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## CONTENTS

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Volume 9, Number 12

December 2018

1. The Etiological Profile of Seizures in Children in a Tertiary Care Hospital, Hapur, Uttar Pradesh .... 01  
*Shweta Singh, M Agrawal, Yogesh Kumar Goel, Dayachand Verma*
2. Does Pregnant Mother are aware about PMTCT of HIV? What is their Attitude and Do they Practice the Measures on PMTCT of HIV?: A Narrative Review ..... 07  
*Neethu Sabu, N V Muninarayanappa, Kavitha Mole P J*
3. Recent Resting Habit of Adult *Phlebotomus argentipes* the Vector of *Visceral leishmaniasis* in a Kala Azar Endemic Foci of Bihar India ..... 12  
*Chandrima Das, Shilpa Raj, A K Mukhopadhyay*
4. Substance Use Disorder - Vital Hurdle in Sustainable Development of Nigeria ..... 18  
*Jummai Fatima Muhammad, Malavika Bhattacharya*
5. A Study of Urinary Uric Acid/Creatinine Ratio as an Additional Marker of Birth Asphyxia ..... 23  
*Renu Yadav, Sangeeta Singhal, Gagan Agarwal*
6. Incidence, Prevalence and Mortality of HIV/AIDS across Different Levels of Human Development Index: A Global Perspective ..... 28  
*Ravi Prakash Jha, Krittika Bhattacharyya, Rabindra Nath Mishra, Akash Mishra*
7. Study to Assess the Social and Economic Impact of Alcohol in a Peri-Urban Area of Tamil Nadu ..... 34  
*Shankar S, Raghuram V, Elango S*
8. Economics of Sustainability – A Theoretical Perspective ..... 40  
*S N Sugumar, S Balasekaran, S Chandrachud*
9. Factors Affecting Neonatal Mortality and Morbidity - An Epidemiological Study ..... 45  
*Tapan Pattanaik, Ratan Kumar Das, K Trimal Subudhi, Mahesh Chandra Sahu*
10. Students' Perception and Attitude on Education Curriculum and System in an Indian Dental School ..... 50  
*Madhura Sen, Kundabala M*
11. Perception of Anganwadi Services in Urban ICDS Blocks in Kozhikode Corporation –A Cross -Sectional Study ..... 55  
*Sivakumar D, Asma Rahim, Deepika*

12. Prevalence and Factors Associated with Depression among the Students of a Medical College in Kerala ..... 59  
*Madhusudan M, Aravind M, Arun Gopi, Ajanya V, Vinaya Pradeep, Fabeena Mangaladan U, Sakeer Hussain OC*
13. Platelet-Rich Fibrin as Palatal Bandage: A Case Report ..... 65  
*Yamini Mannava, Sangeeta Umesh Nayak, Deepa G Kamath, Trishna Dash*
14. The Exemplar of Employment Epoch in India with HRD Perspective ..... 69  
*S Thangamayan, S Chandrachud, S N Sugumar*
15. Effectiveness of Structured Teaching Programme on Knowledge of Kangaroo Mother Care among Mothers ..... 74  
*Regina Antony, Harichandhana S, Sinu Paul*
16. Indoor Air Pollution an Ignored Public Health Issue: Study to Find the Awareness and Practices Regarding Indoor Air Pollution in a Rural Setting Near Chennai ..... 80  
*Ruma Dutta, Dinesh Raja, Timsi Jain, Gomathy Parasuraman, Prashanth R, Sivaprakasam P*
17. Factors Influencing Semen Analysis in Case of Infertility ..... 85  
*Dinesh Kumar Singh, Anju Singh, Shivendra V Singh, Paras Kharbanda*
18. Awareness of Undergraduate Students Regarding Blood Donation among Non-Medical Colleges in Selected Setting ..... 92  
*Faizan Khan, Uppu Praveen, Gurpreet Kaur, Deepika, Deeksha Singh*
19. Surveillance Hypertension Patients in Eastern India: Our Experience ..... 95  
*Sura Kishore Mishra, Suresh Kumar Behera, Mahesh Chandra Sahu*
20. Medical Devices Access in Asian Countries: Sustainable Growth Trajectory in India ..... 101  
*Sammita Jadhav, Milind Chunkhare, Jagdish Jadhav*
21. HIV Risk among Labor Migrants: An In-Depth Study of the Literature ..... 107  
*Manas Ranjan Behera, Rattanathorn Intarak*
22. Study of Hypertension in Elderly Patients of Both Sexes in Western Rajasthan Population ..... 116  
*Hazarimal Choudhary, Veerendra Choudhary*
23. Practices regarding Biomedical Waste Management among Health Care Workers of Tertiary Care Hospitals of Meerut, U.P. .... 120  
*Rijul Ranjan, Pawan Parashar, Varsha Chaudhary, Arvind Shukla*
24. Study of Determinants of Renewal of Health Insurance Policies ..... 124  
*Neha Ahire, Parag Rishipathak*
25. Phytochemical Analysis and Antifungal Activity of *Ganoderma lucidum* ..... 130  
*Naveen kumar C, Srikumar R, Swathi S, Chidambaram R, Muthukrishnan G, E Prabhakar Reddy*
26. Pattern of Cutaneous Manifestations among HIV Patients of a Tertiary Care Teaching Hospital .. 136  
*Ramesh Holla, Bhaskaran Unnikrishnan, Darshan B B, Prasanna Mithra, Nithin Kumar, Vaman Kulkarni, Rohit Shenoy*

