flavored soft drink, the pH of saliva

PRELIMINARY

School-age children is an investment for the nation as the future generation. The quality of the nation in the future is determined by the quality of children today. Efforts to improve the quality of human resources should be done early. School-age child development is optimal depends on the provision of nutrition to the quality and quantity of the good and true. Primary school children aged 10-12 years more spent a quarter of his time at the school with a variety of school activities are quite dense resulting in increased appetite naturally. Children also have started good at determining the food and drink that they like knowing the environment, usually prefer soft drinks and instant foods containing carbohydrates and MSG as a flavor enhancer. In general, school children liked the food hawker in front of the school by reason of cheap, easy, attractive packaging, and diverse. Children are more often consume snacks such as sweets, cereal bars, biscuits and fizzy drinks. A research institutes in the area of East Jakarta revealed that the type of snacks that are often consumed by children of school is ice syrup and cilok. Leftover food or beverage can form plaque that will affect the pH of saliva (Maranatha, 2013) [1].

According to some observations, eating certain foods or beverages can affect the pH of saliva are other detrimental oral health. Consuming beverages containing acid such as soft drinks can also lead to demineralization of tooth enamel due to the solubility in saliva (Preethi et al cit. Parade, 2011) [2]. In addition to having a low pH, soft drinks such as orange drinks packaging also contains glucose, fructose, sucrose and other sugars. Bacteria in the mouth can ferment carbohydrates (glucose, fructose, and sucrose) and produce acids that can destroy tooth enamel for sweet drinks often increase the risk of dental caries (Parade,

2011) [2]. Production of various types of soft drinks marketed and consumed globally known for sure can cause demineralization email directly known as erosion. When through the fermentation of carbohydrates in conjunction with bacterial activity known as dental caries. Demineralization directly undertaken by the acid content in a kind of soft drink, may be more meaningful than the losses resulting sugar content. Most soft drinks, including isotonic drinks contain several types of acids, such as phosphoric acid, citric acid, malic acid and tartaric acid. soft drink pH is between pH 2.4 to 4.5 which is under the critical pH range (Ramadhani, 2013) [3].

A study conducted in 1974, found a positive correlation between soft drink consumption frequency and severity of tooth decay, especially in children. This discovery is surprising because the researchers also take into account the consumption of other sweet foods, but still found that most soft drinks contribute to tooth decay (Jacobson cit. Latif, 2012) [4]. The researchers suggested that the more teeth in contact with the acid-containing soft drinks, the greater the occurrence of tooth enamel mineral solubility in saliva (Latif, 2012) [4]. Saliva is one component that contributes to the level of acidity (pH) of the mouth. Saliva as a buffer system to maintain optimal oral pH, which tends to alkaline pH. If without saliva, so every meal will form an acidic environment that will support the growth of bacteria that damage the teeth. Inside there are also saliva ions such as calcium and phosphate which are the fundamental building blocks of tooth structure. Another function of saliva is to help the process of remineralization of small lesions on the enamel layer (Kusumasari, 2012) [5].

Based on a preliminary study by interviewing 10 students from PanggangSedayuBantul Elementary School about drinking soft drinks obtained data is that students often consume drinking soft drinks, and examination of the average student saliva the saliva pH less than 7 below normal. Based on the description above, the writer interested in conducting research on the effect of the pH of saliva after drinking soft drinks at elementary school students.

RESEARCH PURPOSES

Knowing the influence of drink-orange-flavored soft drink on the salivary pH of Panggang Sedayu Bantul Elementary School.

RESEARCH METHODS

This research used experimental method with pretest and posttest control group design. Selection of this method to test the effect of soft drinks on the pH of saliva elementary school students.

RESEARCH RESULT

Research on “Effect of Orange-Flavored Soft Drinks Against TheLevel of Acidity Salivary pH In Elementary School Students” which was held in March-June 2016 the respondent class III, IV, and V Panggang, Sedayu, BantulElementary School as many as 100 students. The data obtained from the study and then normality test data. Data normality test results as follows:

Normality Test (Kolmogor Smirnov)

Conclusion: Asymp. Sig = 0.000 <0.05, so it was not a normal distribution of data, including the type of research Nonparametric. Using the Wilcoxon test to determine the effect

(Pre and Post Group Experiments pH value) and using the Mann Whitney test to determine difference (Difference Experiment Group and Control Group).

Data normality test results, the data processed using Wilcoxon and Mann Whitney analysis and presented in the following table:

Table 1: Frequency Distribution of Respondents by Average Value pH Variable Mean Difference

Variable	Mean		Difference
	Before	After	
Experimental Group (Drink Soft Drink Taste Orange)	6,7	6,44	-0,26
Control Group (No Drink Soft Drink Taste Orange)	6,92	7,36	0,44

Table 1 shows the pH value of saliva in the experimental group after drinking orange-flavored soft drinks decreased from before drinking orange-flavored soft drink, which is from 6.7 to 6.44, while the control group after the measurement of pH values increased saliva second of measurement salivary pH value of the first is from the previous 6.92 to 7.36.

Table 2: Results of Analysis Using the Wilcoxon test

N	Z	Asymp. Sig	A
50	-2.172	0,030	0,05

Table 2 shows that the value Asymp. Sig was 0,030 lower than 0,05 so Ho rejected and Ha is accepted, then the statistics show a significant difference between the value of the pH of saliva students of classes III, IV, and V Panggang Elementary School before and after drinking orange flavored soft drink or the influence drinking soft drinks orange flavor to the salivary pH values of students of classes III, IV, and V Panggang Elementary School.

Table 3: Analysis Using Mann Whitney Test

N	Z	Asymp. Sig	A
100	-4.342	0,000	0,05

Table 3 shows that the value Asymp. Sig differences in salivary pH value difference between students who drank orange-flavored soft drink with students who did not consume soft drinks orange flavor is 0,000 less than 0.05 so Ho rejected and Ha is received, it can be concluded that there were significant differences in value salivary pH between students who drank orange-flavored soft drink with students who do not drink orange-flavored soft drink.

DISCUSSION

Results (see Table 1) shows that the average value of the pH of saliva students of class III, IV, and V Panggang Elementary School after drinking orange-flavored soft drinks declined or become more acidic ie from 6.7 (acidic pH) to 6 , 44 (acidic pH), while the students who do not drink orange-flavored soft drink increased the average value becomes alkaline pH of saliva or that of 6,92 (acidic pH) to 7.36 (alkaline pH). Based on Table 2 shows that the pH

value of saliva before drinking orange-flavored soft drink and after drinking soft drinks orange flavor of significance is p = 0.03 p <0.05, significant difference drinking orange-flavored soft drinks to the value salivary pH students of class III, IV, and V Panggang Elementary School. This difference is due to the decreased value of the pH of saliva students after drinking orange-flavored soft drink. In accordance with the opinion of Ircham in research Rahmawati (2014) [6] which states that if we eat sweets or sugary foods, including soft drinks, the bacteria in the plaque will turn it into acid. This acid will lower the acidity of saliva which then will cause enamel decalcification process so that over time it came to pass dental caries.

This research was supported by Sari (2008) [7] which states that exposure of acid on tooth surfaces can cause a decrease in pH in the oral cavity with rapid and accelerating the process of demineralization. Sources acid commonly consumed by the community of which comes from soft drinks and fruit juices. The same opinion was expressed by Preethi and colleagues in research Parade (2011) [2] which states that eating certain foods or beverages can affect the pH of saliva are other detrimental oral health. Consuming beverages containing acid such as soft drinks can also lead to demineralization of tooth enamel due to the solubility in saliva. This study was supported by research Alam (2010) [8] which states that the pH of saliva decreases after consuming soft drinks for soft drinks contain acid and have a pH of 3.0 or lower and thus may cause the demineralization of dental hard tissue. the pH of saliva will be back to normal within 30 seconds of exposure to soft drinks.

The decline in the average value of the pH of saliva students of class III, IV, and V Panggang Elementary School after drinking soft drinks orange flavor that is from 6.7 (acidic pH) to 6.44 (acidic pH) in accordance with the opinion of Patel et al in research Mulyanti (2015) [9] that soft drinks have some effect on the oral cavity. Soft drink pH value is between 2.4 to 4.5, while the critical pH is 5.5, it means that the pH of soft drinks are below the limits critical pH which causes demineralization of tooth enamel. According to research Panigoro, et al (2015) [10] which states that the activity of eating and drinking one's impact on the demineralization and remineralization email. Demineralization occurs because the acid exposure from food or drink in a long time led to changes in pH of the oral cavity so that the tooth surface becomes acidic. Demineralization can occur when emails are in an environment of pH below 5.5 as in soft drinks with a pH below 5.5 which is now widely consumed by the public.

Results of statistical analysis using the Wilcoxon test showed that there is a change in the pH value is proven by the results of significance 0.03 <0.05 which indicates that Ho is rejected and Ha received thus drinking orange flavor affect significantly decrease the value of the pH of saliva students class III, IV, and V Panggang Elementary School. According to research Tyasning (2014) [11] which states that the relationship of sugar in foods or soft drinks larger influence on the caries process because usually the food or soft drinks are often consumed between two meals, so it has a low tendency. Research salivary pH which is supported by parade (2011) [2] which states that in addition to having a low pH, soft drinks such as orange drinks packaging also contains glucose, fructose, sucrose and other sugars. Bacteria in the mouth can ferment carbohydrates (glucose, fructose, and sucrose) and produce acids that can destroy tooth enamel for sweet drinks often increase the risk of dental caries. Ramadhani (2013) [3] also revealed that most soft drinks, including isotonic drinks contain several types of acids, such as phosphoric acid, citric acid, malic acid and tartaric acid. soft drink pH is between pH 2.4 to 4.5 which is under the critical pH range. Eating fruit juices containing acids, such as citric acid in oranges, folic acid in the juice of green beans, and so more than

twice a day have an increased capacity buffer solution, and also can cause the pH of the mouth dropped prolonged, which can result in dissolution tooth enamel.

The results of the study (see Table 3) indicated that the value Asymp. Sig differences in salivary pH value difference in the students who drank orange-flavored soft-drink with students who did not drink soft-drinks orange flavor is 0.000 <0.05 so it can be concluded that the pH value of saliva students were drinking soft drinks taste grapefruit have significant differences with saliva pH value of students who did not drink soft-drinks orange flavor.

The results of this study are supported by Kusumasari (2012) [5] which states that the saliva is one component that contributes to the level of acidity (pH) of the mouth. Saliva as a buffer system to maintain optimal oral pH, which tends to alkaline pH. If no saliva, so every meal will form an acidic environment that will support the growth of bacteria that damage the teeth. Inside there are also saliva ions such as calcium and phosphate which are the fundamental building blocks of tooth structure. Another function of saliva is to help the process of remineralization of small lesions on tooth enamel. This research was also supported by Maranatha (2013) [12] which states that a child snacks such as candy, wafers, cakes, biscuits and soft drinks containing sugar. Type most widely used sugar is sucrose. Sucrose consumption in large quantities can lower the pH of saliva. The incidence of caries is high mainly due to the sucrose for the synthesis of extracellular sucrose faster than other sugars such as glucose, fructose, and lactose so quickly transformed by microorganisms in the oral cavity becomes acidic. Salivary secretions and saliva generated component is liquid exocrine essential for healthy teeth and oral cavity. Salivary function one of which is having the ability buffer that will affect the value of the pH of saliva, wherein the pH of saliva may change due to the influence of the rhythm of day and night, as well as being acid 15 minutes after eating.

This research was also supported by research Latif (2013) [4] which states that after 10 minutes of consuming soft drinks are acidic can cause salivary pH drops further demineralization process so as to accelerate the acid environment in the mouth will be back to normal after 30-60 minutes of consuming the soft drink demineralization itself is a process of moving minerals in the form of mineral ions of the tooth enamel. Decreasing the pH value of the students after drinking soft drinks orange flavor in this study was also supported by research Prasetya (2008) [13] which states that the various types of soft drinks manufactured, marketed and consumed globally known for sure can cause demineralization email the drink contain ingredients such as asamfosfat and asamsitrat carbonation. Both of these materials consist of a mixture of organic acids such as maleic and tartaric. These organic acids inhibit buffer capacity and lowering the pH of saliva.

CONCLUSION

The study of 100 respondents in Panggang Elementary School titled “Effect of Orange-Flavored Soft Drinks Against TheLevel of Acidity Salivary pH In Elementary School Students” can be concluded that:

1. The existence of significant influence drinking orange-flavored soft drink to the pH value of the students of class III, IV, and V Panggang Elementary School.
2. The pH of the students who drank orange-flavored soft-drink with students who do not drink orange-flavored soft-drinks have differences.
3. Based on the average pH value before and after the students drinking orange-flavored soft drink has a pH value which means a decrease in pH becomes more acidic after

drinking orange-flavored soft drink. While the students who do not drink orange-flavored soft-drinks have a pH change from acid to alkaline.

SUGGESTION

Based on research that has been done, the advice to researchers convey is:

1. For the Respondents

   Improving oral health by increasing insight as much as possible, either by reading the book and the mass media or follow oral and dental health education as well as more selective in choosing healthy foods and beverages and tooth decay. It is also recommended to drink water after drinking soft drinks and do not brush your teeth immediately after drinking the beverages to avoid the risk of dental caries and erosion.
2. For Elementary School

   As input and resources to improve the oral health knowledge by organizing promotional activities and preventive one with more selective in watching her students choose snacks that are consumed.
3. For Further Research

   This research can be used as a guide and reference for further research to give an idea of the influence of drink-orange flavored soft drinks to the level of acidity pH value and is expected to be developed with a wider scope and a more complete aspect.

REFERENCES

1. Maranatha. (2013). Perubahan pH Saliva setelahMengonsumsiJajanan. Bandung. Diunduhdari respiratory.pdf padatanggal 19 Oktober 2015.
2. Parade, Nur Nubli Julian. (2011). Pengaruh Konsumsi Minuman Jeruk Kemasan terhadap pH Saliva. Skripsi Fakultas Kedokteran Universitas Sebelas Maret. Surakarta.
3. Ramadhani, Syarifah Fitria. (2013). Kelarutan Fosfat Email pada Perendaman Gigi dalam Minuman Isotonik dan Asam Folat. Skripsi Fakultas Kedokteran Gigi Universitas Hasanuddin. Makassar.
4. Latif, Muh. Talib Abdul. (2012). Kelarutan Magnesium Email pada Perendaman Gigi dalam Minuman yang Mengandung Asam Bikarbonat dan Asam Sitrat. Skripsi Fakultas Kedokteran Gigi Universitas Hasanudin. Makassar.
5. Kusumasari, Nila. (2012). Pengaruh Larutan Kumur Ekstrak Siwak (Salvadora persica) terhadp pH Saliva. Karya Tulis Ilmiah Program Stusi Pendidikan Sarjana Kedokteran Fakultas Kedokteran Universitas Diponegoro. Semarang.
6. Rahmawati, Ida, Fahmi Said, dan Sri Hidayati. (2014). Perbedaan pH Saliva antaraSebelumdanSesudahMengkonsumsiMinumanRinganpadaSiswa Kelas II dan III Madrasah Ibtidaiyah Zam-Zam Zailani Banjarbaru Kalimantan Selatan Tahun 2014. Jurnal Skala Kesehatan, 6 (1).
7. Sari, NI Nyoman Gemini. (2011). Permen Karet Xylitol yang Dikunyah Selama Menit Meningkatkan dan Mempertahankan pH Saliva Perokok Selama 3 Jam. Tesis Program Studi Ilmu Biomedik Program Pascasarjana Universitas Udayana. Denpasar.
8. Alamsyah, Rika Mayasari. (2010). Efek Perbedaan Cara Meminum Softdrink (Minuman Ringan) terhadap Penurunan pH Saliva pada Siswa SMP Raksa Medan. Jurnal Fakultas Kedokteran Gigi Universitas Sumatra Utara. Medan.

9. Mulyanti. (2015). Perbedaan a`ntara Minuman Bersoda dan Minuman Isotonik terhadap Peningkatan Plak Gigi pada Mahasiswa Kedokteran Gigi UMS Angkatan 2014. Skripsi Fakultas Kedokteran Gigi Universitas Muhammadiyah Solo. Solo.
10. Panigoro, Syahril, Damanjanty H. C. Pangemanan, danJuliantri. (2015). Kadar Kalsium Gigi yang Terlarut pada Kerendaman Minuman Isotonik.Jurnal e-Gigi, 3 (2).
11. Tyasning, Retno Wikan. (2014). Pengaruh Minuman Bersoda Gula Alami dibandingkan dengan Minuman Bersoda Gula Sintesis terhadap pH Saliva. Thesis Program Studi Kedokteran Gigi Universitas Syiah Kuala. Aceh.
12. Maranatha. (2013). Perubahan pH Saliva setelah Mengonsumsi Jajanan. Bandung. Diunduh dari respiratory.pdf pada tanggal 19 Oktober 2015.
13. Prasetya, R.C. 2008. Indonesia Journal of Dentistry, Diunduh tanggal 26 Mei 2015 dari http://www.fkg.ui.edu

P-13

EFFECTIVENESS FAMILY PSYCHOEDUCATION THERAPY IN PATIENTS WITH MENTAL DISORDERS : LITERATURE REVIEW

Destianti Indah Mayasari[1]

[1] Postgraduate Student Master of Nursing, Faculty of Medicine-University of Brawijaya
desty83.raka@gmail.com

ABSTRACT

Introduction : Family psychoeducation is one form of family therapy that can be administered to patients with mental disorders and their familyies. Psychoeducation includes educational and psychosocial objectives that require the use of pedagogical methods and techniques to develop permanent behavioral changes in patients.
Aim : To identify and evaluate the effectiveness of psychoeducation family therapy in an effort to care for patients with mental disorders.
Methods : The study was a literature review. The literature review was obtained from variety of publish literature in 2010 until 2016. The articles used were taken from several databases like Ebsco host, Pub Med, Google Scholar, and Science Direct. The author analyzes the effectiveness of family pschoeducation therapy on patients mental disorders.
Results: The findings suggest that group psychoeducation may have an impact on the participants perceived social support, knowledge and acceptance of bipolar disorder, personal insights, attitudes toward treatment and access to services. There are social and psychological burdens coincided with the development of progressive disease.
Discussion : Psychoeducation Family therapy is one of the most routine intervention in the management of a patient with mental disorders such as schizophrenia. Effects of psychoeducation family therapy on their families' quality of life has been studied in a limited previous research and most of them have evaluated the family burden. Differences between the studies mentioned can be attributed to differences in methods of assessment of burden on families and more important with the type of intervention.

Keywords: Family Psychoeducation Therapy, patients with mental disorders, effectiveness.

INTRODUCTION

Family psychoeducation is one form of family therapy can be administered to patients with mental disorders and family. The goal of family psychoeducation is to increase family knowledge about the disease through education about the efforts and signs of behavioral symptoms that can support the strength of family [1]. Based on research Keliat (2006) found that the recurrence rate in patients without family therapy by 25-50%, while the recurrence rate in patients with family therapy amounted to 5 -10%.