27. To Study the Knowledge and Association between Self Medication and Education among People Residing in Hilly Area .....	140
<i>Sharmishtha K. Garud, Prakash M. Durgawale, Dhirajkumar A. Mane, Satish V. Kakade</i>	
28. Low-level Laser Therapy in the Management of Diabetic Sensorimotor Polyneuropathy .....	147
<i>Prathap Suganthirababu, Sai Sowjanya B.V., Lavanya Prathap, Kumaresan A, Chiranjeevi Jannu, Vahini devi Chandupatla</i>	
29. Expression of miR-21 and its Target Gene Bcl-2 in Oral Squamous Cell Carcinoma .....	153
<i>N Sangeetha, N Malathi, Ganesh Venkatraman, Rayala Suresh Kumar</i>	
30. Consumer Trust in E-Commerce Transaction in Delhi .....	159
<i>Nitin Girdharwal, Salabh Mehrotra</i>	
31. Knowledge and Awareness of Handling Methyl Methacrylate Monomer among Undergraduate Dental Students .....	165
<i>Arul Amalan, Bharath Rao K, Runki Saran, Krishnaraj Somayaji, Amith A Singh, Madhumitha Natarajan</i>	
32. A Study on Effects of Serum Calcium Levels in Relation to Ankle Joint Instability - A Case Control Study .....	169
<i>Karpagam Krishnamoorthy, V Vijayaraghavan, J Vijayakumar</i>	
33. Impact of Service Quality on Customer Satisfaction Special Reference to Retail Outlets in Tamil Nadu .....	174
<i>Varadarajan Rangarajan, K Thulasi Krishna</i>	
34. In Vitro Evaluation of the Cytotoxicity of Chlorhexidine Digluconate, Povidone Iodine and Phenolic Compound Mouth Washes on Chinese Hamster V79 Cell Lines .....	180
<i>Mranali K Shetty, Bijju Thomas, Karthik Shetty, Veena Shetty, Roma M</i>	
35. Secure and Efficient Subnet Routing Protocol for MANET .....	184
<i>Kaushal Kishor, Parma Nand, Pankaj Agarwal</i>	
36. Awareness about Privacy and Security of Patient Health Information .....	190
<i>Pushpalatha K, Dola Saha, Nachiket Gudi, Rajesh Kumar Sinha</i>	
37. Correlation between Type of Diet and Periodontal Parameters .....	195
<i>Harshit Atul Kumar, Neetha J Shetty</i>	
38. Nutritional Assessment in Obese Children with and Without Non-Alcoholic Fatty Liver Disease (NAFLD) in an Urban Area of Punjab, India .....	201
<i>Pooja Goyal, BR Thapa, Neeta Raj Sharma, Jagadeesh Menon, Anmol Bhatia</i>	
39. Impact of Noise on Hearing of Individuals Working in the Temples .....	208
<i>Anuradha Shastry, Rajesh Ranjan, Jayashree S Bhat</i>	
40. Effect of Sudarshankriya Yoga on Some Auditory Processing Abilities and Speech Perception in Noise among Middle Aged Adults .....	213
<i>Meenakshi Gopinath, Jayashree S Bhat, Rajesh Ranjan</i>	

41. Influence of Family Structure and Gender on Oral Health Behavioral Characteristics in Siblings, a Narrative Review ..... 219  
*Ramprasad Vasthare, Sunaina Puri, Ravindra Munoli*
42. Comparison of the Influence of Different Tooth Tapers on Retention of Metal Crowns Luted with Two Resin Cements ..... 224  
*Pankaj Kulkarni, Veena Hegde, Lokendra Gupta*
43. When Sustainable Development Matters in Health Care Supply Chain: An analysis of Influential Factors of Waste Management ..... 229  
*Sasanka Sekhar Mishra, Kamalakanta Muduli, Manoranjan Dash, Umesh Chandra Parida, John Pumwa*
44. Mineral Trioxide Aggregate Apexification a Novel Approach for the Tooth with open Apex – A Case Report ..... 237  
*Vinod Jathanna, Shreya Hegde, Shivangi Vats*
45. Goal Directed Physiotherapy Treatment Program for Improving Lower Extremity Function in a child with Spastic Paraplegic Cerebral Palsy. A Case Report ..... 241  
*Kovela Rakesh Krishna, Mukesh Kumar Sinha*
46. What is the Nature of the Activities Used for Children in Kindergarten? ..... 245  
*Saniya Sidhesh Nadkarni, Namita Narayanan, Jithin John C K, KR. Banumathe*
47. Comparative Study of Carbapenem-Sensitive Acinetobacter Infection with Carbapenem-Resistant Acinetobacter Infection among Inpatients of a Tertiary Care Teaching Hospital in South India ..... 249  
*Mukherjee Ramita, MR Pavan, Achappa Basavaprabhu, Jeganathan Jayakumar, Bajpai Sukrit*
48. Gender Differences in Quality of Life in Type-2 Diabetics with Metabolic Syndrome ..... 255  
*Sharmila JB, Thahira Banu A, Janet Mary Ann, Asirvatham, AJ*
49. Study on Role of Deviance Behaviour & Its Impact on Entrepreneurship ..... 261  
*Malathi Narayanan, Sainath Malisetty, CH. Bala Nageswara Rao*
50. Serodiagnosis of Listeriosis among Pregnant women and Neonates using a Rapid Serological Assay ..... 268  
*Balamuruganvelu Singaravelu, Sreenivasalu Reddy. V, Geethavani Babu, Harish PV*
51. A Study on Quality of Life (QOL), Stress and Coping among Wives of Alcohol Dependence Syndrome (ADS) Clients Admitted in Selected Hospitals of Udupi District ..... 274  
*Tessy Treesa Jose, Renjunal Yesodharan, Asha K Nayak, Anjali K G*
52. Four Vital Capacity Breaths Can Delay the Onset of Haemoglobin Desaturation Following Nasopharyngeal Oxygen Insufflation ..... 279  
*Sa Ribeiro, Karl N, Misquith, Julie, C R, Upadya, Madhusudan*
53. Oral Health Status of 12 Years Old Children in Rural Area of District Indore, MP: A Cross Sectional Study ..... 286  
*Singh Varsha, Wavare R.R, Kaur Samarjeet, Varshney Amit Mohan*