Psychoeducation family is the provision of education to a person who supports the treatment and rehabilitation [2]. Family psychoeducation is one form of mental health treatment therapies families by providing information and education through therapeutic communication. Psychoeducation program is an approach that is education and pragmatic [3]. The goal of family psychoeducation reduce the intensity of emotions in the family to a low level so as to improve the achievement of family knowledge about the disease and teach families about efforts to help them protect their families to know the symptoms of behavioral and supports the strength of the family [4]. Benefits of family psychoeducation increase knowledge about mental disorders, teaches techniques that can help families to know the

symptoms - symptoms of deviant behavior, as well as increased support for the family members themselves. This therapy can be done in hospitals both hospital on condition that the room should be conducive. Can also be done in the family home itself. The house can provide information to health workers about how the style of interaction that occurs within the family, values - values shared in the family and how the family understanding about health.

Psychoeducation is defined as a systematic, structured and pedagogic approaches to the disease and its treatment. Psychoeducation includes educational and psychosocial objectives that require the use of pedagogical methods and techniques to develop permanent behavioral change in patients. With the program psychoeducation structured, patients can improve their quality of life by developing their basic knowledge of Bipolar Disorder, including information about the recurrence rate of the disease, treatment and side effects, trigger factors, the importance of adherence to medication, how to control the symptoms, stress management, risk suicide, pregnancy, stigmatization, introduction of symptom recurrence early, avoid the use of alcohol and other substances, and the importance of living life with a well-structured [5].

Seeing these problems, it is necessary to study methods of effectiveness of family psychoeducation therapies are performed on patients with mental disorders.

AIM

The intent of literature review was to identify and evaluate the effectiveness of therapy psychoeducation family in an effort to care for patients with mental disorders.

METHOD

This research uses methods of literature study. This paper takes from the literature such as PubMed, Science Direct, Ebsco host, and Google Scholar. The total number employed in the literature review as many as ten literature. The literature was obtained from variety of published literature in 2010 until 2016.

RESULT AND DISCUSSION

Renaires et al (2010) states that patients in the early stages of bipolar the benefits of family psychoeducation to have a longer time to relapse (Chi-square: 6:26; p = 0.012). There was no significant benefit of family psychoeducation was found in patients with advanced stage. Patients with advanced increased the vulnerability and resilience as the disease progresses. Patients may show a more severe long maladaptive coping strategies. Thus, the restructuring of habit or routine regularity can become more complex. Similarly, family attitudes, behavior and overall family functioning may be more difficult to modify relatives of patients with higher chronicity and severity. In addition, family psychoeducation therapy is not focused directly on patients, but their families, it is possible that the more severe the patient will need to be directly involved in the intervention to obtain better results. There are social and psychological burdens coincided with the development of progressive disease. Furthermore, as has been found in previous studies, the severity of disease and dysfunction of higher among patients associated with higher levels of burden in the family. Task caregivers to monitor patients has been associated with emotional exhaustion and subjective burden [6].

Hubbard, compared to waiting list control group, the treatment group showed immediate and significant in caregiver burden, and increased knowledge of bipolar disorder and

bipolar disorder self-efficacy. This improvement is maintained or enhanced for follow up. No significant changes were observed in the DASS-21. The first A Randomized Controlled Trial (RCT) evaluating short, group psychoeducation intervention two sessions for the individual to caregivers in with bipolar disorder. It is also the first to include the size of the RCT bipolar disorder caregiver self-efficacy, and the results are promising. As hypothesized, participants in the intervention condition reported a significant reduction in the burden, and improvement in bipolar disorder significant self-efficacy and knowledge about bipolar disorder from pre- to post-intervention, and the advantage was maintained at one-month follow-up. These findings are consistent with previous studies that have also been found helpful for the caregiver psychoeducation, although with sub intervention to help speed up the process again [7]. In line with this study, the second study found a decrease in weight and improvement in knowledge about bipolar disorder, however, is not measured self-efficacy.

According to these results, psychoeducation allegedly to prevent relapse and showed a protective effect in the long term. However, the application psychoeducational treatment programs routinely in Turkey is not at the required level. Thus, nurses soul has a comfortable position in evaluating the patient's needs, and preparing and implementing psychoeducational programs aimed at these needs as they relate to the patient in the process of treatment and care [5]. Strengths of this study is the fact that it is the first study of psychoeducation 4 individual sessions conducted with the participation of patients suffering from Bipolar Disorder (BD). Another strength of this study is the ad- vantage of individual psychoeducation in patients who do not want to discuss their personal problems in the education group. Lower dropout rates are also other advantages. Limitations consist of a study conducted at a single center, the number of patients is low and the period for evaluating the effectiveness of the study to 12 months.

They are allocated either Multi Family Group Psychoeducation (MFGP) or Solution Focussed Group Therapy (SFGP) have significantly increased their knowledge and reduce the overall burden and psychological distress in year one and is maintained in year two. Advantage as it was not apparent among those allocated to Treatment As Usual (TAU). These findings are consistent with other studies in bipolar disorder also showed a significant increase in the nurse's knowledge of post-psychoeducation. We found an improvement in psychological pressure guard in both years one and two years for a random caregiver for both SFGP and MFGP while no improvement for them in the arm TAU. There is also increasing the quality of life of people affected by bipolar disorder that caregivers attend both intervention and control MFGP SFGP, without any significant change in the quality of life for those that TAU. Unlike Clarkin et al. we found only a marginal improvement in global function in the patients whose families attend more MFGP TAU and is not maintained at year two. There is no benefit in terms of global functions for the patients relatives were allocated to SFGP [7].

The findings suggest that group psychoeducation may have an impact on the participants perceived social support, knowledge and acceptance of bipolar disorder, personal insights, attitudes toward treatment and access to services , Key recommendations for improvements, including: allowing more time for group discussions, offering group sessions for family members and avoid the use of a hospital or university for the group [8]. Psychoeducation Family is one the most routine intervention in the management of a patient with schizophrenia. We evaluated the effects of the education program-needs-based assessment compared to the current program on global function and quality of life (QOL) of patients and their families [9].

So far, many studies have addressed the effectiveness of psychoeducation in the treatment of schizophrenia. In a systematic review on 44 clinical trials (including 5142 patients), it was found that psychoeducation improve function and quality of life of patients globally and increase satisfaction with social and mental health services. Although the components and the current contents program different education, a successful program must have the following approaches in common: (1) In view of schizophrenia as an illness, (2) must be designed and directed by professionals, (3) should be part of the treatment package more comprehensively spanning biological treatment, (4) consider family members as treatment factors and not the patient, (5) a focus on the results of the disorder, although the results of the family is also important, and (6) do not have confidence in a conventional family therapy behavior and relationships within the family plays a key role in the aetiology and development of schizophrenia (. the contents of the program information psychoeducation families are diverse, and in general, including awareness about the nature of the disorder and symptoms, medications, and their complications, adherence to treatment, getting familiar with the early symptoms of relapse, strategies crisis , the role of the family in care, communication skills training, rehabilitation, and education on health behaviors [9].

According to a study investigating the implementation of psychoeducation for schizophrenia, in 2003, at 83% of hospitals in Germany, Austria and Switzerland. However, overall, only 21% of patients who received psychoeducation. The high dropout rate of 25% [4]. Several factors may have contributed to this situation. Some hospitals may still question the effectiveness of these programs, but most hospitals do not have enough staff to provide psycho-education program well-prepared weekly for their patients. And even for those who do, reach their patients seem to be a difficult task. In some patients, symptoms may be too severe. Other discarded (with or against medical advice) before they complete the program, and some patients do not have the motivation to join or finish the program. Meanwhile, the hospital and the patient's point of view, many of these reasons for not offering or pating part in psychoeducation can be understood, the cost is high. Rummel-Kluge et al. It is estimated that up to 150 million euros could be saved each year by tripling the number of patients who received psychoeducation [4].

Effects of psychoeducation family on their families' quality of life has been studied in a limited previous research and most of them have evaluated the family burden , Several studies have reported that family psychoeducation can reduce the burden on families / pengasuhSebaliknya, Chan et al in [9], reported short-term, but not long-term benefits of psychoeducation for the burden of the family. Also, González-Blanch *et*al.melaporkan that brief family psychoeducation is not enough to reduce the burden of the family. Several other studies found no beneficial effect of treatment group keluarga atau education keluarga pada family outcomes. Differences between the studies mentioned can be attributed to differences in methods of assessment burden on families and more important with this type of intervention.

CONCLUSION

Psychoeducation family can improve cognitive abilities and psychomotor abilities families, because in psychoeducation family contains elements improve family knowledge about the disease and teach techniques that can be helping families to know the symptoms of deviant behavior and support for the family members themselves. So that the family can perform maintenance on mental patients in the home and reduce recurrence

RECOMENDATION

We should be able to do other therapies by combining family psychoeducation therapy with other therapies to help patients in the recovery process. We also need to increase knowledge about the intervention we can do for patients with mental disorders.

REFERENCE

1. Alison A.Hubbard, PeterM.McEvoy, LauraSmith, RobertT.Kane (2016). Brief group psychoeducation for care givers of individuals with bipolar disorder: A randomized controlled trial. Journal of Affective Disorders 200 (2016) 31-36.
2. Yesuffu-Udechuku A, B Harrison, Mayo-Wilson E, Young N, P Woodhams, ... and Kendall T (2015). Interventions to improve the experience of caring for people with severe mental illness: systematic review and meta-analysis 206. (4): 268-74. doi: 10.1192 / bjp. bp.114.4756
3. Fujika Katsuki et al (2014). Multifamily psychoeducation for improvement of mental health Among relatives of Patients with major depressive disorder lasting more than one year: study protocol for a randomized controlled. Trials 2014, 15: 320
4. Christian von Maffei et al (2015). Using films as a psychoeducation tool for Patients with schizophrenia: a pilot study using a quasi-experimental pre-post design. BMC Psychiatry (2015) 15:93. DOI 10.1186 / s12888-015-0481-2
5. Funda Gumus, Sevim Buzlu, Sibel Cakir (2015). Effectiveness of Individual psychoeducation on recurrence in bipolar disorder; A Controlled Study. Archives of Psychiatric Nursing 29 (2015) 174-179.
6. María Reinares, et.al (2010). The impact of staging bipolar disorder on treatment outcome of family psychoeducation. Journal of Affective Disorders 123 (2010) 81-86.
7. K. Madigan, et. al (2012). A randomized controlled trial of carer-Focused multi-family group psychoeducation in bipolar disorder. European Psychiatry 27 (2012) 281-284.
8. Ria Poole, Daniel Smith and Sharon Simpson (2015). Patients' perspectives of the feasibility, acceptability and impact of a group-based psychoeducation program for bipolar disorder: a qualitative analysis. BMC Psychiatry (2015) 15: 184 DOI 10.1186 / s12888-015-0556-0
9. Omranifard, Viktoria (2014). Effect of needs-assessment-based psychoeducation for families of Patients with schizophrenia on quality of life of Patients and their families: A controlled study. J Health Promot Educ. 2014; 3: 125. Published online 2014 November 29. doi: 10.4103 /2277-9531.145937

P-14

BETWEEN THE EFFECTIVENESS OF PHARMACOLOGICAL AND NON-PAHARMAGOLOGICAL THERAPY IN EFFORT SMOKING CESSATION

Adelheid Riswanti Herminsih[1]

[1]Postgraduate Student Master of Nursing, Faculty of Medicine-Brawijaya University
adelheid643@gmail.com

ABSTRACT

Background: Smoking already known by children of school age. the negative impact of very large, especially in the health sector. Smoking largest contributor of death in the United States. pengehntian smoking efforts have been done to target various ages with different ways namely pharmacological and non-pharmacological therapy.
Aim: To identify the pharmacological therapies used in smoking cessation efforts, non-pharmacological therapies used in smoking cessation efforts and that effectiveness of the pharmacological therapy and non-pharmacological against efforts to stop smoking.
Methods: The systematic review was obtained from variety of published literature in 2011 until 2015 through several journals, among others BMC Public Health, Journal of Nursing Education and Practice, Journal of Hospital Administration, The Journal of The Association of Chest Physicians, Colonial Academic Alliance Undergraduate Research Journal and Internationale Journal of Preventive Medicine
Results: Pharmacological therapy used in smoking cessation is nicotine replacement therapy, bupropion, Champix and Zyban. This therapy has a higher level of effectiveness. There are also non-pharmacological therapies are often diguankan is self-help, hypnosis, hypnoterapi, acupuncture, counseling, CBT, group therapy and intervention / doctor's advice.
Conclusion: Smoking cessation will be more effective if pharmacological therapy combined with non pharmacological therapy.

Keywords: Smooking, cessation, therapy.

BACKGROUND

Smoking basically have a positive or negative impact. Although smoking has a positive impact, but the negative impact caused is far greater, especially for health. In some countries, smoking is the major contributor to mortality, for example in the United States 2.4 million deaths of the year are caused by smoking. Smoking is also a contributor to the deaths of 500 thousand deaths of the year in the European Union [1]. Ironically, current smoking has become a lifestyle ranging from school-aged childres to senior citizens.

The highest prevalence of smoking are in the age range 25-44 years [2]. While in India, as many as 250 million tobacco users aged over 20 years, the number of men more than women. In an effort to improve the health of the population, then one of the effective measures taken by the United States that increase the number of population to quit smoking [1].

Smoking cessation efforts have been entered into various targets, which starting from school age children to nurses, patients and families at the hospital with a variety of methods both pharmacological and non-pharmacological. Various attempts were made by health workers both doctors, nurses and counselors. The aim of this systematic review is to identify and evaluate the effectiveness of the pharmacological and non-pharmacological therapy in an attempt to smoking cessation through evidence based practice approach.

AIM

Investigation results of this research include pharmacological therapies used in smoking cessation efforts, non-pharmacological therapies used in smoking cessation efforts and that effectiveness of the pharmacological therapy and non-pharmacological against efforts to stop smoking.

METHODS

The systematic review was obtained from variety of published literature in 2011 until 2015 through several journals, among others BMC Public Health, Journal of Nursing Education and Practice, Journal of Hospital Administration, The Journal of The Association of Chest Physicians, Colonial Academic Alliance Undergraduate Research Journal and Internationale Journal of Preventive Medicine. Literature in form of original research, literature review, research article and the original article. The total number employed in the systematic literature review as many as six literature, all of which are associated with smoking cessation efforts through several interventions, in which the author classifies into two forms of methods of pharmacological and non-pharmacological. The author identifies the various smoking cessation interventions in several countries that have implemented the smoking cessation efforts in the United States, UK, Australia, Iran, Turkey, India and Egypt.

RESULT

1. Pharmacological therapy

   The first smoking cessation methods that are used in some countries is through pharmacological therapy. All the literature used in this systematic review include this therapy as a method of smoking cessation. Type pharmacological most widely used is nicotine replacement, known as Nicotine Replacement Therapy (NRT), which has been approved by the Food and Drug Administration (FDA). NRT provides an alternative form of nicotine for smoking dependence to reduce symptoms [3].NRT consists of a patch, sublingual tablets, candies, lozenges, inhaler and nasal spray. This product is safe for patients with cardiovascular disease, including stable angina. Nicotine replacement does not increase blood coagulability or exposure to oxidizing carbon monoxide or groups that can damage the endothelium [4].

   Another type of pharmacological effective in stop smoking and is found in several journals that Bupropion is also recommended by the FDA [3].Additionally, Zyban and Champix also obtained the highest score after the NRT in relation to the effectiveness of the smoking cessation [4].

2. The non-pharmacological therapy

   This type of therapy that are found in all journal that are used in a systematic review of this and also effective in smoking cessation efforts is a group of non-pharmacological therapies. Non-pharmacological therapy is used as a support for pharmacological therapy with the aim to change behavior by using multiple interventions.

   Self-help is a kind of non-pharmacological therapies are most commonly found in the literature were used in the systematic review of this and has an equivalent level of effectiveness of pharmacological therapy is even more effective than pharmacological therapy. Behavioral therapy is most often used by the people of the Unites States and

New South Wales (Australia) in smoking cessation efforts are self-help as well as used in the age group of teenagers and young adults [1].. Although in both countries, self-help has a small proportion compared with NRT. Other literature equivalent which is a comparative study conducted by Heydari, G., et.al. (2014) on methods of cessation and tobacco control found that self-help effectiveness highest scores after NRT, Champix and Zyban. As for the Turkish community, self-help is a method of smoking cessation are much more effective than use of NRT and medications like. Methods of self-help in the form of cold Turkey and a reduction in the number of cigarettes before quitting [1].

Hypnosis and hypnotherapy and acupuncture are second from non-pharmacological therapies are also often used in smoking cessation efforts are found in most of the literature. Hypnosis and acupuncture became an adjunct therapy in smoking cessation efforts in India [3]. Hypnosis is the middle score while acupuncture is the lowest score is based on the results of comparative studies does [4].. Hypnotherapy is the most effective method for smoking cessation for young secondary school in Egypt where 2/3 of the students learn to stop after nine weeks of practicing hypnosis and the percentage of cigarette packs was reduced every day [5]. Other literature shows that hypnotherapy and acupuncture is also used as a secondary intervention that can be used by nurses in smoking cessation efforts for nurses, patients with cancer and families in hospitals [6].

Counseling is a type of non-pharmacological therapy was ranked third identified in some literature. The literature states that this therapy is also effective and commonly used in smoking cessation effort. Counseling either by phone or in person counseling is the medium scores on a comparative study conducted by Heydary, et.al. (2014). Although it has a small proportion in use, but the method of counseling remains a part in smoking cessation efforts in the United States and Australia. Both countries are using counseling by phone/telephone helpline [1]. In India, the counseling was ranked second, which is effective in smoking cessation efforts. Counseling is done over the telephone and in person. To get effective results, it must be done by trained counselor and repeated at least four weeks [3].

Non-pharmacological therapies which can be used also in efforts to stop smoking is groups therapy, cognitive behavior therapy (CBT) and advice/intervention of a doctor. Altough contributing to efforts to stop smoking, but these methods are very little is found in literature. Stating that group therapy and CBT used as an effective method in an attempt to stop smoking in adolescents young adults so that they can change the smoking habit [7]. Suggestions/physician intervention into the most effective methods or become the primary method in smoking cessation efforts in India. This method can improve smoking cessation 30% [3].

DISCUSSION

Smoking cessation efforts in several countries like USA, New South Wales (Australia), the UK, Egypt, Iran, Turkey and India is based on the results of a review that is conducted through several methods including Nicotine Replacement Therapy (NRT), Champix, Zyban, Bupropian, Selpf-help, Hypnosis, Hypnotherapy, Acupuncture, Counsleing, Group Therapy, Cognitive Behavior Therapy (CBT), and Advice/intervention of a doctor. Overall these methods can be classified into pharmacological and non-pharmacological therapies. Which include pharmacological therapy is NRT, Champix, Zyban and Bupropian. While the Selpf-help, Hypnosis, Hypnotherapy, Acupuncture, Counsleing, Group Therapy, Cognitive Behavior

Therapy (CBT), and Advice/intervention of a doctors grouped into non-pharmacological therapy.

Results of the review has been carried out on six literature used, it was found that the pharmacological therapy group were the most effective group therapy and most commonly used in smoking cessation efforts, both in the group of smokers teens, young adults and elderly. This is because the effects produced faster in reducing the symptoms of smoking dependence. The effectiveness of these drugs has been recognized and approved for use by FDA. Of some pharmacological theraoy used, NRT expressed more effective than a similar drug because some preparation such as nasal sprays, inhalers and patches steam can reduce symptoms of smoking dependence more rapidly at twelve week after use and users more comfortable in using the product [3].

Non-pharmacological therapies also have effectiveness against efforts to stop smoking, although its use in several countries such as Australia, USA and UK remained the lowest proportion [1]. Based on a review of seven literature used, all articles are obtained using non-pharmacological therapy as an alternative therapy or secondary intervention after pharmacological therapy. The effectiveness obtained by the cognitive changes of the smokers would be the negative effects caused by smoking and behaviors that can change the smoking habit can even quit smoking.

Typs of non-pharmacological therapies are most commonly used and most effective is based on a review of self-help. Other non-pharmacological therapy is also effective as a smoking cessation method is a hypnosis, hypnotherapy, acupuncture, counseling, CBT, group therapy and doctor's advice. However, its use is still in a small proportion.

The types of methods in non-pharmacological therapy can basically overlap between one and the other in cognitive and behavioral change of smokers so as to reduce or even stop the smoking habit. These methods have similarities and differences. The equation is all of these methods aim to assist smoking cessation well with cognitive and behavioral change of smokers. While the difference is only in technique and execution time o each method.

Although, based on the results of a review that pharmacological therapy have a higher level of effectiveness in almost all literature when comrade with non-pharmacological therapy, this is because the effect is more rapid in reducing symptoms of smoking dependence. However, in practice should be combined because both mind and body is one unit and mind will greatly affect a person's behavior. Thus, it is important to note that in therapy should also be given the motivation to quit, by educating patients about the dangers of smoking and find the best alternative for patients in making choices for smoking cessation [7].

CONCLUSION

Some results of the study of literature that has been done, it can be concluded that pharmacological therapy through the use of NRT proved effective and most widely used as a method to quit smoking. However, a combination with non-pharmacological therapy still showed effective results in smoking cessation efforts.

.

RECOMENDATION

To stop smoking behaviors can be done with pharmacological and non-pharmacological therapy.

REFERENCE

1. Tak, H.W., Dunlop, S.M., Perez, O., & Cotter, T. (2011). Use and perceived helpfulness of smoking cessation methods: Results from a population survey of recent quitters. BMC Public Health. 11(592): 1-9.
2. Babizhayev, M.A. & Mitchell, J.C. (2010). Smoking and health: Association between telomere length and factors impacting on human disease. Quality of life and life span in a large population-based cohort under the effect of smoking duration. Fundamental and clinical pharmacology. Hal. 1-18. Doi:10.1111/j.1472-8206.2010.00866.x.
3. Saha, K. (2013). Smoking cessation: How to achieve. The journal of association of chest physicians. 1(2): 1-5.
4. Heydari, G., Masjedi, M., Ahmady, A.E., Leischow, S.J., Lando, H.A., Shadmehr, M.B., & Fadaizadeh, L. (2014). A comparative study on tobacco cessation methods: A quantitative systematic review. Internationale journal of preventive medicine. 5(16): 673-678.
5. Mohamed, N.A., & Eimwafie, S.M. (2015). Effect of hypnotherapy on smoking cessation among secondary school students. Journal of nursing education and practice. 5(2): 67-78.
6. Mackereth, P., Paula, M., & Linda, O. (2015). Smoke free site and service awareness amongst hospital staf: A survey in an acute cancer centre. Journal of hospital administration. 4(2): 43-48.
7. Wells, A.J., & Mitchell, J.C. (2012). Smoking and cessation behaviors among college students. Colonial academic alliance undergraduate research journal. 3(10): 1-32.

P-15

MEDITATION-DZIKIR EFFECT ON ANXIETY IN PATIENTS' FAMILY WHO WILL GET PERCUTANEUS TRANSLUMINASI CORONARY ARTERY

Harmilah[1], Subroto [2]

Email:harmilah2006@yahoo.com

ABSTRACT

Background. Coronary heart disease is the leading cause of death and the first in a developing country, replacing the death due to infectious disease management that can quickly lead to problems for patients who have difficulty in deciding that can increase feelings of anxiety. Meditation-dzikir is one of nonpharmacological measures to lower systolic blood pressure, pulse, frequency of breathing, meditation are also effective for people who are experiencing stress, anxiety. **Objective of research**. To determine the effect of Meditation-Dzikir to anxiety in families of patients who will get Percutaneus Transluminasi Coronary Artery (PTCA). **Method** :Quasi experimental research design with "Pre-Post Test with Control". The sampling used systematic random sampling technique. Inclusion criteria: 1. Family (Wife) Patients who get PTCA, 2. Husband / Wife, 3. Willing to be a subject of research by signing an informed consent. Exclusion criteria: the families of patients undergoing PTCA with bleeding complications. Number of samples were 32 people in treatment group, and 32 people in control group. Analysis of the data using the Mann-Whitney Test. **Results :** There was a mean reduction in anxiety 46.97 p value = 0.000 (α <0.05), in the treatment group (post-test) after administration of Meditation - Dzikir for 30 minutes. **Conclusion** : There is a significant difference in decreasing of anxiety in families who did meditation-dzikir for 30 minutes. **Suggestions:** To reduce of the anxiety, meditation-dzikir can be performed for 30 minutes.

Keywords: meditation-dzikir, anxiety

1. Lecturer in Department of Nursing Health Polytechnic of Yogyakarta
2. Sardjito Hospital Yogyakarta

BACKGROUND

Coronary heart disease (CHD) is a main and the first cause of death in developing country, replacing the death due to infectious disease management. The prevalence of CHD is increasing. 1.57 million patients is treated every year related to the increasing of various risk factors and unhealthy life style. One of CHD is Accute Coronary Sindrome (ACS), most of the death in ACS happen in 2 hours in the beginning of the attack and before getting treatment in hospital so it needs a fast and effective management strategy. Fast management causes anxiety for the patient and the family.[1]

Role of the patient's family that has to undergo PTCA therapy is very needed in giving support system for patient and accompany patient during the therapy so that they can feel comfortable and secure, and also it can increase their psychological status.

Meditation is a technique or exercise method that is used to train the attention and increase consciousness level, so that mental processes can be more control able consciously to develop internal world or inner world and enrich life meaning for them. Meditation can increase confidence, elf control, emphati and actualization. Besides, meditation is also effective for people with stress, anxiety, phobia and insomnia.[2]

The research result showed that there is a significant difference in anxiety level before and after *Dzikir Khafi* treatment to servical cancer pre operative patitents.[3] Another research showed that meditation can lower physical and psychosocial stress in elderly with primary hypertention.[4,5]

Dzikir is saying the name of Alloh by saying tasbih (*Subhanallah*), tahlil (*Lailahaillallahu*), and tahmid (*Alhamdulillahi*). If we continuosly performe dzikir, we will not put our attention to something that is not clear and we will focus on one point. Heart is a conciuosness vehicle and having some layers. If dzikir is done continuosly, it will get through the layers in the heart.[6] The meaning of dzikir that becomes a study in this discussion is:

a. Tahlil

ه اِلاَّاالل لاَإِله

Meaning: *"There is none is worthy of worship but Alloh."*

b. Tasbih

الْعَظِيْمِ سبْحَانَاللِ ه ,وَبِـِمَدِهِ االلِ ن سبْحَا ه

Meaning: *"Glory is to Alloh and praise is to Alloh, there is none worthy of worship but Alloh, and Alloh is the Greatest."*

c. *Tahmid*

الْعَالَمِيْنَ رَبِّ دلِلِ اَلْمَدْمْه

Meaning: *"All praise and thanks belong to Alloh.*"

c. Takbir

هو الكَبْرَ اَللهه

Meaning: "*Allah is The Greatest*"

d. Istighfar

الْعَظِيْمَ غْفِهرالل اَسْتَ

Meaning : "*I seek forgiveness from God"*

The name of Alloh mentioned above is easier to remember, memorize, and say. Therefore it can be done continuosly everywhere and anytime. Dzikir meditation is a combination of meditation and dzikir (remember) to Alloh as a creator of the universe. It means that meditation is an afterthought, thingking and seeing thought (especially for religious service) that aims to Alloh. While dzikir is saying or remembering Alloh.

Anxiety is a condition that happens in almost everyone in certain time in their life. Anxiety is a right respond to a threat, but it can be abnormal if the level is not correspond with the proportion of the threat or if it happens without any cause or it is not a respond for environmental changes. In the extreme form, anxiety can distract our daily functions.[7]

Anxiety is a condition of mood that is marked with physical symphtoms like physical tension and worry about future. Anxiety can be in the form of subjective agitation. Some behaviors (anxious, agitated, and restless) or physiological respond that sourced in the brain and reflect in the form of increasing heart rate and tightening muscle.[8]

The unpleasant feeling is usually equivocal and hard to ascertain but it can always be felt.[9] Anxiety usually come with physical symptoms like headache, fast heart rate, out of breath, stomachache, not rileks, hard to take a set calmly, etc.[10] All anxiety disorders are related to anxious feeling (for example fearness, worry, despodensi (moody, hopeless]) and various psychological stress reactions like tachycardia (fast heart beat), hypertention, nausea, breathing hard, sleeping disorders and high glucotycoid level.[11]

Dzikir can get rid of sadness, anxiety and depression and also it can create calmness, happiness and life spaciousness. It is because dzikir has psikoterapeutic that contains spiritual and religious power that can awake self confidence and strong optimism. Dzikir is easy to perform and creating rewards (from God). It is the easiest form of worship however it is the greatest and the most beneficial because oral movement is the the lightest and easiest movement of the body.[12]

Meditation is a strategy to get healthy personality and mental health. Dzikir meditation makes someone puts concentration into healthy soul factors like understanding, calmness, sttitude full of attention and neutrality that prevent the emerge of unhealthy soul factors to dominate someone's soul.

Dzikir meditation is a combination of meditation and dzikir (remember) to Alloh as a creator of the universe. It means that meditation is an afterthought, thingking and seeing thought (especially for religious service) that aims to Alloh. While dzikir is saying or remembering Alloh.

Pulse is influenced by blood flow rate which get through the vessel directly proportional with pressure gradient and inversely proportional with vascular resistency. Blood will flow from high pressure area to low pressure area. The bigger pressure gradient that pull the blood through a vessel, then the bigger blood flow rate.[14]

Resistency is a size of blood flow obstacle which goes through blood vessel. The higher the resintency, the harder the blood gets through the blood vessel. Resistency depends on three factors those are viscocity or bllod thickness, length of blood vessel dan radius of the blood vessel. If the blood is thicker, the viscocity also becomes higher so that blood pressure will increase. While in vasolidatation arteriole, the radius of arteriole vessel is getting bigger and the relaxation of smooth muscle layer increases the blood flow through the blood vessel therefore the blood pressure will decrease. The size of arteriole radius is influenced by symphatic nerve in the arteriole smooth muscle. The decreasing of symphatic nerve activity causes comprehensive vasodilatation arteriole. Other factors that influence the size of arteriole radius is epinephrine and norepinephrin hormone factors. Norepinephrin paired with receptor α The treatment of hypertension is by changing the balance of Na^+. The changing of Na^+ balance is usually done by giving diuretic orally. Lowering blood pressure mechanism by diueretik is firstly diuretic medicine lower the extracell volume and cardiac output then it will lower the vascular resistency.

Anxiety is an emotion about future that is marked with *uncontrollability* perception and uncertainty about phenomena that has potentional to hostility and fast friction in paying attention to the focus of dangerous potentionally phenomenon or affective respond itself.[15] Freud explained that anxiety is an affective situation that is unpleasant and followed by physical sensation that warns someone about the danger that threatens. The unpleasant feeling is usually equivocal and hard to ascertain but it can always be felt.[16]

Anxiety is a condition of heart that is marked by negative effect and physical tension symphtoms in which someone anticipates the possibility of danger or misfortune in the future

with worry feeling.[17] Anxiety might include feeling, behavior, and physiological responds.[15] Anxiety usually come with physical symptoms like headache, fast heart rate, out of breath, stomachache, not rileks, hard to take a set calmly, etc.[10] All anxiety disorders are related to anxious feeling (for example fearness, worry, despodensi (moody, hopeless) and various psychological stress reactions like tachycardia (fast heart beat), hypertention, nausea, breathing hard, sleeping disorders and high glucotycoid level.[11]

Psychology dynamic through spiritual activities like shalat, having a prayer or dzikir will make you in the state of relax, calm and peace. This situation influences human brain which is related to emotional process especially in hypothalamus part. In the state of meditative through breathing concentration, saying dzikir, having a prayer, shalat and saying other autosuggestion sentences will cause hypothalamus activity stimulation thus it blocks the excression of *corticotropin-realising factor* (CRF) hormone, which causes *anterior pituitari* gland being hampered to release *adrenocorticotrophic hormone* (ACTH) hormone. It hold adrenal gland to produce *kortisol, adrenalin,* dan *noradrenalin* hormones. It makes *tiroksin* hormone that is released by *tyroid* gland is also hampered. The high level of tiroksin hormone will cause someone being easily getting tired, anxious, high tension, and hard to get sleep so that the meditative state that full of calm and peace feeling will create pyshical effect that is calm and relax.[18]

Based on the research, it is showed that dzikir is a healer. Some of medical and physiological effects are balancing the concentration of serotonin and neropineprine level in the body, in which this phenomenon is a natural morphine that works in the brain and it causes heart and thought feel calm compared to before performing dzikir. Body muscles will slacken especially shoulder muscle that often causes physical tension.[19] That is one of Alloh precious gifts that functions as a transquilizer substances in the human brain.

Physiologically, spiritual therapy with dzikir or remembering Alloh names will cause the brain to work. When the brain gets stimulus from outside, then the brain will produce chemical substance that gives comfortable feeling that is *neuropeptida.* After the brain produces that substance, it will get stucked and absorbed by the body that will later give feed back in the form of pleasure and calmness.[20]

RESEARCH METHOD

The research is a quasi experiment with pre-post test with control design. It was conducted at Coronary Unit in Sardjito Hospital, Yogyakarta. The research was conducted for 3 months that was from June 1 to August 29, 2016. The populations of the research were all families of patients that will get PTCA therapy in Sardjito Hospital, Yogyakarta. The inclusive criteria were: 1. Family of the patient, 2. Husband/Wife, 3. Willing to be the subject of the research by signing informed consent. The exclusive criterion was family of the patients that will get PTCA and had bleeding complication. The determination of the research subjects was as following: Identifying family (husband/wife) of the patients that will get PTCA by doctors in Coronary Unit of Sardjito Hospital. Conducting sampling with systematic random sampling by putting an order of patient families 1-3 as treatment groups and the next 3 patients' families as control groups, etc. 64 patients were divided randomly into 2 groups (1 treatment group and 1 control group). Each treatment group consisted of 32 in treatment group and 32 in control group. During the research, respondents were guided to perform dzikir for 30 minutes.

RESEARCH RESULT AND DISCUSSION

The research was conducted from June 1 to August 29, 2016 at Coronary Unit in Sardjito Hospital, Yogyakarta. Before performing dzikir, respondents (husband/wife) was measured based on anxiety score using *Halminton Rating Scale* of *Anxiety* (HRSA).

1. Respondents' Characteristics

Respondents' Characteristics Based on Age and Gender at Coronary Unit in Sardjito Hospital in 2016

NO	Variables	Intervention		Control	
		f	%	f	%
1	Age				
	31 – 40	0	0	1	3.12
	41 – 50	29	90.62	27	84.38
	51 – 60	3	9.38	4	12.5
2	Gender:				
	Male	4	12.5	3	9.38
	Female	28	87.2	29	90.62
3	Length of PTCA				
	≥ 1 jam	31	96.88	30	93.75
	> 1 jam	1	3.12	2	6.25

Based on tabel 1, it showed that most of the respondents were in the age of 41-50 years old, both in the treatment group and control group. If it is seen from the distribution of the length of PTCA, it was less than or the same as 1 hour both in treatment group or in control group. Based on normality test in both groups, treatment group (n=32) and control group (n=32) with one sample Kolmogorov-Smirnov test, it was obtained the data of systolic and diastolic blood pressure, pulse, breathing and anxietyscore were not distributed normally with p value <0.0, so the analysis of the data was conducted with *Mann-Whitney Test*.

2. Mean Rank of Anxiety Score before and after performing dzikir meditation

Tabel 3.Mean Rank of patients' Anxiety before and after performing dzikir meditation at coronary unit in Sardjito Hospital in 2016

Variable Group		Median (min-maks)	Mean ± SD	Z	P *Value*
anxious treatment	before	69 (58-80)	66.28 ± 8.38	- 4.84	0.000
	after	47 (38 - 55)	46.66 ± 4.79		
control	before	69 (53 – 94)	68.28 ± 9.18	- 1.87	0.041
	after	68 (54 – 94)	67.28 ± 9.31		

The total amount of samples in treatment group (n=32) and in control group (n=32)

Based on table 2, it showed that there was a difference in mean score that showed the difference of anxiety mean score one hour before and after both in treatment group that

performed dzikir meditation with p value = 0.000 (<0.005) or in the group that did not perform dzikir meditation with p value = 0.061 (>0.05).

The result of the research was in line with the previous research that meditation can lower physical and psychosocial stress in primary hypertension patient and elderly with primary hypertension.[4,5] This is in accordance with the theory that dzikir meditation can make individual being in the state of relax, calm and peace. This situation influences human brain which is related to emotional process especially in hypothalamus part. In the state of meditative through breathing concentration, saying dzikir, having a prayer, shalat and saying other autosuggestion sentences will cause hypothalamus activity stimulation thus it blocks the excression of *corticotropin-realising factor* (CRF) hormone, which causes *anterior pituitari* gland being hampered to release *adrenocorticotrophic hormone* (ACTH) hormone. It hold adrenal gland to produce *kortisol, adrenalin,* dan *noradrenalin* hormones.

3. The result of Difference Test in Decreasing Anxiety Score before and after both in group that performed Dzikir Meditation and the one which did not perform Dzikir Meditation

Tabel 3.The result of Difference Test in Decreasing Anxiety Score Mean Rank before and after both in group that performed Dzikir Meditation and the one which did not perform Dzikir Meditation at Coronary Unit in Sardjito Hospital, Yigyakarta in 2016

Variable	Group	Mean Rank	*Z*	*P value*
anxious				
	Treatment	46.97	- 6.229	0,000
	Control	18.03		

Total amount of treatment group (n=32) and control group (n=32)

Based on table 3, it showed that mean rank in decreasing anxiety score was 46.97 in the treatment group and in the control group. Based on *Mann-Whitney Test,*it was obtained p value 0.000 (<0.05) which means there was a significant different in the decreasing of anxiety score in treatment group and in control group.

This research was in line with the previous research that there was an influence of dzikir on the decreasing of anxiety level in pre operatif cervical cancer patients. This is also in accordance with another theory that dzikir can get rid of sadness, anxiety and depression and also it can create calmness, happiness and life spaciousness. It is because dzikir has psikoterapeutic that contains spiritual and religious power that can awake self confidence and strong optimism.[3]

Based on the research result, eventhough there was a decreasing of mean score in control group, there was a difference in decreasing of anxiety mean score after conducting difference test statistically using *Manny-Whitney Test.*The research result was in accordance with the previous research taht stated dzikir meditation had some medical and psychological effects such as balancing the concentration of serotonin and neropineprine level in the body, in which this phenomenon is a natural morphine that works in the brain and it causes heart and thought feel calm compared to before performing dzikir. Body muscles will slacken especially shoulder muscle that often causes physical tension.[19]

Dizkir meditation was a nonpharmacological action to decrease the mean rank of anxiety score before treatment from 66.28 became 47.