54. Effect of Neuro Muscular Electrical Stimulation in Swallowing Muscle Function on Post Stroke Dysphagia .....	291
<i>A Kumaresan, M Manoj Abraham, Prathap Suganthirababu</i>	
55. Estimation of Random Blood Glucose from Gingival Crevicular Blood- A Cross Sectional, Diagnostic Study .....	295
<i>Aarthinisha V, Julius A, Mohan Valiathan, Bhuvaneshwari Birla Bose, Vidya Jayaram, Juala Catherine Jebaraj, Krishna Prasanth</i>	
56. Comparison of Salivary Nitric Oxide Levels among Smokers and Non-Smokers in Chronic Periodontitis- A Biochemical Study .....	300
<i>Mani Sundar N, Julius A, Mohan Valiathan, Krishnaraj S, Bhuvaneshwari J, Hemalatha V.T, Krishna Prasanth</i>	
57. Detection of Vancomycin MIC by Agar Dilution in Clinical Isolates of MRSA Showing Reduced Zone of Inhibition by Disk Diffusion Method .....	306
<i>P Vamsi Muni Krishna, V Sreenivasulu Reddy, V Praveen Kumar, P Suresh</i>	
58. Effect of Intravenous Dexmedetomidine on Spinal Anaesthesia with Hyperbaric Bupivacaine in Lower Limb Orthopedic Surgeries - A Randomized Controlled Study .....	311
<i>Adithya Jayaprakash, Shaik Gulam Osmani, Anupama Suresh Y, Suresh Y.V</i>	
59. Evaluation of the Effect of Menopause on Saliva and Dry Mouth- A Cross Sectional Study .....	317
<i>Hemalatha V T, Julius A, Kishore Kumar S P, Asokan G S, Aneetha Raman G, Mani Sundar N, Krishna Prasanth B</i>	
60. Review on Type-2 Fuzzy in Biomedicine .....	322
<i>M Lathamaheswari, D Nagarajan, A Udayakumar, J Kavikumar</i>	
61. Segmentation of Mammography Calcifications Using Fusion of Fuzzy C-Means and K-Means Algorithm .....	327
<i>S Poonguzhali, Ananthi Sheshasaayee</i>	
62. Twenty years' (1996-2015) Trends in Deaths Caused by Poisoning in the Transkei sub-region of South Africa .....	334
<i>B L Meel</i>	
63. Bestiality in Mthatha Region of South Africa: A Case Report .....	339
<i>Banwari Meel</i>	
64. Discrimination in the Payment of Occupational-Specific Dispensation (OSD) Scale and other Allowances in a Rural University of Eastern Cape's Human Resource Department Malicious or Ignorance? .....	342
<i>B L Meel</i>	
65. Development of Word Awareness Skills in Typically Developing English Language Learners During Early Primary Grades .....	346
<i>Somashekara Haralakatta Shivananjappa, Shwetha Prabhu, Jayashree Sunil Bhat</i>	