The research result was in accordance with the previous research that stated dzikir meditation can make an individual in the state of relax, calm and peace. This situation influences human brain which is related to emotional process especially in hypothalamus part. In the state of meditative through breathing concentration, saying dzikir, having a prayer, shalat and saying other autosuggestion sentences will cause hypothalamus activity stimulation thus it blocks the excression of *corticotropin-realising factor* (CRF) hormone, which causes *anterior pituitari* gland being hampered to release *adrenocorticotrophic hormone* (ACTH) hormone. It hold adrenal gland to produce *kortisol, adrenalin,* dan *noradrenalin* hormones. It makes *tiroksin* hormone that is released by *tyroid* gland is also hampered. The high level of tiroksin hormone will cause someone being easily getting tired, anxious, high tension, and hard to get sleep so that the meditative state that full of calm and peace feeling will create pyshical effect that is calm and relax. The meditative state also influenced and gave stimulus to *autonomic nervous system* that was divided into two types, those were *sympathetic nervous system* if someone was in stress or tension and *parasimpathetic nervous system* if someone was in the state of relax.[18] Hal tersebut merupakan salah satu bentuk karunia Allah yang sangat berharga yang berfungsi sebagai zat penenang didalam otak manusia.[18] That is one of Alloh precious gifts that functions as a transquilizer substances in the human brain.

Physiologically, spiritual therapy with dzikir or remembering Alloh names will cause the brain to work. When the brain gets stimulus from outside, then the brain will produce chemical substance that gives comfortable feeling that is *neuropeptida.* After the brain produces that substance, it will get stucked and absorbed by the body that will later give feed back in the form of pleasure and calmness.[20]

By time of getting older, there are structural and functional changes in perifer vessel system that is responsible for blood pressure changes. The changes include aterosklerosis or the lost of connective tissue elasticity and the decreasing of relaxation of smooth muscle in blood vessel that will later decrease distency ability and tensile strength of blood vessel. The consequence is aorta and the great artery lost the ability in accommodating the volume of the blood that is pumped by the heart (stroke volume). It causes the lowering of cardiac output and increasing the peripheral resistance so that it can make the tissue lost its elasticity and arterisklerosis in elderly and blood vessel dilation that will cause the increasing of blood pressure.[15]

Beside using medication, the action that can be done to lower diastolic blood pressure, pulse and breathing frequency is with having regular exercise. Regular exercise can increase muscle strength and peripheral blood vessel elasticity so that it can lower blood pressure.

CONCLUSION AND SUGGESTION

Conclusion

Based on the research result, it can be seen that there is a significant difference in decreasing of anxiety scorein family that performs dzikir meditation for 30 minutes, as following in details: the mean rank of decreasing anxiety score in the family of patients that get PTCA after performing dzikir meditation for 30 minutes is 46.97 with p value 0.000 (<0.05).

Suggestion

In order to decrease anxiety score, dzikir meditation can be performed for 30 minutes.

REFERENCES

1. Corwin J. E. .2009. *Buku Saku Patofisiologi*. Jakarta : EGC
2. Baidi Bukhori, *Zikir Al-Asma' Al-Husna; Solusi Atas Problem Agresivitas Remaja*, Syiar Media Publishing, Semarang, 1th , 2008, p. 50
3. Hannan, N. 2014. Pengaruh Dzikir terhadap kecemasan pada Pasien dengan Operasi caesaria.
4. Harmilah. 2010. Meditasi dan Stres Pada Lansia dengan Hipertensi Primer di PSTW Yogyakarta. *Jurnal teknologi Kesehatan*. Vol. 6, No. 2, p 77 – 86 September 2010.
5. Harmilah, Nurachmah E.,Gayatri, D. 2011. Penurunan Stres Fisik dan Psikososial melalui meditasi pada Lansia dengan Hipertensi Primer. *Jurnal Keperawatan Indonesia*. Volume 14. No. 1, Maret 2011.
6. Prawitasari Johana E. et.al, 2002. *Psikoterapi; Pendekatan Konvensional dan Kontemporer*, Pustaka Pelajar, Yogyakarta, 1 th, p. 1815.
7. Tebba Sudirman, 2004. *Meditasi Sufistik,* Pustaka Hidayah, Bandung, p. 78
8. Jeffrey S. Nevid et.al, 2005. *Psikologi Abnormal,* (terj) Tim Fakultas Psikologi Universitas Indonesia, Erlangga, Jakarta, p. 163
9. Durand . V. Mark, D And David H. Barlow, 2006. *Intisari Psikologi Abnormal Edisi ke-IV*, Pustaka Pelajar, Yogyakarta, 1th, p. 158
10. Jess Feist dan Gregory J. Feist, 2011 *Theories of Personality 7 th ed (Teori Kepribadian Edisi 7)* Terj. Handriatno, Salemba Humanika, Jakarta, 2th, , p. 38
11. Fitri F. & Fausiah, J, 2008. *Psikologi Abnormal Klinis Dewasa*, UI-Press, Jakarta, , p. 73-75/
12. John P. J. P., 2009. *Biopsikologi Edisi Ketujuh*, terj. Helly Prajitno Soetjipto dan Sri Mulyantini Soetjipto, Pustaka Pelajar, Yogyakarta.
13. Masyhudi, In'amuzzahiddin dan Arvitasari, Nurul Wahyu ,2006. *op. cit,* p. 17-20
14. Triantoro Safaria dan Nofrans Eka Saputra, 2009. *Manajemen Emosi Sebuah Panduan Cerdas Bagaimana Mengelola Emosi Positif Dalam Hidup Anda*, Bumi Aksara, Jakarta, 1th, p. 251-252
15. Smeltzer, S.C., Bare., B.G., Hinkle, J.L. & Cheever, K.H., 2008. *Textbook of Medical-Surgical Nursing. Eleventh edition. Brunner, & Suddarth's*. Philadhelpia Lippincott Williams & Wilkins, a Wolter Kluwer bussiness..
16. David A. Clark dan Aaron T. Beck, 2010. *Cognitive Therapy of Anxiety Disorders,* The Guilford Press, New York, , p. 5
17. Durand Mark, David H. Barlow, 2006. *Intisari Psikologi Abnormal Edisi ke-IV*, Pustaka Pelajar, Yogyakarta, 1th, , p. 158
18. Rita L. Atkinson et.al, 2010. *Pengantar Psikologi Jilid II*, Interaksara, Tangerang, , p. 390
19. Saleh. 2010. *Berzikir untuk Kesehatan Saraf*. Penerbit Zaman: Jakarta.
20. Faruq. 2004. *80 Keterangan Dzikullah*. Yayasan Sitoris Pondok Pesantren Istiqomah Mudawamah Karangdan. CV Sinar Abadi Suryalaya: Tasikmalaya

P-16

Strategies to Increase Survival Rate of Hemorrhagic Stroke Patients: A Systematic Review

Syafrudin L. Ahmad[1], Ode Irman[2]

[1,2]Postgraduate Student Master of Nursing, Faculty of Medicine
Brawijaya University
syafrudinahmad81@gmail.com, 085242583081

ABSTRACT

Background: Hemorrhagic stroke is a common medical problem, this neurologic disorder often occurs suddenly and often leads to death. Hemorrhagic stroke contribute for 10% of 27% of strokes worldwide, with a mortality rate of > 50% for intracerebral haemorrhage and about 45% for subarachnoid hemorrhage. To prevent disability due to oxygen deprivation, early treatment is crucial.
Aims: To explain and discuss the strategy to increase survival rate hemorrhagic stroke patients
Methods: Articles were collected from electronic databases of Pub Med, Science Direct and Google Scholar. 15 articles were reviewed in this study. The criteria of articles were full text and published between 2010-2015. The search was restricted to the English language.
Results: Rapid diagnosis and management of patients is essential. The strategy needs to be done includes: pre-hospital management and hospital management. Pre-hospital management to do with health promotion. Golden period is also very important to be known by patients, families and communities. Golden period i.e. 3-6 hours is a precious time for someone to get help. Health seeking behavior and family social support can prevent individuals from mental threats. Hospital management includes three parallel processes: (1) management of threatening condition in the acute phase, (2) medical and neurologic evaluation and (3) Primary therapy.
Conclusion: Strategies to increase survival rate include the pre-hospital management and hospital management

Keyword: Survival rate, Hemorrhagic Stroke

Background

Hemorrhagic stroke is a common medical problem, this neurologic disorder often occurs suddenly and often leads to death. Globally, the incidence of hemorrhagic stroke incidence by 5.3 million and the number of deaths from hemorrhagic stroke is 3.2 million[1]. Hemorrhagic stroke contribute for 10% of 27% of strokes worldwide, with a mortality rate of > 50% for intracerebral haemorrhage and about 45% for subarachnoid hemorrhage[2,3]. Asian continent has the largest incidence of hemorrhagic stroke in the world. The incidence of hemorrhagic stroke varies in the age ranged 18-95 years with an increased incidence of doubled along with an increase of up to 80 years of age. Africa and America have the greatest incidence of hypertension asthe cause of hemorrhagic stroke[4].

Approximately 70,000 people in the United States suffer death or severe impairment of consciousness due to a hemorrhagic stroke each year. Approximately 10-30% of cases of stroke, hospitalized a hemorrhagic stroke. The American Heart Association estimates that there are 610,000 new cases of stroke in the United States and 185,000 cases of recurrent strokes. Many cases of hemorrhagic stroke require long-term care, only 20% of patients were able to live independently, while 40% of cases died within 30 days and about half will

die within 48 hours. As many as 80% of cases of hemorrhagic stroke in which the damage caused rupture of the arteries due to chronic hypertension[5,6,7]. Hemorrhagic stroke covers 10% of all strokes in developed countries and 20% in developing countries, with a death rate in one month is 25-35% and 30-48%. In the United States the cost of treatment for hemorrhagic stroke per patient of $ 4.830[1]. The prevalence of hemorrhagic stroke in Indonesia based on data from Health Research Association in 2013 as many as 7/mil and diagnosed health personnel as much as 12.1/mil. Number of patients with stroke is expected to increase along with the many of risk factors[8].

Based on the above data it can be seen that a hemorrhagic stroke is a major health problem in developed and developing countries as well as the number one cause of disability in adults. In addition, the life expectancy of patients with hemorrhagic stroke is low and the socio-economic impact on the family, because the cost of treatment is quite expensive and long. Disability inflicted on patients with post- hemorrhagic stroke causes reduced ability to work and be a burden to the family

"Time is Brain and The Golden Hour" is the slogan of the management of hemorrhagic stroke patients. The faster the treatmentlesser thesequelae of stroke. Golden period for treatment is3-6 hours[9]. Allowing time soon to get treatment in the hope of preventing the minimum of damage to brain cells are deprived of oxygen, which can prevent the severity of disability[10]. Therefore, the efforts to counter the threat of hemorrhagic stroke should be as optimal as possible and the participation of the various parties needed to resolve this problem

Aims

To explain and discuss the strategy to increase survival rate hemorrhagic stroke patients

Methods

This systematic review was conducted by collecting and analyzing articles regarding hemorrhagic stroke. Articles were collected from electronic databases of Pub Med, Science Direct and Google Scholar. Included were articles describing the presentation of strategies to increase survival rate of hemorrhagic stroke, full text and published between 2010-2015 and written in English. Excluded were literature reviews, meta-analyses, case studies, dissertations, and master's theses. A total of 15 articles met the inclusion criteria and are presented

Results and Discussion

Haemorrhagicstroke is an emergency situation. Rapid diagnosis and management of patients is essential, since the beginning of general decline in the first few hours after the incident that > 20 % of patients experienced a reduction in GCS and 15 % to 23 % of patients showed a continued deterioration in the first hours after arriving in ED[10]. Those who survive are usually very vulnerable to setbacks. Functional disorders, for example: paralysis, dysphagia, ataxia, perception deficiency and depression behavior[11]. Assessment of a patient includes evaluating airway, breathing, circulation and blood sugar checks should be done immediately. The health condition prior to the attack should be asked to the patient (if conscious), or their families. Evaluate whether there are other neurological deficits, at the time the attack took place and how long, the risk factors exist and whether controlled and any medication commonly drunk[12].

Given the scale of adverse impact of large numbers of hemorrhagic stroke seem disability, life expectancy is low, the need to do a variety of strategies to address the problem. The strategy needs to be done includes: pre-hospital management and hospital management. Pre-hospital management to do with health promotion regarding hemorrhagic stroke which aims to improve understanding for the community. Health promotion can be done regularly includes education about risk factors that must be prevented such as smoking, hypertension, obesity and other diseases originator[13,14]. Primary prevention is done with the aim of reducing the incidence by finding and treating risk factors such as hypertensionand diabetes mellitus and heart disease. Secondary prevention can be done to prevent a recurrence rate. It should be emphasized to the public that the introduction of the signs and symptoms of early stroke and efforts referral to hospital should be done immediately because of the success of stroke therapy is determined by the speed of action in the acute phase, the longer the effort referral to hospital or the longer the interval between the time of the attack with the current therapy means the worse the prognosis.

Golden period is also very important to be known by patients, families and communities. Golden period i.e.3-6 hours is a precious time for someone to get help[10]. Delays in aid are particularly at risk for the occurrence of disability or death. Patients, families and communities must be able to recognize and make the most of the golden period. Research in the US indicates that <50% of stroke patients seek help in time ≤3 hours, 30% that is > 3 hours and 20% over 24 hours. Delay stroke patients seeking help is divided into three stages, namely: (1) at the start of the first symptoms until it decides to seek help (3 hours), (2) when the patient or his family decided to seek help up to meet with health care providers (10 hours) and (3) when the patient has been in contact with health care until the patient finally was admitted to hospital (2 hours). Of the three stages, the longest was when the family decided to seek help up to meet with health care[15].

In addition to the use of the golden period needs to be changed also include the health seeking behaviour. A little delay could have an impact on disability and death. Various factors that influence this behavior, one of which is a socio-cultural factors in terms of handling pain, that people tend to self-medicate prior to hospital. In addition it is the lack of understanding related to the appropriate treatment[16]. Here, the role of health workers to change this behavior is certainly the promotion of health. Family support is also a consideration in this matter, the family should be able to recognize and determine treatment quickly. Family social support can prevent individuals from mental threats and make people more optimistic in the face of tough times

Hospital management in cases of hemorrhagic stroke should quickly get help. Emergency management includes three parallel processes, that is: (1) management's threatening condition that can cause deterioration or complications in the acute phase, (2) medical and neurologic evaluation with the latest imaging equipment and (3) management of the stroke with the provision of primary therapy. Nurses play a role in this section[17]. Competence and traffic becomes a necessary condition that must-have for treating patients with hemorrhagic stroke be right and appropriate in order to disability and conditions are not expected did not happen[17]. Nurses doing: 1) monitoring of ICP, CPP and hemodynamic function. 2) Implementation of ICP management, BP, ventilation, hipertermi and monitor glucose levels. 3) Prevent complications, keep airway free, mobilization in physical tolerance and conducting a detailed assessment related to neurological function. Nurses are recommended for treating patients of hemorrhagic stroke is an acute care nurse neuroscience expertise[10].

Conclusions

Hemorrhagic stroke is one of the biggest causes of death in the world, early treatment delays can be at risk of disability and death.

The strategy needs to be done includes: pre-hospital management and hospital management. Pre-hospital management to do with health promotion regarding hemorrhagic stroke which aims to improve understanding for the community

Emergency management includes three parallel processes, that is: (1) management's threatening condition that can cause deterioration or complications in the acute phase, (2) medical and neurologic evaluation with the latest imaging equipment and (3) management of the stroke with the provision of primary therapy.

Recommendation

Strategies to increase survival rate include the management of pre-hospital (health promotion, utilization golden period, changing the health seeking behavior and family support). Hospital management includes treatment according to the recommendations of ASA.

References

1. American Heart Asoociation (2016). Heart disease and stroke statistics. http://circ.ahajournals.org/content/early/
2. Bennet, D.A., Mensah, G.A., Lawes, C.M &Feigin, V (2014) The global burden of hemorrhagic stroke: A Summary of Findings From the GBD 2010 Study. Global Heart, VOL. 9, NO. 1, 2014 101 March 2014: 101-1
3. Klijin, CJM., Mandelow, AD., Roine, RO & Toni, D (2014) European Stroke Organisation (ESO) guidelines for the management of spontaneous intracerebral hemorrhage. International Journal of Stroke.
4. Liebeskind, D (2013) Intracranial Hemorrhage. EMedicine, 42: 21-25
5. Haynes, E., Pancioli, A., Shaw, G., Woo, D (2012). Peripheral leucocytes and intracerebral hemorrhage. Opeolu Ohio Edu, 22: 221-228
6. Rincon, F &Mayer, S.A (2012). Intracerebral Hemorrhage: Clinical overview patophysiology concept. Translational stroke research, 22(1): 510-524.
7. Roger VL, Go AS, Lloyd-Jones DM, Benjamin EJ, Berry JD, Borden WB, et al. Heart Disease and Stroke Statistics-2012 update: a report from the American Heart Association. Circulation. Jan 3 2012;125(1): p. e2-e220.
8. Ministry of Health of the Republic of Indonesia (2013). Reports Results Health Research Indonesia. www.depkes.go.id
9. Bregman, K., Klinder, D &Pfau, L (2012). Assessment of Stroke: A review for ed nurses. Journal of Emergency Nursing.
10. Hemphill, J.C., Greenberg, S.M., Anderson, C.S., Becker, K., Bendok, B.R., Cusman, M., Fung, G.L.,..Woo, D (2015). Guidelines for the management of spontaneous intracerebral hemorrhage. a guideline for healthcare professionals from the American Heart Association/ American Stroke Association. Stroke is available at http://stroke.ahajournals.org
11. Sacco, R.L., Kasner, S.E., Broderick, J.P., Caplan, L.R., Connors, J., Culebras, A., Elkind, M., Hamdan, A., Hiashida, R., Hoh, B., Janis, S (2013). An Update Definitin of Stroke for the 21st Century. American Heart Association, 101: 1-24.
12. Brouwers, H.B & Goldstein, J.N (2012) Therapeutic Strategies in Acute Intracerebral Hemorrhage. Journal of the American Society for Experimental NeuroTherapeutic
13. Elliot, J & Smith, M (2010). The Acute Management of Intracerebral Hemorrhage: A

Clinical Review. www.anesthesia-analgesia.org
14. Go, G.O., Park, H., Lee, C.H., Hwang, S.H., Han, J.W., Park, I.S (2013). The outcomes of spontaneous intracerebral hemorrhage in young adults-a clinical study. Journal of Cerebrovascular Endovascular Neurosurgery, 15(3): 214-220.
15. 15. Hariyanti, T., Harsono&Prabandari. Y.S (2015) Health seeking behaviour of stroke patients. JurnalKedokteranBrawijaya, Vol. 28, No. 3
16. 16. Kim YS, Park S, Bae H, et al (2011) Stroke awareness decreases prehospital delay after acute ischemic stroke in korea. BioMed Central Neurology. 2011; 11:
17. 17. Biffi, A., Smith, E., Ayres, A.M & Goldstein, J.N (2011) Statin Use and Outcome after Intracerebral Hemorrhage: Case-control Study and Metaanalysis. Neurology · March 2011 Impact Factor: 8.29 · DOI: 10.1212/WNL.0b013e3182194be9· Source: PubMed

Attachment:

Author and Year	Purpose	Methods	Mayor Finding	Weakness	Strength
Biffi, A., Smith, E., Ayres, A.M & Goldstein, J.N (2011)	Todetermine whether statin exposure is protective for patients who develop ICH.	Case-control study and meta-analysis	Data from our center demonstrated an association between statin use before ICH and increased probability of favorable outcome (odds ratio [OR] = 2.08, 95% confidence interval [CI] 1.37–3.17) and reduced mortality (OR = 0.47, 95% CI 0.32–0.70) at 90 days. No compound-specific statin effect was identified. Meta-analysis of all published evidence confirmed the effect of statin use on good outcome (OR = 1.91, 95% CI 1.38–2.65) and mortality (OR = 0.55, 95% CI 0.42–0.72) after ICH	-	large sample and using 2 methods
Go, G.O., Park, H., Lee, C.H., Hwang, S.H., Han, J.W., Park, I.S (2013).	The purpose of this study was to investigate causes, sites and other factors affecting the prognosis of ICH in young adults aged ≤ 40 years	Retrospective	The most common structural etiology was arteriovenous malformation. A statistically significantly higher proportion of patients with good outcomes had a lower initial systolic blood pressure (SBP ≤ 160 mmHg, p = 0.036), a higher initial Glasgow coma scale (GCS) (9 or more, p = 0.034), lower cholesterol levels (< 200 mg/dl, p = 0.036), and smoking history (at discharge, p = 0.008; 6 months after discharge, p = 0.019).	Just use the GCS to see results	Good methods and long term research
Hariyanti, T., Harsono & Prabandari. Y.S (2015)	This study purposely wants to determine the behavior of stroke patients in health seeking related to the disease	Observational descriptive	The results show that 31.5% patients came to the hospital immediately with various time spans. Stroke patients who went to the hospital within 3 hours were 18,7%, while the rest arrived after more Than 3hours. Patients who were examined by health workers first then taken to the hospital were 46.5%, and patients were not taken to hospital after being taken to the medical and non-medical personnel were 22%. Health seeking behavior was influenced by several factors, namely demographic and geographic factors, socio-cultural, clinical, perception, and knowledge	-	Large sample
Haynes, E., Pancioli, A., Shaw, G., Woo, D (2012).	To explain peripheral leucocytes and intracerebral hemorrhage	Retrospective	The identified 186 ICH patients seen in the ED within 12 hours of symptom onset and with complete baseline data. Mean age was 67.3±14.8 years; 51% were male, and 22% black. Median [interquartile range] ICH volume was 12.8mL	-	Good methods and long term research

Kim et al (2011)	To investigate factors associated with prehospital delay after acute ischemic stroke in Korea.	Prospective study	Among the 500 patients (median 67 years, 62% men), the median time interval from symptom onset to arrival was 474 minutes (interquartile range, 170-1313). Early arrival within 3 hours of symptom onset was significantly associated with the following factors: high National Institutes of Health Stroke Scale (NIHSS) score, previous stroke, atrial fibrillation, use of ambulance, knowledge about thrombolysis and awareness of the patient/bystander that the initial symptom was a stroke. Multivariable logistic regression analysis indicated that awareness of the patient/bystander that the initial symptom was a stroke (OR 4.438, 95% CI 2.669-7.381), knowledge about thrombolysis (OR 2.002, 95% CI 1.104-3.633) and use of ambulance (OR 1.961, 95% CI 1.176-3.270) were significantly associated with early arrival	-	Large sample and good methods
Brouwers, H.B & Goldstein, J.N (2012)	To investigate management in a neuroscience intensive care unit	Review	preventing recurrence of intracerebral hemorrhage is of pivotal importance, and tight blood pressure management is paramoun	-	Many clinical trials are planned or actively enrolling patients, and the near future may hold a wide range of new therapies
Elliot, J & Smith, M (2010)	This review discusses the current understanding of the pathophysiology of spontaneous and anticoagulationrelated ICH and presents consensus evidence for its acute management.	Clinical Review	Attention must be given to fluid and glycemic management, minimizing the risk of ventilator-acquired pneumonia, fever control, provision of enteral nutrition, and thromboembolic prophylaxis. There is an increasing awareness that aggressive management in the acute phase can translate into improved outcomes after ICH		Structured and easy to understand
Rincon, F & Mayer, S.A (2012	This review discusses Intracerebral hemorrhage management	Review articles	Surgical hematoma evacuation does not improve outcome for more patients, but is a reasonable option for patients with early worsening due to mass effect due to large cerebellar or lobar hemorrhages. Promising experimental treatments currently include ultra-early hemostatic therapy, intraventricular clot lysis with thrombolytics, pioglitazone, temperature modulation, and deferoxamine to reduce iron-mediated perihematomalinflammation and tissue injury	-	Structured and easy to understand

P-17

THE IMPACT OF WORKPLACE BULLYING IN NURSING: Literature Review

Claudia Wuri Prihandini[1]

[1]Postgraduate Student Master of Nursing, Faculty of Medicine-Brawijaya University
cloudymax2312@gmail.com, 085649350352

ABSTRACT

Background: Bullying in the healthcare workplace has been recognized long time ago that workplace bullying in nursing is characterized as the on-going health or career endangering mistreatment of an employee. Bullying is named as indirection aggression, social or relational aggression, horizontal violence, and workplace violence. It was identified the damaging effect of bullying not only for individuals but also organizations Notice from these reason, it will require to know how bullying make impact for nurses.
Aim: To identify the impact of workplace bullying in nursing.
Methods: This study used implementing a literature search through up to date researches articles. The article used was taken from several databases like ProQuest, Science Direct, and EBSCOhost from 2012-2015. The author analyzes on how the impact about the workplace bullying in nursing.
Results: This study used about 10 researches articles which explained that bullying in workplace can cause psychological and/or physical harm among professionals, disrupt nursing care, and threaten patient safety and quality outcomes of nursing care. It brings poor quality patient care and increased medical error, low patient satisfaction, and increased operational costs. It emerges suppresses confidence, decreases self-worth, encourages acute anxiety and depression, facilitates burnout, promotes Post-Traumatic Stress Disorder (PTSD) and can be factors of both suicidal ideation and actual suicide.
Conclusion: Bullying can destroy nurses mentally and physically. Workplace bullying should be addressed through educational programs geared toward curbing and ultimately eradicating bullying. Education topics such as understanding bullying, ensuring self-care, improving communication skills, utilizing social support, and gaining peer support may help manage bullying in the nursing workplace.

Keywords: Workplace bullying, nurse, impact.

BACKGROUND

Many organizations world-wide are facing the issue of bullying in the workplace and many employees report being subjected to bullying. Researchers reported the workplace bullying is a pervasive and harmful feature of modern workplaces. It was identified the damaging impact of bullying not only for individuals but also organizations [1]. Bullying can occur in any workplace regardless of culture and affect both genders with serious consequences. Bullying at work can include all types of mistreatment, including threats, intimidation, and humiliation. The health care sector is one of the fields where bullying is commonplace [2].

Workplace bullying is distinct from other definitions such as incivility or disruptive behaviors because the behaviors of the bully toward the victim are not random acts, are intentional, and occur over an extended period. Workplace incivility is defined as disrespectful deviant work behaviors of a person to harm another that violates workplace rule [3]. Workplace bullying is considered a serious issue in nursing too. It occurs when an employee (i.e., target) is facing prolonged exposure to negative behaviors against which one feels unable to defend

oneself. Research suggests that up to 40% of nurses are exposed to bullying behaviors, including exclusion, intimidation, and belittlement [4].

Bullying has probably been part of the nursing workplace culture since the beginning of professional nursing. Thus, nurses are up to three times more likely to be victims of violence than other categories of health personnel, with female nurses considered the most vulnerable [2]. Bullying can call by many names: workplace aggression, indirection aggression, social or relational aggression, horizontal (lateral) violence, and workplace violence. It has become so popularized in the press. Bullying in the healthcare workplace has been recognized that there is still a culture of silence in many institutions.

The deliberate, repetitive, and aggressive behaviors of bullying can cause psychological and/or physical harm among professionals, disrupt nursing care, and threaten patient safety and quality outcomes. The consequences of workplace bullying are as evident today as they were one hundred years ago. A century later the workplace has changed for the better in many parts of the world. Yet, in spite of such advances, nurses still experience bullying in the workplace [5].

AIM

The intent of literature review study was to know and identified the impact of the workplace bullying in nursing, which is in physical, psychological and organizational.

METHODS

This study used methods by implementing a literature search through English language research articles published in journals between 2012 and 2015 which was conducted. A computerized search of the ProQuest, Science Direct, and EBSCOhost databases was conducted using the search terms “bullying in workplace” and “bullying in nursing”. Since the purpose of this systematic review focused on bullying in the nursing workplace, the final 10 articles specific to bullying among nurses in their workplaces were selected and potentially eligible in the inclusion criteria. Each selected article was reviewed for suitability for full article review. The literature that eligible in the inclusion criteria are literatures which focus on impact of nursing bullying in workplace issues.

RESULT AND DISCUSSION

According to the American Nurses Association (2015), bullying in nursing in the workplace is characterized as the on-going health or career endangering mistreatment of an employee, by one or more of their peers or higher-ups and reflects the misuse of actual and/or perceived power or position that undermines a person’s ability to succeed or do good, or leaves them feeling hurt, frightened, angry or powerless [6]. In general, bullying consists of the behavior which targeted at a person to humiliate and stigmatize socially. It also aims at sabotaging the victim’s reputation by attacking the victim’s character and professional competence. A person can experience bullying at work from managers, supervisors, co-workers, subordinates, administrators, clinical instructors, charge nurses, and staff nurses [7].

According to the research on workplace bullying in nursing in Alaska (2009), 27.3% of the 249 emergency room, nurses surveyed admitted to being bullied at work. 50% of those who reported being bullied identified managers as the bullies. Similarly, in 2009, 21% of the 286 nurses surveyed in a Turkish study admitted exposure to workplace bullying and reported

that 39% of the bullying behaviors were perpetrated by administrators. 63% of those who experienced bullying identified the perpetrators as more experienced nursing colleagues [8].

Lewis (2006) estimated that approximately 80% of UK nurses experienced bullying at some point in their career, with the majority of these acts being perpetrated by co-workers in Australian hospital settings [9]. Persistent behaviors were reported as repeated occurrence of bullying behaviors over at least once a week for at least a 6-month period [1].

The impact of workplace bullying brings poor quality patient care and outcomes increased medical error, low patient satisfaction, and increased operational costs through liability. As a direct consequence, workplace bullying may affect subtlety and/or sometimes unknowingly their mental health, not only in other physical but also in psychological consequences too. In psychological consequences, they include suppresses confidence, decreases self-worth, fosters feelings of non-appreciativeness, creates self-hatred compromises mental well-being, causes depression, encourages acute anxiety, facilitates burnout, promotes Post-Traumatic Stress Disorder (PTSD), and produces powerlessness. Physically, bullying drains every ounce of compassion, well-intentions, and altruism a nurse [6].

The people, who exposed to long term and persistent bullying at work, have been reported to have low self-esteem and self confidence and to suffer from social isolation, stigmatization and ill-adjustment as well as demonstrating anxiety, aggression, depression or depression-related symptoms. Many bullying victims have been known to demonstrate symptoms of Post-Traumatic Stress Disorder and some have reportedly attempted suicide. On the other hand, individuals experiencing bullying at work have poor job satisfaction, work performance, motivation and efficiency, while their social relations suffer both at work and home. The common bullying behavior that addressed is isolation at work, aggression towards professional status, aggression towards personality, and directly hostile behavior [7].

Workplace bullying has also been associated with serious mental health problems, such as Post-Traumatic Stress Disorder (PTSD). PTSD is a serious anxiety disorder that is associated with persistent exposure to stressful conditions. Researchers have argued that victims of bullying who exhibit symptoms such as memory problems, nervousness, social isolation, avoidance and hostility may in fact be suffering from PTSD. Studies examining bullying and PTSD have found that, on average, 86% of victims reported signs of PTSD. It seems reasonable to expect that given their young age and lack of experience, novice may not yet have developed protective intrapersonal resources making them particularly susceptible to this symptomology when faced with persistent bullying [9].

Another impact from exposure to workplace bullying has been proposed to be an important predictor the underlying factors of both suicidal ideation and actual suicide. Some research established that severely bullied workers were 6 times more likely than non-bullied workers to report suicidal ideations. Workplace bullying refers to a situation in which one or several individuals persistently perceive themselves to be on the receiving end of negative actions from superiors or coworkers and in which the targets find it difficult to defend themselves against these actions. When people over a prolonged period perceive themselves to be socially alienated from others and simultaneously feel that they are a burden on others social exclusion from one's peers or supervisors at work, they develop a risk factor for suicidal ideation and behavior [10].

The other impact of bullying is it can result in serious health-related outcomes among not only in nurses but also patients under their care and health care organizations. Nurses might be more vulnerable to bullying than other health care workers because they were

predominantly female and perceived themselves to be powerless and oppressed. Negative behaviors of a bully are perceived as demeaning and downgrading through vicious words and cruel acts, offensive, abusive, intimidating, malicious, or insulting behavior and unreasonable behaviors. The consequences or damages as a result of bullying in the nursing workplace not only affect interpersonal relationships but also, on an organizational level and negative image of workplace [1].

These outcomes can have significant repercussions for health care organizations and the quality of care they provide. It can contribute to the already salient nursing shortage and generate considerable costs in terms of staff replacement and recruitment [4]. Workplace bullying makes nurses intention to leave the organization because being out of the clique (feeling alienated due to ethnicity or educational level). Some strategy was the provision of assertiveness and aggression training which helped nurses handling adverse working environments, such as approach of partnering nurses mentors with academic participants resolved conflicts and provided support and effective communication that enhanced the work climate or educate their colleagues and administrators on the effects of workplace bullying and strategies for maintaining a more supportive work environment [1].

CONCLUSION

In essence, bullying can destroy nurses mentally and physically. It can have significant association between victimization from bullying and subsequent suicidal ideation because bullying in nursing workplace is considered to be the repeated, cumulative, and patterned form of negative behaviors of a perpetrator abusing his or her power over time toward the victim, resulting in a profound negative impact on the bully victim and organization. So, workplace bullying should be addressed through educational programs geared toward curbing and ultimately eradicating bullying. Education topics such as understanding bullying, ensuring self-care, improving communication skills, utilizing social support, and gaining peer support may help manage bullying in the nursing workplace.

RECOMENDATION

We must create a good workplace environment where caregivers can feel safe and comfortable in their workplace and it should be responsibility of everyone to enhance the knowledge about bullying, which is about the characteristics of bullying and how to against this behavior of all levels of employees up to supervisor in the area of hospital.

REFERENCE

1. Lee, Y. J., Bernstein, K., Lee, M. N., Kathleen, M. Bullying in The Nursing Workplace: Applying Evidence Using a Conceptual Framework. Nursing Economic 2014; 32(5): 225-267.
2. Ovayolu, O., Ovayolu, N., Karadag, G. Workplace Bullying in Nursing. AAOHN Journal 2014; 62(9): 370-374.
3. Vogelpohl, D., Rice, S., Edwards, M., Bork, C. New Graduate Nurses' Perception of The Workplace: Have They Experienced Bullying? Journal of Professional Nursing 2013; 29(6): 414-422.Trépanier, S.G., Fernet, C., Austin, S., Boudrias, V. Work environment antecedents of bullying: A review and integrative model applied to registered nurses. International Journal of Nursing Studies 2015; 55(2015): 85-97.

4. Gaffney, D. A., DeMarco, R. F., Hofmeyer, A., Vessey, J. A., Budin, W. C. Making Things Right: Nurses' Experiences with Workplace Bullying—A Grounded Theory. Nursing Research and Practice 2012; 2012:1-10.
5. Adams, Lisa Y., Maykut, Collen A. Bullying: The Antithesis of Caring Acknowledging The Dark Side of The Nursing Profession. International Journal of Caring Sciences 2015; 8(3): 765-773.
6. Ekici, D., Beder, A. The Effects of Workplace Bullying on Physicians and Nurses. Australian Journal of Advance Nursing 2012; 31(4): 24-33.
7. Etienne, E. Exploring Workplace Bullying in Nursing. AAOHN Journal 2014; 62(1): 6-11.
8. Laschinger, H. K. S., Nosko, Amanda. Exposure to Workplace Bullying and Post-Traumatic Stress Disorder Symptomology: The Role of Protective Psychological Resources. Journal of Nursing Management 2015; 2015(23): 252-262.
9. Nielsen, M. B., Nielsen, G. H., Notelaers, G., Elnarsen, S. Workplace Bullying and Suicidal Ideation: A 3-Wave Longitudinal Norwegian Study. American Journal of Public Health 2015; 105(11): 23-28.

P-18

RISK FACTOR ANALYSIS OF FILARIASIS LYMPHATIC IN VIQUEQUE SUB DISTRICT OF TIMOR LESTE

Cesaltina Pinto Soares[1], Djoko Sarwono[2], Budi Setiawan[3]

[1] Ministerio da Saude of Timor Leste, Rua de Caicoli, Caixa Postal 374, Dili, Timor Leste
[2] School of Health Sciences of Wira Husada Yogyakarta, Indonesia
[3] Health Polytechnic of Ministry of Health in Yogyakarta, Indonesia

ABSTRACT

Viqueque District was one of four sub districts in Viqueque District, Timor Leste. Its filariasis lymphatic disease incidence number was the highest than three other sub districts. This was due to most of its society had an out-at-night activity, they did not use mosquito net while sleeping, and they did not have mosquito-proof home construction.This research aimed to know risk factors of filariasis lymphatic incidence in Viqueque Sub District.

This was an analytical observational research by case control method with sample number of 135 respondents that consisted of 45 respondent cases and 90 respondent controls.

Research result number showed a low out-at-night behaviour with OR value = 0.303; CI = 0.132 – 0.695, mosquito net use behaviour was very low with OR value = 16; CI = 2.088 – 122.611, and its home construction was not mosquito proof with OR value = 16; CI = 2.088 – 122.611 in Viqueque Sub District society of Timor Leste.The conclusion from this research was that people who were out-at-night, they did not use mosquito net while sleeping, and whom their homes were not mosquito proof had higher risk suffered from filariasis lymphatic compared with people who did not out-at-night, who used mosquito net while sleeping and had mosquito proof home construction. Based on this research, it was suggested in order that people did not out- at-night, people was suggested to use mosquito net while sleeping, and their homes were installed with plafond, did not let clothes hanging, and installed wire gauze in their home ventilation, floor to be cemented, tight home wall in order to pursue mosquito entered into the house, and developed guidance to the society on out-at-night danger, did not use mosquito net, and wall construction, mosquito net use, home floor and plafond.

Keywords: Behavior, Epidemiology, Filariasis Lymphatic.

INTRODUCTION

Filariasis has infected 120 million people in 83 countries worldwide and 1/5 of the world population, or 1.3 billion people in 83 countries are at risk of filariasis1. In tropical and subtropical regions there are 22 million children at under 15 who have been infected and 40 million inhabitants have suffered from serious disability. According to WHO, lymphatic filariasis problems that occur in East Timor has been included as the target of elimination programin 2020[1]. The number of people with night activities and sleep habits without nets plays a risk factor for disease transmission of lymphatic filariasis.

Most of the home conditions which do not meet mosquito proof standard which suggests that mosquito cannot fly through the bottom of the house (for the types of houses on stilts). Tribes (village level) in Viqueque Subdistrict are categorized as high filariasis endemic which reached 146 cases in 2010. Sub Viqueque District is an area with the highest lymphatic filariasis cases among other 4 Sub Districts, although its prevalence is lower among others. Most of People in Sub district of Viqueque are farmers. During the maize and paddy seasons, people use to go out at night to keep the plants from the

threat of theft and vermin or animal herbivore so people often sleep in the garden and the fields for months. They come back home after harvest. Some previous studies which were done in other places, showed that going out at night, the use of mosquito nets, and house construction were not statistically significant. But until now there are still lymphatic filariasis cases in sub district of Viqueque that may correlate to society behavior and the condition of the home which has never had filariasis research. Therefore, the researchers are interested in knowing factor of going out at night, use of mosquito nets and home construction whether it is associated with the occurrence of lymphatic filariasis in the sub district of Viqueque, Timor Leste.

METHOD

This research was analytic observational study with case control design, with 45 cases with a ratio of 1: 2, so that the sample in this study were 135 respondents. Filariasis cases based on medical record in 2010 - July 2011 in sub health centers in Viqueque district, East Timor.

The data was taken by getting secondary data in health institutions, whereas the primary data was obtained by performing environmental observation and interviews with respondents in accordance with the research inclusion criteria. Data which were collected were going out behavior, the use of mosquito nets when sleeping and house construction that included the condition of wire netting, house walls, ceilings, and floors of the house. The collected data were analyzed with the help of the computer to perform chi - square and calculate the odds ratio.

RESULT AND DISCUSSION

Research setting description

Figure 1. Viqueque Sub District and Health Facilities (CSI/CHC: Centro Saude Interna, HP: Health Pos, MC: Mobile Clinic)

Sub District Viqueque in the map shows a light blue color. It has ± 1.850 km2, with population of 23.287 inhabitants. This sub-district has 10 tribes (tribe in Indonesia has the

same level as Kelurahan), 62 aldeias (the same level as village) and one hospital. Sub District Viqueque has a border area, they are:

1. East Area : Watulari
2. West Area : Lacluta
3. North Area : Ossu
4. South Area : Laut Timor

Based on the report of Community Health Center at Sub District Viqueque year 2010-2011 finds that there are 45 patients with lymphatic filariasis. But the health department does not have a special medical record of lymphatic filariasis. Based on the guidebooks/guidelines of Timor Leste Ministry of Health classify lymphatic filariasis only to the list of diseases "and other points" (etc)., so the researchers could not take and copy patient's medical record of lymphatic filariasis.

Characteristics of Respondents

1. Univariate Analysis
   a. Age
      Age in this study can be found at table 1.

Table 1. Frequency Distribution of Respondents by Age Group

No	Age	Number (people)	Percentage (%)
1	25-45 yearsold	15	11,1
2	46-65 yearsold	84	62,2
3	66-85 yearsold	36	26,6
4	≥86 yearsold	0	0
	Total	135	100

Data Resource: Primary Data

   b. Education Level
      Education level in this study can be found at table 2.

Table 2. Frequency Distribution of Respondents by Education Level Group

No	Education Level	Number (people)	Percentage (%)
1	No School	135	100
2	Elemantary School	0	0
3	Junior High School	0	0
4	Senior High School	0	0
5	University	0	0
	Total	135	100

Data Resource: Primary Data

c. Occupation

Occupation in this study can be found at table 3.

Table 3. Frequency Distribution of Respondents by Occupation Group

No	Occupation	Number (people)	Percentage (%)
1	Farmer	135	100
2	entrepreneur	0	0
3	government employees	0	0
	Total	135	100

Data Resource: Primary Data

d. Out of the house

The respondent's Out of the house in this study cab be found at table 4

Table 4. Frequency Distribution of Respondents by the respondent's out of the house

No	Out of the House	Number(people)	Percentage (%)
1	06.00-14.00	111	82,2
2	15.00-22.00	1	0,7
3	23.00-06.00	23	17,0
	Total	135	100

Data Resource: Primary Data

2. Bivariate analysis

Bivariate analysis used to analys relationship between independent variables and dependent variable and looking at Odds Ratio (OR), dan CI 95%, used crosstabulation method. Bivariat analysis shows in table 5.

Table 5. Bivariate analysis between independent variables and dependent variable

No	Variable	Status		OR	CI
		Case	Control		
1.	Hang out on night				
	a. Yes	28	76		
	b. No (stay at home)	17	14	0,303	0,132-0,695

Source: primary data

Tabel 6. Bivariate analysis between independent variables and dependent variable

No	Variable	Status		OR	CI
		Case	Control		
1.	Used mosquito net				
	No	44	66		
	Yes	1	24	16	2,088-122,611

Source: primary data

Tabel 7. Bivariate analysis between independent variables and dependent variable

No	Variabel	Status		OR	CI
		Case	Control		
1.	House construction with Mosquito proof				
	No	44	66		2,088-
	Yes	1	24	16	122,611

Source: primary data

Tabel 8. Bivariate analysis between independent variables and dependent variable

No	Variabel	Status		OR	CI
		Case	Control		
1.	Kawat Kasa				
	Yes	0	0	16	2,088-122,611
	No	45	90		

Source: primary data

Tabel 9. Frequecy distribution of wall

No	Variabel	Status		OR	CI
		Case	Control		
1.	Wall				
	Close	0	0	16	2,088-122,611
	Open	45	90		

Source: primary data

Tabel 10. Frequecy distribution of Plafon

No	Variabel	Status		OR	CI
		Case	Control		
1.	Plafon				
	Yes	0	0	16	2,088-122,611
	No	45	90		

Source: primary data

Tabel 11. Frequecy distribution of Floor

No	Variabel	Status		OR	CI
		Case	Control		
1.	Floor				
	a. Permanen	1	0	16	2,088-122,611
	b.Natural/ Soil	44	90		

Source: primary data

DISCUSSION

Correlation between Hang out at night and Filariasis Limfatik

This study showed that no correlation between hang out at night and filariasis (CI = 0,132-0,695). OR = 0,303 it means that respondent who hang out at night did not high risk

of filariasis limfatik rather than the respondent who stay at home.

This research differs from research Sunardi (2006) which states that there is a relationship between a go out at night with the incidence of lymphatic filariasis (P = 0.01). Value OR = 26.2 it means that go out at night have 26.2 times greater risk affected lymphatic filariasis compared with those who did not go out at night.

This is because the possibility of mosquitoes do not bite when respondents go out at night but could have been a mosquito bite in the house as well as the transmission occurs at home if we see the condition of the house that very allows the house to be resting on the vector mosquitoes, because the value of OR of construction of the house is greater than the value OR behavior of go out at night.

Relationship Between Use of Netting With Lymphatic Filariasis Incidence

Based on the research results, there is a relationship between the use of nets with the incidence of lymphatic filariasis (CI = 2.088 to 122.611). OR value indicates that the use of mosquito nets is a risk factor with OR = 16, which means that they are not using mosquito nets while sleeping nights at risk 16 times greater risk of lymphatic filariasis compared with those using mosquito nets while sleeping at night.

These findings are consistent with research that states that there is a relationship between the use of nets with the incidence of lymphatic filariasis (P = 0.01 p <0.05). Value OR = 9.57 means those who do not use the nets at risk 9.57 times greater risk of lymphatic filariasis compared with those who use the nets. Incidence of lymphatic filariasis caused by the respondents did not use nets during the night sleep. Mosquito nets are a barrier when netting in a good condition.[3]

Relationship Between Construction Home Mosquito Proof With Lymphatic Filariasis Incidence

Figure 2. Construction Home Respondents

Based on the research results, there is a relationship between the construction of homes that are not mosquito proof with the incidence of lymphatic filariasis (CI = 2.088 to 122.611). Value of OR = 16, meaning that those who do not mosquito proof construction of houses at risk 16 times greater affected lymphatic filariasis comparing with are mosquito proof of home construction. This study is consistent with research states that there is a relationship between construction homes are not proof mosquito with an incidence of lymphatic filariasis, house wall construction OR = 3.1 (CI = 1.137 to 8.535), meaning that those who house wall construction

that there is a gap at risk 3, 1 times greater to affected lymphatic filariasis comparing with the construction of his house was no gap. House ceiling OR = 4.7 (CI = 1.739 to 12.525), which means that house construction without ceiling have a risk 4.7 times greater risk of lymphatic filariasis compared with those house with ceiling construction , and use mosquito netting wire OR = 3.7 (CI = 1.411 to 968), meaning that ventilation house construction without wire gauze mosquito have a risk 3.7 times greater risk of lymphatic filariasis

It is because of the house with non mosquito proof will ease the mosquitoes to enter the house. The ceiling is a divider between upper wall and roof that is made by wood, plasterboard or bamboo webbing. If there is no ceiling, it means that there is a hole or space between wall and roof so mosquitoes will be easier entering the house. Therefore the risk of contact between people and mosquito will be bigger than the house without space. People who live in the area with mosquitoes breeding places, no ceiling and non permanent houses have bigger risk in getting filariasis compared to the houses without mosquitoes breeding places, with ceiling and permanent houses.

CONCLUSION AND SUGGESTION

A. CONCLUSION

The results of the research are:

1. There is no relation between going at night and the incidence of lymphatic filariasis.
2. There is a relation between the using of mosquito net when sleeping at night and the incidence of lymphatic filariasis.
3. There is a relation between mosquito proof housing construction and the incidence of lymphatic filariasis.

B. SUGGESTION

Based on the conclusion above, the researcher can give some suggestions as following:

1. Community Health Center can give counseling for not going at night even though there is no relation based on the analysis result.
2. Community Health Center can do an activity to distribute mosquito net for people in Viqueque District in general and Sub Distrik Viqueque in specific.
3. It is expected that Community Health Center can give understanding for people whose house construction is not yet mosquito proof to improve their houses quality.
4. It is expected that Timor Leste government especially Timor Leste Health Ministry to create a policy related to filariasis disease problem.
5. It is expected that the Head of Health Department of Viqueque District can improve surveillance activities against filariasis disease.

REFERENCES

1. WHO. 2010. The World Filariasis Report 2010, World Health Organization, Jenova.
2. Dinas Kesehatan Viqueque, 2010. Profil Kesehatan Tentang Jumlah Kasus Filariasis Tiap Sub Distrik. Penerbit Dinas Kesehatan Viqueque. Timor Leste.
3. Lestari E.W.,dkk. 2007. Vektor Malaria di Daerah Bukit Menoreh, Purworejo, Jawa Tengah. Media Penelitian dan Pengembangan Kesehatan. Vol. 17. No. 1. 2007:30-35.
4. Rufaidah, Yasni 2004. Hubungan lingkungan rumah dan karakteristik responden yang berhubungan dengan kejadian filariasis di wilayah kerja Puskesmas Bantar Gebang II Kota Bekasi tahun 2004. Tesis. Medical Faculty, Gajah Mada University. Yogyakarta.

P-19

The Relations of Gingivitis Severity Levels with Teeth Sensitivity on Women Aged 30-45

Etty Yuniarly, Quroti A'yun, Puspita Retno Hapsari

Dental Nursing Department of the Ministry of Health Polytechnic Yogyakarta
Jl. Kyai Mojo No. 56 Pingit, Yogyakarta, 55234
Email: yuniarly80@gmail.com

ABSTRACT

Sensitive tooth is the common term that is used to show hypersensitive dentin because of thinner enamel, gum reduction and dentin formation, a layer under enamel. In short, gingivitis is defined as gum inflammation or gum infection. Gingivitis and periodontitis are the illnesses of periodontal tissue inflammation that happen in most people. The purpose of this research was to know the relations of gingivitis severitty levels with teeth sensitivity of women at the age of 30-45 years old. The subjects of this research were PKK members in the age of age 30-45. This research used descriptive quantitative method and the data was presented by crosstab. The result of this research the most common condition related to gingivitis severity was 52% of the women had mild level of gingivitis and the condition related to teeth sensitivity was 43,5% with sensitive pain. The gingivitis severity level was 62,5% that had mild inflammation at the most. The most women who had sensitive teeth are 57,5 % with pain criteria and had no pain criteria with 42,5% at the least, also the gingivitis severity level was 56,5% which had mild inflammation with pain sensitivity level.

Keywords: Gingivitis Severity Levels, Teeth Sensitivity, Women

INTRODUCTION

Sensitiv Dental is a general term used to indicate the presence of dentin hipersensitiv due to thinning enamel, gums and decrease the opening of dentin, a layer below the enamel. Pain associated with tooth sensitivity occur in the nerves, the pain of tooth sensitiv not remain forever, but periodically there is a temporary[1].

Gingivitis and periodontitis is an inflammatory disease of periodontal tissue that affects many people. Gingivitis is simply defined as gingival inflammation. Another definition states that gingivitis is an inflammation of the gingival epithelium jungsional which is still intact on the teeth in the initial conditions so its attachment has not changed[2].

Mojogedang subdistrict located in Karanganyar, Mojogedang region itself is divided into 14 regions at the village with an area of 5330.90 hectares and a population of some 62 728 people, while the population of the hamlet of 697 souls Mojogedang number by the number of population aged 30-45 years is male number 84 souls and female 96 souls[3].

Based on observations conducted in women with age 30-45 years Mojogedang village, Karanganyar, Solo, showed as many as 10 people had gingivitis and 8 of them experienced a different level of sensitivity that is felt cold, pains, do not feel pains when exposed to cold water. Based on these data can be obtained from the average severity of gingivitis and sensitivity in women aged 30-45 years.

The purpose of this study was to determine the severity of gingivitis with tooth sensitivity in women aged 30-45 years Mojogedang village, Karanganyar, Surakarta.

The results of this research can be useful in the field of theoretical broaden knowledge about oral health counseling related to dental and oral diseases and prevention of oral disease. In the field of practical (1) For researchers used to broaden their horizons and increase knowledge of oral health in particular regarding the description of the severity of gingivitis and sensitivity (2) For the people that this research can provide information of oral health and prevention solutions teeth and mouth disease particularly the description of the severity of gingivitis and sensitivity.

MATRIALS AND METHODE

This type of research is quantitative descriptive. Data collection was performed by cross sectional study was that the data concerning the variables to be collected at the same time[4].

Population is the subject of research[5]. The population in this study were aged 30-45 years PKK Mojogedang village of 40 people. When the study in February-March 2016, in the village of Mojogedang, Karanganyar, Surakarta.

Aspects of this research is the relationship with the severity level of gingivitis tooth sensitivity while uncontrolled aspect is the speed of the brushing, the pressure in the brush, tooth paste, tooth brush types.

Assessment on the severity of gingivitis is an inflammation of the gingival characterized by inflammation and discoloration of the gingiva. Measurement index of gingival taken six teeth were used as tooth index are first molar upper right incisor first upper left first premolar left upper first molars lower left, incisors first bottom right, and first premolar bottom right is given a score based on the index gingiva in the area (facial / labial, mesial, distal, and lingual), namely: (1) a healthy condition in which a state of gingival no inflammation, no discoloration and no bleeding was given a score of 0, (2) mild conditions in which the state of the gingiva there is little change in color and a little edema, but no spontaneous bleeding probing is given a score of 1, (3) the condition of being in which the state of the gingiva there is redness, edema, and bleeding on probing is given a score of 2, (4) severe conditions in which the state of the gingiva No red light or illuminated, the edema, the tendency of spontaneous bleeding was given a score of 3. Determination of criteria in the assessment of gingival index, namely: (1) healthy criteria is given a score of 0, (2) criteria for mild inflammation was given a score of 0.1-1, (3) criteria inflammation was given a score of 1.1 to 2, (4) criteria of severe inflammation was given a score of 2.1 to 3[3]. Rate overview tooth sensitivity is where the teeth will feel pains and pains when exposed to cold stimuli from the outside that attack tooth nerve. Measurement of tooth sensitivity overview of respondents using ethyl chlor (CE) applied to the gingival respondents who had gingivitis criteria and rheumatic pains felt.

Management of data in this research is to look at the severity level of gingivitis with tooth sensitivity in women aged 30-45 years Mojogedang village, Karanganyar district, Surakarta. Researchers used the test of cross tabulation or Crosstabs.

Ethics in Research carried out with due regard to ethics and respect the rights of research subjects signed informed consent.

RESULTS

Research Result

Table 1. Frequency distribution criteria for severity of gingivitis

Severity of gingivitis	Amount	Percentage (%)
Healthy	1	2,5
Mild inflammation	25	62,5
Medium inflammation	14	35
Weight Inflammation	0	0
Total	40	100

Table 2. Distribution of the frequency of tooth sensitivity on the respondent

Sensitivity	Amount	Percentage (%)
Pain	23	57,5
No Pain	17	42,5
Total	40	100

Table 3. Cross tabulation of the age of the respondents to the severity gingivitis

Age (Year)	Severity of gingivitis						Total	
	Healthy		Mild inflammation		Medium inflammation			
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
30-35	1	100	13	52	0	0	14	35
36-40	0	0	11	44	0	0	11	27
41-45	0	0	1	4	14	100	15	37,5
Total	1	100	25	100	14	100	40	100

Table 4. Cross tabulation of the age of the respondents with tooth sensitivity

Age (Year)	Sensitivity				Total	
	Pain		No Pain			
	Amount	(%)	Amount	(%)	Amount	(%)
30-35	7	30,4	7	41,2	14	35
36-40	6	26,1	5	29,4	11	27,5
41-45	10	43,5	5	29,4	15	37,5
Total	23	100	17	100	40	100

Table 5. Cross tabulation of the severity of gingivitis and tooth sensitivity

Severity of gingivitis	Sensitivity				Total	
	Pain		No Pain			
	Amount	(%)	Amount	(%)	Amount	(%)
Healthy	0	0	1	5,9	1	2,5
Mild	13	56,5	12	70,6	25	62,5
Medium	10	43,5	4	23,5	14	35
Total	23	100	17	100	40	100

DISCUSSION

From the results of the examination conducted on 40 respondents aged 30-45 years old mother in the village of Karanganyar Surakarta Mojogedang obtained results in Table 1, respondents with mild inflammation at most, with the number of 13 respondents (52%), while respondents with no severe inflammation , inflammation of the gums that occurs to the respondent due to brushing too hard and too stressed toothbrush on the surface of teeth and gums, so that the injured and inflamed gums. Gum inflammation can be caused due to an error at the time you brush your teeth, because the severity of polishing, it can injure the gums, sores in the gums and the unraveling of the underlying connective tissue and cause pain. More localized lesions are the result of tertusuknya gums by rows of brushes. The use of toothpicks with toothpicks imposing entrance way into the gap below the contact point. To areas where gaps can occur buildup of food debris that led to the occurrence of gingivitis and periodontitis[2].

According to Table 2, the rate of tooth sensitivity can be seen tooth sensitivity with pain criteria at most, at the age of 41-45 years with the number of 10 respondents (43.5%), taste sensitive pain suffered by the respondent due to the age factor, the use or how to brush teeth that are not quite as long as the age of respondents could lead to gum recession or decline, so the open dentin layer and gives rise to a sense of rheumatic pains in the teeth not only respondent.

Taste experienced by cavities, teeth still good also felt shooting pain. Sensitiv teeth is caused by the opening of a layer of dentin. Normally a layer of dentin covered by enamel and gums, but there are some things that cause the enamel and gums is lost, resulting in the opening of the dentine coating. Among gum recession or deterioration of the gums due to incorrect brushing or age factor, acidic food or beverage that can erode enamel, frequent brushing with a toothpaste that is abrasiv[5].

The results of the research and severity of gingivitis with tooth sensitivity in women aged 30-35 years in the village of Karanganyar district Mojogedang Surakarta will be discussing the following, the results obtained from Table 3, it can be seen cross-tabulations of age and severity of gingivitis most respondents with medium inflammation most that 11 respondents (44%) at the age of 36-40 years, while the cross-tabulation between the age of the respondents to the sensitivity of visible tabulation value most is in Table 4, the age group 41 to 45 years old with 10 respondents (43.5%). Age can affect the severity of gingivitis, this is due to the decrease of gingival line attached to the neck of the teeth or gingival recession are attached to the neck of the teeth or gingival recession, opening a layer of dentin at the root of their taste

for frequent pains in the respondents. There are several other factors that led to a sense of aching in the teeth respondents aged 41- 45 years. Age resulting in an increasingly crowded and increasingly rough gingival connective tissue. In the older age group is 65-80 years found a vast improvement infiltrated connective tissue, increasing the flow of gingival crevice fluid (crivicular fluid), and an increase in gingival index, the index markers of inflammation of the gingival tissues. It is found in healthy gingival conditions[6].

In cross-tabulations severity of the severity of gingivitis with final education level of respondents is shown in Table 5, the value of the tabulation at most that low educated respondents with a number of 22 respondents (88%). While the value of tabulation most in cross-tabulation between the severity of gingivitis and work can be seen in Table 7, with the severity of mild gingivitis housewives ie 25 respondents (100%) and the value of cross tabulation between the severity of gingivitis with an income can be seen in Table 9, with earnings 500000-1000000 have mild severity is 16 respondents (64%). In Table 6, it can be seen low levels of education have a level of sensitivity shooting pain as much as 13 respondents (39.1%). Further cross-tabulation between respondents work with tooth sensitivity seen from Table 8, the number of 14 respondents (60.9%). Cross-tabulation between income and tooth sensitivity can be seen in Table 10, which is a person's income between 500.00-1.000.000 have shooting pain sensitivity level with the number of 15 respondents (65.2%). The level of education also affects the level of knowledge of a person in obtaining and understanding information oral health, with people with low education will affect their jobs and income derived by a person and will impact on the importance of oral health, auto-person middle to lower income would be more concerned with basic needs in everyday to survive, rather than thinking about the importance of maintaining healthy teeth and mouths[7]. it shows the relationship between education and research that most of the respondents with low education have mild inflammation severity gingivitis number of 22 respondents (100%) and shooting pain sensitivity level number of 13 respondents (52%). In our work most respondents only work as housewives so that access in receiving information regarding oral health is very limited, it is seen by the severity of gingivitis number of 25 respondents (100%) had mild inflammation and sensitivity level of pain a number of 15 respondents (60%). In line with their lower education and housewives work that affect the respondent's income, it is seen in research that has been done is the respondents who earn 500000-1000000 have the severity of gingivitis with mild inflammation number of 16 respondents (64%) and sensitivity shooting pain a number of 16 respondents (64%).

On cross-tabulation between the severity of gingivitis and tooth sensitivity can be seen in Table 11, namely that the severity of mild gingivitis experience shooting pain sensitivity with the number of 13 respondents (56.5%), this occurs due to incorrect brushing teeth and excess pressure on the respondents during this time, so that the gum has decreased or gingival recession and consequently open dentin that result in pain rheumatic pain that occurs on the teeth of respondents. The cause of tooth sensitiv is from research experts in the USA, as many as 50-90% of patients with large or excessive pressure when brushing teeth. Tooth brushing habits excess pressure can make the gums become irritated or gum down from the neck teeth, over time the roots of the teeth will be open (gingival recession), neck cavities, enamel would be reduced in thickness so that when drinking cold water, sour or sweet or even touched toothbrush bristles will ache[8]. It outlines the causes of tooth sensitivity is gum decline, poor oral hygiene (OHI-S), bleaching (whitening tooth surface), the erosion of email, brushing your teeth too strong[1].

Factors that affect the oral health knowledge is the level of education, information, cultural, social and economic experience. It becomes multi interrelated factors regarding oral health indices someone[9]. Age is associated with increased damage to tissue attachment. Such damage is caused by the accumulation of potential process detruktif like periodontitis because the amount of plaque increases, trauma chronic disease and tooth brushing, as well as the destruction of iatrogenic of manufacture restorations that are not right, or the act of scaling repeated that had to be performed at each visit on maintenance therapy[6].

CONCLUTION

1. The average women has gingivitis severity of mild severity at most with a 52% with a sensitivity of 43.5% with a tooth ache sensitivity.
2. The severity of gingivitis in the women is a 62.5% experienced mild inflammation at most and no severe inflammation.
3. Tooth sensitivity in the women is a 57.5% experienced tooth sensitivity with pain criteria at most and least in the criteria does not pains criteria amount of 42.5%.
4. On average women who experienced the severity of gingivitis is a 56.5% had mild inflammation with pain sensitivity level.

SUGGESTION

1. For the researchers could study results as a guide to increase knowledge and insight on oral health, especially regarding the severity of gingivitis and sensitivity as well as a guide to promote the wider community.
2. For women 30-45 years of age are advised to maintain the health and dental and oral hygiene by brushing teeth with a way and a good time and precise, avoiding foods and beverages that are acidic use a toothpaste that is not abrasiv which aims to prevent oral disease.
3. For further research studies on the association expected the severity of gingivitis and tooth sensitivity towards menopausal women.

REFERENCES

1. Kusumawardani, E. (2011). *Buruknya Kesehatan Gigi Dan Mulut*. Yogyakarta : Siklus Hanggar Kreator.
2. Putri, M.H., Eliza, H, dan Nurjannah, N. (2011). *Ilmu Pencegahan Penyakit Jaringan Keras Dan Jaringan Pendukung Gigi*. Jakarta: Penerbit Buku Kedokteran EGC.
3. Pemerintah Kabupaten Karanganyar. (2014). *Profil Kabupaten Karanganyar*(online). Tersedia: www.karanganyarkab.go.id/20110104/kecamatan-mojogedang/.Diunduh, 14 November, 2015.
4. Notoatmodjo, S. (2010). *Metodologi Penelitian Kesehatan*. Jakarta : Rineka Cipta.
5. Ramadhan, A. G. (2010). Serba Serbi Kesehatan Gigi Dan Mulut. Jakarta : Bukune
6. Nurul, D. (2010). *Peran Stress Terhadap Kesehatan Jaringan Peridosium*. Jakarta : Penerbit Buku Kedokteran EGC
7. Irdawati, Sariningrum E. (2009). *Jurnal Kesehatan Keperawatan UMS*, vol.2 No 3, September 2009.
8. Hermawan, R. (2010). *Menyehatkan Daerah Mulut*. Yogyakarta : Buku Biru.

9. Muhlisin, Yulianti, R.P. (2012*). Hubungan Antara Pengetahuan Orang Tua Tentang Kesehatan Gigi Dan Mulut Dengan Kejadian Karies Gigi Pada Anak Di SD N Jaten Karanganyar.* Skripsi.Surakarta: FIK, Keperawatan UMS.

P-20

BEHAVIOR OF PARENTS AND RESPONSE OF CHILDREN LIVING WITH HIV AIDS (CLWHA)

Midwivery Department, Health Politechnics of Health Ministry in Yogyakata,
JalanMangkuyudan MJ III/304 Yogyakarta 55143
email :gitsari@yahoo.com

ABSTRACT

Human Immunodeficiency Virus (HIV) reduce the ability of human immune system. New HIV casesfrom 2000 until now was decrease is35%, on the other hand in children, which is found 58% increase in new cases. HIV attacks the immune system of patients, when it is combined withprolonged psychosocial-spiritual stress, it will accelerate the emergence of AIDS and even increase mortality. A person's response can be in the form of good or bad, positive or negative. Parents behavior has a major influence on a child's response to HIV / AIDS.The purpose of this study is to determine relationship of the behavior of parents and responce of CLWHA.
Methods: This research is a combination of quantitative completed with qualitative data. The subjects were parents and CLWHA who are active in NGOs - Victory Plus. Independent variable in this research is the behavior of parents with HIV / AIDS. Dependent variable in this research is the child's response to HIV / AIDS. Processing was performed using product moment correlation analysis.Based on hypothesis test using product moment correlation coefficient was obtained at significance level of 5%.
Result: Significant value of research results was 0,000 with p-value<0.05. It shows there is a relationship between the behavior of parents and Responce of CLWHA.

Keywords: Behavior, Response, Children Living With HIV AIDS (CLWHA)

BACKGROUND

Human Immunodeficiency Virus (HIV) reduce the ability of human immune system, making patients susceptible to various diseases. HIV infection is still one of the major health problems and one of the infectious diseases that can affect maternal and child mortality. Indonesia is one country in Asia with HIV / AIDS epidemic is growing most rapidlywith concentrated HIV epidemic, because there are some areas where the HIV prevalence of more than 5% in certain subpopulations, and high HIV prevalence in the general population 15-49 year occurred in the provinces of Papua and West Papua (2.4%).[1] The prevalence of HIV in Yogyakarta was 75.2 per 100,000 population .[2]

Since 2000 until now there is a 35% decrease in new HIV cases, but conditions in children, which found 58% increase in new cases. This condition need our consern because in Indonesia services to children with HIV still inadequate. Also, today throughout the world is estimated there are 17.1 million people living with HIV are unaware that they are HIV positive.[1]

Children infected with HIV have a lower quality of life than children with better immunity. Lack of affection, problem of stigma and discrimination become a great shock and pressure. Psychological distress, social, and conditions often make the child or the child's family would choose to withdraw from the social environment. Nursalam&Ninuk (2009) said physiologically, prolonged stress of psychosocial-spiritual will accelerate HIV to the onset of AIDS even increase mortality, and if the stress reaches the stage of exhaustion, it can lead to failure of immune system function aggravating the situation of children with HIV AIDS.

Response is a reaction of stimulus, or the result of stimulus itself.[4]Every humanplay a role as a controller between stimulus and response. Determinants of individual response to the stimulus is stimulus itself and the individual factors. The person's response can be in the good or bad form, positive or negatif.[5]

The response of children is a concept that determines the success or failure of the individual in facing difficult times. Good response can be built, and it need support from family, friends and community in order to realize the potential responce.[6] The purpose of this study was to determine the relationship of the behavior of parents with HIV / AIDS and the child's response to HIV / AIDS.

METHOD

This research is a combination of quantitative completed with qualitative data to determine the relationship of the behavior of parents with HIV / AIDS and the child's response to HIV / AIDS. The subjects were parents and children with HIV / AIDS who were active in Victory Plus NGOs. Independent variable in this research is the behavior of parents with HIV / AIDS. Dependent variable in this research is the child's response to HIV / AIDS. Data collection of the family using a questionnaire and equipped data qualitative by interviews. Data processing was performed using product moment correlation analysis.

RESULTS AND DISCUSSION

A. RESULTS

1. Description of Research

This research was conducted at the NGO Victory PlusJlTurnggorono No. 5, Mrican, Yogyakarta from April until September 2015. Sample size are 30 children with HIV / AIDS.

2. Univariable Analysis

a. Parents Behaviour of CLWHA (Children Living with HIV and AIDS)
From the data it can be seen that the average of behavior of parents CLWHAis 86, median value is 88, and modus is95. In this study, if the value of x>mean then it categorized as having good manners, and if the value of x <mean then it will catagorized as categorized unfavorable / less behavior.

Table 1. Distribution of Parents Behaviour of CLWHA

	n	%
Parents Behavior		
– Good	20	66.7
– Less	10	33.3

From the above data it was found that two thirds of parents have good manners towards CLWHA.

b. Response of CLWHA
The average value of the child's response amounted to 86, median value is 87, and modus is 90. if the value of x>mean then it categorized as as having a positive response, and if the value of x<mean then it will catagorized as negative response.

Table 2. Distribution Of Response from CLWHA

Responce	n	%
Positive	16	53.3
Negative	14	46.7
Total	30	100

The data shows that positive response owned more than half of the respondents.

3. Bivariable Analysis
   a. Normality Test
      Normality test is use Kolmogorov-Smirnov Z method, to determine the collected data is taken from normal distribution or normal population. (value more then 0,05).
      In this test researchers used SPSS 17:00 for Windows.We found that that variable parental behavior has value 0.167 (> 0.05) and variable of response CLWHA has 0.119 (> 0.05). So, both of variables are distibuted normally.
   b. Correlation test
      Test is using product moment correlation method which is used to determine whether there is a relationship between the study variables. Thw results shows there is a significant colleration between behavior of parents and responce of children(v-value = 0.000) .

B. DISCUSSION

Based on hypothesis test using Product Moment Correlation showed there is significant values between behavior of parents with response of CLWHA.

The results of this study is accordance with the previous study that found that the response is a reaction or response depends on the stimulus or are the result of the stimulus. Humanplay a role as a controller between stimulus and response. [4, 5] Positive responce of CLWHA is basically a concept that determines the success or failure of the individual in the face of difficult times. It can be built, so that it is possible for all individuals.

People living with HIV were able to show positive responceto face any difficulties that arise due to HIV infection. The resilience of people living with HIV look of their emotional awareness and emotional control, the ability to control impulses, optimistic, flexible and accurate thinking, the ability to empathize, relationships and achievement, as well as problem-solving skills.[7]

In this study, parents who have good (66.7%) is linear with positive responsevof their child (53.3%). This shows that the behavior of parents have an important role in the response of CLWHA. Parent behaviour in this study assessed from three domains, there are cognitive, affective and psychomotor. Parents with good behaviour will either bring positive impacts on children's response to HIV / AIDS.

CONCLUSION

1. Most parents have good behavior.
2. Most of the child's response to HIV / AIDS positive
3. There is a relationship behaviors of parents of CLWHA with Responce of CLWHA

SUGGESTION

Required more in-depth analysis on quantitative data to measure the behavior of the parents.

BIBLIOGRAPHY

1. Kementerian Kesehatan RI (2013), Rencana Aksi Nasional Pencegahan Penularan HIV dari Ibu Ke Anak (PPIA) Indonesia 2013 – 2017, Kemenkes RI: Jakarta
2. Ditjen PP & PL Kemenkes RI (2014), Statistik Kasus HIV/AIDS di Indonesia (Dilapor s/d September 2014), http://spiritia.or.id/Stats/StatCurr.pdf
3. UNAIDS (2013), Global Report: UNAIDS Report On The Global AIDS Epidemic. http://www.unaids.org/sites/default/files/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf
4. Gulo. (1996). Strategi BelajarMengajar. Jakarta: Grasindo
5. Azwar, Saifudin (2005) .Sikap Manusia :Teori dan Pengukurannya. Yogyakarta: Pustaka Pelajar
6. Benard. Resiliency: What We Have Learned. San Fransisco: WestEd
7. Hardiyani (2014) . Resiliensi Pada Orang Dengan HIV/AIDS. http://ilib.usm.ac.id/sipp/doc/jurnal/F.111.09.003220151105035859-6.SheldeanaPutri.pdf

P-21

THE PROVISION OF CLEAN WATER, CONTAMINATION RISK AND ENVIRONMENT PERCEPTION OF WATER USER GROUPS (POKMAIR) IN WATUMALANG DISTRICT, WONOSOBO REGENCY, CENTRAL JAVA

Pujiyati[1], Prabang Setyono[2], Wiryanto[2]

[1]Magister Programme of Environmental Science,[2]Lecturer on Magister Programe of Environmental Science, Sebelas Maret University, Surakarta
[1]Correspondence email : pujiyati.zara@gmail.com

ABSTRACT

Wonosobo Regency is part of Central Java Province which promising potential of water resources. This condition is cause an existence of enormous numbers of spring. However, the utilization of it just impressed to fulfill requirement of quantity than quality. As a consequence, this considered giving negative effect to local communities health. One of it is considerated as cause of diarrhea outbreak. The Watumalang District is one of diarrheal outbreak area in Wonosobo. Mitigation is the most importance value of research in clean water distribution. The research objectives are: (1) to evaluate contamination risk factors of sanitary facilities, (2) to determine water quality of local people raw water and (3) to determine environment perception of local communities. Research subject is local communities who classified as independent users of water (without advanced processing). This research used primary survey, secondary data collection and questionnare. Result of the research shown that 37% have very high contamination risk in sanitary facilities meanwhile 25% is low risk. Analysis of water quality shown that all of samples have a high coliform numbers with average value is 270/100 ml. Assessment of POKMAIR environmental perception resulting a moderate to very good perception (77%). Based on those results, the water quality management should be done with construction repair, better handling and monitoring on sanitary facilities.

Keywords : sanitary, contamination risk, water quality, environmental perception, Watumalang

INTRODUCTION

Water is one of the vital needs of life sustainability. Water resources problems refer to (a) availability in quantity and quality context and (b) utilization and conservation efforts. Based on quantity, Indonesia have a sufficient water resources. Ministry of Public Works [7] described that Indonesia rain water volume is approximately 21.120 mm anually. Twenty five percent was loaded in surface water system, 72% flushed into the sea or as flood (also called runoff water) with only 3% consummed by people.

Major challenge of Indonesia water resources management is quality degradation. The main cause of this challenge is an anthropogenic ethic. This shallow ecology ethic is simply placed environment as only fulfillment instrument of human needs [6][14]. The anthropogenic ethic induced over-exploitation and water system pollution.

Major of pollutant is produced by anthropogenic activities including heavy metal compound, faecal coliform and agrochemistry materials. Pollution will be more vulnerable in surface water systems [1]. Pathogen contamination (carried by faecal bacteria) giving a tangible threats to human health. This condition became a consumption limitation, especially for water without specific treatment [1]. Healthy risk of water refers to the character as organism growth media and infection pathway [5]. Provision of healthy drinking water became

fundamental needs to ensure a public health and it was one of human rights. Nevertheless, the amount of clean water are limited both quantity and quality. There was a prediction that the amount will be decrease as long as population growth, urbanization and climate change [9].

Wonosobo Regency in Central Java has a potential of water resources. This condition indicated existence of springs that spread evenly on its administrative area. This potency gives benefit for local communities. However, provision and distribution of clean water are indicated lack in health standard. Negative impact in lack quality of water is diarrheal outbreak (KLB-*bahasa*) in some district, including Watumalang which there are 51 peoples suffering diarrhea. The contamination of *Escherichia coli* in water consumption is the cause of outbreak. Early observation of this research showing some boosting factors including : lack of management on distribution system, lack of spring protection, unhygienic water reservoirs and unhealthy sanitary.

Indonesian Government regulating Law Number 32 Year 2009 to preserve environmental quality. Water resources management specifically regulated in Law Number 7 Year 2009 [15]. Requirements and monitoring of water quality is regulated by Ordinance of Health Minister Number 416/Menkes/Per/IX/1990 and Ordinance of Health Minister Number 492/Menkes/Per/IV/2010 for drinking water. However, lack of monitoring level, law enforcement and public awareness made water quality to be difficult to managing. This research will investigate water distribution system, perception of community to contamination and environmentsanitary and environment perception in Watumalang. The research is also as implement of The Law Number 24 Year 2007 about Mitigation.

OBJECTIVES

The objectives of this research are (1) to evaluate sanitary facilities contamination risk in POKMAIR community of Watumalang District, (2) to evaluate the consumed water quality in POKMAIR community of Watumalang District and (3) to asses environment perception of POKMAIR community

RESEARCH METHODS

A. Research Location and Period

This research located in Watumalang District, Wonosobo Regency, Central Java. Water samples analyzed in Local Office of Public Health Laboratory of Wonosobo. Period of contamination risk and water quality analysis is in mid of 2015. Questionnare about environment perception conducted in early of 2016.

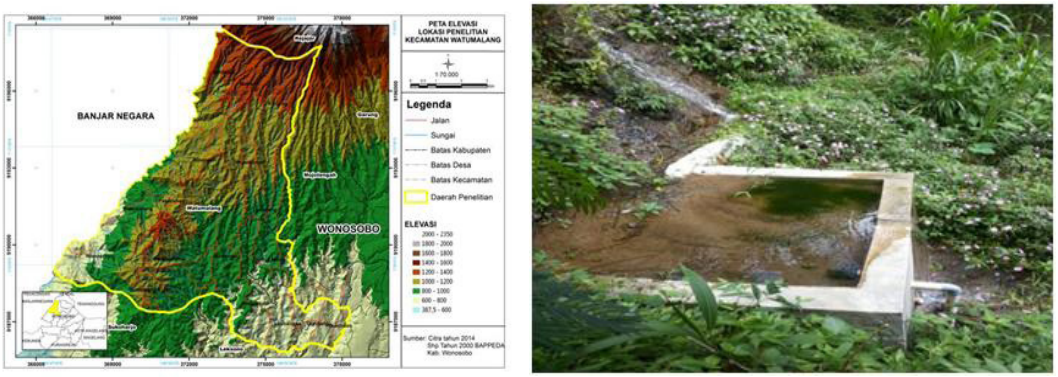


Figure 1.a. and 1.b. Research location map (left) and condition of spring protection facilities in Gumawang Kidul Village, Watumalang (right)

B. Instruments and Materials

Instruments utilized including stationary, laptop, digital camera, digital water tester, set of MPN instruments and questionnare sheets. Material be required including environmental character data and water samples from POKMAIR community reservoir.

C. Research Subjects

Research population is POKMAIR community of Watumalang, included sanitary condition and water distribution systems. All samples were taken randomly to represent of villages. Amount of contamination risk samples is 24 spots of sanitary facilities. Respondences of questionnare is 26 persons and water samples taken from 8 spots of primary springs of Watumalang.

D. Data Collection and Analysis

Data collection was conducted by top down and bottom up approach combination. Top down approach was applied to collect secondary data to decribing an environment character of Watumalang. Bottom up aproach was applied to collect primary data including water samples, questionnare of contamination risk and envronment perception.

Water quality analysis was conducted by laboratory test of chemicals and biologicals parameter. Biological analysis was conducted to count the number of coliform through Most Probable Number (MPN) Test. Result of analysis will be compared with government regulation about water quality standards including : Government Ordinance Number 82 Year 2001 (class of water utilization) [12], Ordinance of Health Minister Number 416/Menkes/Per/IX/1990 (clean water)[10] and Ordinance of Health Minister Number 492/Menkes/Per/IV/2010 (drinking water)[11] to determine class of utilization and appropriateness.

Environment perception questionnare will be advanced through a validity and reliabilty test to ensure an appropriateness instrument. Both of test conducted with Pearson Corellation Test and Cronbach Alpha which assisted by SPSS 20 software. Result of that environment perception questionnare will be converted into quantitative data based on point of every question (a = 3, b = 2 and c = 1). Total point of questionnare from each respondents will be categorized below in Table 1

Table 1. Range category of environmental perception questionnare points

Environment perception assesment		**Contamination risk factors assesments**	
Total points range	**Environment perception categories***	**Range of points (%)**	**Contamination risk categories****
0 - 91,75	Low	≤25	Low
91,75 - 96,5	Moderate	26-50	Medium
96,5 - 98,25	Good	51-74	High
>98,25	Very good	≥75	Very high

based on analysis result of the questionnare Anonim, 2010*

RESULTS AND DISCUSSION

A. Environmental Character of Watumalang District

Watumalang is a part of Wonosobo Regency which dominated by mountain area (average altitude 913 masl). Total area of Watumalang is 12.716 Ha that dominated by moor,

state forests and rice fields. Average annual temperature is 21,5^0 C, total annual rainfall is 2545 mm (2014) with 242 rainy days [3]. Number of Watumalang population is 49.266 people (2016 projection). Watumalang is classified as agrarian area, dominated by farm workers (48%), business sector in agriculture and livestock (79%) and land use which has strong relationship with agriculture and livestock activities[3].

Employment and business sector do not have a strong correlation with sanitation system. However, dominancy of agrarian sector usually have tendency with the life pattern of rural communities. General pattern of rural communities have less concerned in good sanitation as effects of lack of knowledge.

B. Contamination Risk Factors of Sanitation Facilities

Database from Sanitasi Total Berbasis Masyarakat (STBM) in 2016 shown that toilet access in Watumalang District is 64,78%. It was only 4864 families have a permanent toilet facilities from 14878 families in Watumalang. Approximately 4639 families (31,18%) are inaccessible with toilet or didn't have representative sanitation either private and public. Rest of them had a semi permanent toilet or using public toilet[13].

Generally, Wonosobo had ranks at 34th position from 35th regency in Central Java for the coverage of healthy toilets (owned by 50,16% of population). This condition that indicates behavior of unhealthy sanitary in majority of local peoples. Unhygiene habit of defecate carelessly still have a high percentation at local communities

Inspection of sanitation facilities are conducted to 24 spots of facilities in Watumalang. In this research, inspection of sanitation has objectives to evaluate contamination risk in sanitary facilities. Inspection of sanitary also have purpose to fulfill environmental surveillance objectives namely to measure an influence of contamination towards environment quality. The result of inspection of sanitary shown at the table below

Table 2. Result of sanitary facilities contamination risk analysis in Watumalang

Category of sanitary facilities contamination risk	Amount of units	Percentage (%)
Very high	9	37
High	3	13
Medium	6	25
Low	6	25

According to the result, as much as 50% sample of sanitary units in Watumalang have a high to very high contamination risk. The rest, each of 25% of sanitary units have a medium to low risk contamination. It was only 25% facilities fulfilling a healthy standards. As recommendation, 50% of facilities must be rebuilding following correct construction regulation and other 50% of facilities must be conducting water quality monitoring and evaluation about contaminant level.

Poor sanitary giving risk a lack of reliability towards water contamination.Water contamination in general is carried by seepange or run off water which also contaminated with fecal bacteria including *Escherichia coli*. Based on the fact, this condition should be appointed as primary factor of diarrhea outbreak in Watumalang.

C. Water Quality and Feasibility Analysis

Water samples taking from 8 random spots from residents reservoirs. Samples only taken from residents uses water spring. Watumalang communities has developed water distribution systems independently with their own funding. This system distributed water from the spring to people house with utilizing narrow *polyvinyl chloride* (PVC) pipes. Basic concept of this distribution type is to distribute adequate quantities to residents.

Water quality test conducted in 4 variables which represented chemical parameters (pH, cadmium and total chromium) and biological (total coliform). The analysis result is shown on the table below

Table 4. Result of water quality test from random water samples in Watumalang

No	Spring sources	Chemical			Biological
		pH	Cd	Cr	MPN
1	Wanadadi	8,47	0,003	0,03	240
2	Depok	8,73	0,004	0,03	210
3	Siranda	8,74	0,001	0,02	1100
4	Kalitelu	9,02	0,002	0,02	75
5	Jugrugan	6,94	0,002	0,01	93
6	Sicowet	7	0,003	0,04	210
7	Igirmranak	9,58	0,004	0,01	23
8	Krangean	9,58	0,003	0,02	210
Average values		8,51	0,003	0,02	270,13

**Cd and Cr in unit of mg/l; MPN in unit of sum individuals/100 ml*

Furthermore, the result will be compared with regulation standart to determine class of water utilization, feasibility of clean water and drinking water

Table 5. Comparison test between water samples analysis result and Indonesia regulation

No	Regulation compared	Variable of water quality			
		pH	Cd	Cr	MPN
1	Ordinance of Indonesia Gov. 82 Year 2001^	Class I	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Feasible	Feasible ***	Feasible	Not feasible
2	Ordinance of Indonesia Gov. 82 Tahun 2001^	Class I	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Feasible	Not feasible	Feasible	Not feasible
3	Ordinance of Indonesia Gov. 82 Tahun 2001^	Class I	Class I	Class I	Class II
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Feasible	Feasible	Feasible	Not feasible
4	Ordinance of Indonesia Gov. 82 Tahun 2001^	Not feasible	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Not feasible	Feasible	Feasible	Not feasible
5	Ordinance of Indonesia Gov. 82 Tahun 2001^	Class I	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Feasible	Feasible	Feasible	Not feasible
6	Ordinance of Indonesia Gov. 82 Tahun 2001^	Class I	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Feasible	Feasible	Feasible	Not feasible
7	Ordinance of Indonesia Gov. 82 Tahun 2001^	Not feasible	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Feasible
	Ordinance of Health Mins. No 492 Year 2010**	Not feasible	Feasible	Feasible	Not feasible
8	Ordinance of Indonesia Gov. 82 Tahun 2001^	Not feasible	Class I	Class I	Class I
	Ordinance of Health Mins. No 416 Year 1990*	NA	Feasible	Feasible	Not feasible
	Ordinance of Health Mins. No 492 Year 2010**	Not feasible	Feasible	Feasible	Not feasible

*^Government Ordinance No 82 Year 2001 about class of water utilized, *about feasibility of clean water, **about feasibilty of drinking water, ***feasible but at maximum standards limit. Red blocks indicated not feasible quality*

1. Class of water utilization

   Indonesian government was classified 4 (four) class of water utilization based on quality standards regulated in Ordinance of Indonesia Government Number 82 Year 2001. The 1st Class requiring highest quality standards of water for consumption (including drinking water). Comparison test resulted almost all of samples are fulfill the 1st Class water requirements except sample number 3 (in MPN value) also number 4, 7, and 8 (in pH value).

2. Clean water feasibility

Quality standards of clean water were regulated by Ordinance of Health Minister Number 416 Year 1990. Generally, almost all of samples are exceed the limit of clean water quality standards, especially in total coliform value. The quality standards required maximum numbers of total coliform is 50 individuals/100 ml (non-piped water) and 100 individuals/100 ml (piped water). Based on analysis, only sample number 7 fulfilled this regulation. Contamination of coliform became early indicators of health problems in digestive tract, including as diarrheal indicator.

3. Drinking water feasibilty

Quality standards of drinking water were regulated in Ordinance of Health Minister Number 492 Year 2010. In general, all of samples are exceed the limit of drinking water quality standards, especially in numbers of total coliform (> 0 /100 ml). Besides it, some sample are exceed other chemical standard likes cadmium (2) and pH level (4,7,8). Based on total coliform value should be concluded that the water is not feasible as drinking water. This condition have a significant probability as cause of diarrhea outbreak in Watumalang.

D. Environment Perception of POKMAIR Community

Assesment on enviromental perception objectives are evaluate public awareness and insight of environment problems. Validity test of questionnare resulted that 33 valid from total 35 questions. Realibilty test resulted a Cronbach Alpha value 0,95. Its mean that instruments is reliable because the value is higher than 0,60. Table 6 shown the result of environmental perception assesment.

Table 6. Result of environmental perception assesment in Watumalang

Environment perception categories	Sum of respondences	Percentage (%)
Very good	6	23
Good	7	27
Moderate	7	27
Low	6	23

Result of questionnare found that only 23% of local resident with low environment perception. Rest of them have adequately perspective to support sanitation facilities and water distribution improvement. The result should be concluded that environmental patterns of local communities are set in repairing perspectives. Only few of them has an ignoring or destructive perspetives. This condition should be applied to drive a communities empowerment movement to improve the environmental health quality of Watumalang. Of course it must be supported by local government and acamedic societies.

E. General review

Based on analysis of comparasion study, water quality consumed by Watumalang POKMAIR communities is not feasible especially as drinking water. Almost all of samples have high numbers of coliform inside. Occasion of diarrheal oubreak just only strenghten this conclusion. The coliform contamination have correlation with poor sanitary facilities condition. Inspection of sanitary resulted a high to very high risk contamination condition in majority of Watumalang sanitary facilities. Contamination of coliform also boosted by

defecate carelessly habit [4][13]. Environment perception assesment resulted a good value of environment perception especially in POKMAIR community. It means that the community have an adequate ability to restore and rebuild their environmental condition including sanitary and water distribution problems. Environmental quality improvement efforts should be done based on community development.

INTERNAL / EKSTERNAL	Strenght (S) Good environment perception and local wisdom Supported by economic factors	Weakness (W) Poor sanitary pattern Limited amount of representative sanitation facilities
Opportunity (O) Enormous potential of water resources Attention of local government	A good environmental perception and local wisdom is an incentiver to reach a sustainable nature resource utilization Sinergy of economic condition, and government attention should build a feasible sanitation facilities	Utilization of water resource should open a pathway to repair sanitary facilities and water distribution Assesment of local government will be open an access to environmental healht education to change the poor sanitary habit
Threat (T) Potency of nature resource should sparks over exploitation on the future Unpredictable funding from government and private sectors	Environmental perspective and economic establishment will build strong boundary from temptation of overexploited profits Self environmental awareness and economic establishment will set independent mentality from government funding	Natural resource potency should be utilized by communities empowerment and indepndency in cooperation with investors to build better sanitary facilities Profit from natural potency utilizationshould be used to minimize a government funding depedency to restore sanitary and water distribution system

Figure 3. The SWOT Matrix of Watumalang communities towards water resource potency, sanitar facilities and environment perception.

CONCLUSION

Inspection of sanitatation facilities in Watumalang determined 50% facilities are in high risk of contamination. It was only 25% in safety level (low risk of contamination). Quality of POKMAIR consumed water classified as not feasible for drinking water, especially as cause of high coliform numbers. This conclusion is refer to applicable regulation about quality standard of drinking water. Assessment of environmental perception shown that 77% of respodents of POKMAIR communities have adequate perspectives about environmental problems.

RECOMMENDATION

1. The sanitation facilities and clean water distribution need to repair rapidly, especially in construction.
2. Change in sanitary habits of local communities to build a better environmental health

3. Quality of raw water quality that consumed by Watumalang residents is needed to monitor and evaluate continously
4. Boosting communities empowerment to repairing, handling, protecting and evaluating environmental health condition, especially related with raw water condition.

REFERENCES

1. Avigliano, E. and Schehone, N.F. 2015. Human Health Risk Assesment and Environmental Distribution of Trace Elements, Glyphosate, Fecal Coliform and Total Coliform in Atlantic Rainforest Mountain Rivers. *Microchemical Journal* 122 (2015) : 149-158. elsevier.com/locate/microc (akses 3 Oktober 2016)
2. Anonim, 2010. *Buku Saku Program Penyediaan air Minum dan Sanitasi Berbasis Masyarakat* (PAMSIMAS), Dirjen Pengendalian Penyakit dan Penyehatan Lingkungan, Jakarta
3. Statistics Agency of Wonosobo Regency. 2016. *Kecamatan Watumalang dalam Angka 2016*.
4. Public Health Office of Wonosobo Regency. 2013. *Laporan Tahunan Dinas Kesehatn Kabupaten Wonosobo tahun 2013*, PMK Sector of Public Health Office of Wonosobo
5. Effendy, H. 2003. *Telaah Kualitas Air bagi Sumberdaya dan Lingkungan Perairan*. Penerbit Kanisius : Yogyakarta
6. Keraf, A.S. 2002. *Etika Lingkungan*. Penerbit Buku Kompas : Jakarta
7. Kodoatie, R.J dan Sjarief, R. 2005. *Pengelolaan Sumber Daya Air Terpadu*. Penerbit Andi : Yogyakarta
8. Mason, C. F. 1993. *Biology of Freshwater Pollution* pp : 351. Second Edition Longman Scientific and Technical.
9. Mohsin, M., Safdar, S., Ashgar, F. And F. Jamal. 2013. Assesment of Drinking Water Quality and its Impact on Residents Health in Bahawalpur City. *International Journal of Humanities and Social Science* Vol 3 (15) : 114-128 August 2013. ijhssnet.com (akses 4 Oktober 2016)
10.]Ordinance of Health Minister Number 416/Menkes/Per/IX/1990 about *Water Quality Requirements and Monitoring*
11. Ordinance of Health Minister Number 492/Menkes/Per/IV/2010 about *Requirements of Drinking Water Quality*
12. Ordinance of Indonesia Government Number 82 tahun 2001 about *Water Quality Management and Water Pollution Control*
13. Sanitasi Total Berbasis Masyarakat (STBM). 2016. Monitoring Data. *Laporan Kemajuan Akses Sanitasi Kabupaten Wonosobo*. stbm-indonesia.org/monev/ (accessed at October 10th 2015).
14. Setyono, P. 2011. *Etika, Moral dan Bunuh Diri Lingkungan dalam Perpektif Ekologi (Solusi Berbasis Environmental Insight Quotient –EIQ)*. Sebelas Maret University Press : Surakarta
15. Law of Republic Indonesia Number 32 Year 2009 about *Environmental Protection and Management*

P-22

List of Exhibitors

1. *Inez Cosmetics*
2. *PT. Sagung Seto : EBSCO Host*
3. *UII Net*
4. *BNI 46*
5. *BPD DIY*
6. *PT. Unisi*
7. *Freeland*
8. *Cressendo*
9. *CV. Toyoris*
10. *CV. Alfa Kimia*
11. *Yogya Tronic*
12. *NU Skin*
13. *Anggun Modeste*
14. *Rumah Batik Kamila*
15. *ACE Life Insurence*

Contact Address of The Committee

The 3rd International Conference on Health Science 2016 Secretariat
Health Polytechnic of Health Ministry Yogyakarta
Jln. Tatabumi No. 3 Banyuraden, Gamping, Sleman, D.I.Yogyakarta, Indonesia

Telephone/Faximile : +62-274-617601

Website : ichs.poltekkesjogja.ac.id

Email : ichs.poltekkesjogja@gmail