66. Effects of Ambient PM <sub>2.5</sub> Exposure on Lung Function Disorder in Community around Construction Industry .....	352
<i>Rina Marina, Ema Hermawati, Alvia Hamastia, Ridcho Andrian</i>	
67. The Effect of Nutrition Counseling on Intake of Energy, Protein, and Nutritional Status of Chronic Kidney Disease with Haemodialysis .....	358
<i>Usdeka Muliani, Roza Mulyani, Amrul Hasan, Ismi Rajiani</i>	
68. Association of Physical Workload with Salivary Cortisol in Clinincal Pharmacist .....	363
<i>Errisa Sulfiana, Abdul Rohim Tualeka, Noeroel Widajati</i>	
69. Knowledge and Attitudes of Nursing Staff in AL-Suwaira General Hospital about Cervical Cancer .....	368
<i>Ahmed Kadhim Jawad</i>	
70. Physical Environment of Houses as Determinants of Pneumonia among Children in Country Sides .....	375
<i>Asep Tata Gunawan, Nur Hilal, Wibowo Adysapta, Lagiono, Rusmini, Ismi Rajiani</i>	
71. Efficacy and Safety of Mirabegron in Treatment of Overactive Bladder (Dose Range Study) .....	379
<i>Ali Abdulbaqi Ali Ismael, Hayder Hakim SalehAli Abdulbaqi Ali Ismael</i>	
72. Analysis of Factors Associated with Blood Sugar Levels in Type 2 Diabetes Mellitus Patients .....	385
<i>Bertalina, Amrul Hasan, Ismi Rajiani</i>	
73. Physical Environment of Home Affecting the Infection of Helminthiasis among Toddlers in Rural Areas .....	390
<i>Asep Tata Gunawan, Budi Triyantoro, Agus Subagyo, Siti Mulidah, Marsum, Siti Kusumawati, Ismi Rajiani</i>	
74. Knowledge and Attitudes of Academic Instructor Toward First Aid at the Technical Institute-Suwaira .....	395
<i>Ammar A Okab</i>	
75. The Effects Lactobacillus Crispatus Probiotics on Proliferation and Metastasis of Cervical Cancer Cell Line using 3D Cell Culture .....	401
<i>Azher Adnan, Elahe Motevaseli, Esmaeil Sadroddiny</i>	
76. Comparison between Echocardiography and Computerized Tomography Pulmonary Angiography in Detection of Pulmonary Hypertension in Advanced Chronic Lung Diseases .....	408
<i>Atheer Adnan Fadhil, Mustafa Nema, Hayder Adnan Fawzi</i>	
77. Angiotensinogen II Type I Receptor A1166C is Associated with Serum Sodium Level and Essential Hypertension in Javanese Population .....	415
<i>Atik S Wulandari, Mohammad A Widodo, Teguh W Sardjono, Diana Lyrawati</i>	
78. Analysis on Quality of Food Sanitation Hygiene and Escherichia Coli ( <i>E. Coli</i> ) Contamination at Restaurants around Commuter Line Stations in Central Jakarta, 2018 .....	421
<i>Dinda Ayu Ratnasari, I Made Djaja, Budi Hartono</i>	
79. Focal Interictal Epileptiform Discharges in Idiopathic Generalized Epilepsies .....	428
<i>Gheyath AlGawwam, Akram Al-Mahdawi, Seevan Ali, Hayder A Fawzi</i>	



80. Quantitative Fire and Explosion Risk Assessment of Fuel Tanker Truck: Preliminary Case Study at Fuel Terminal X Jakarta .....	434
<i>Laksita Ri Hastiti, Fatma Lestari, Indri Hapsari Susilowati</i>	
81. Smile Card as a Breakthrough to Increase Dental and Oral Hygiene Level in Primary School Students in Jakarta .....	440
<i>Jusuf Kristianto, Ita Yulita, Dwi Priharti, Heru Santoso Wahito Nugroho</i>	
82. Analysis of Determinant Factors of Exclusive Breastfeeding in Indonesia: A Case of Ulakan Tapakis District .....	444
<i>Marisa Lia Anggraini, Arni Amir, Hardisman Dasman</i>	
83. Effect of Strategic Foresight on the Success of Healthcare Marketing .....	450
<i>Ahmed Mohammed Fahmi, Araden Hatim Khudair, Bushra Shakir Al-Shukri</i>	
84. Study of the Organic Pollution in Euphrates River, Southern of Iraq .....	456
<i>Ali Abdulhamza Al-Fanharawi, Ahmed Sabah Al-Jasimee</i>	
85. International Patients Safety Goals (IPSG) based on Knowledge Management of SECI (Socialization, Externalization, Combination and Internalization) on Adverse Events at Jakarta Islamic Hospital .....	462
<i>Harif Fadhillah, Nursalam, Muhammad Hadi, Ferry Efendi, Rr Dian Tristiana</i>	
86. Factors Affecting the Side Effects of Anti-Tuberculosis Drugs .....	469
<i>Masriadi, Eha Sumantri, Sanasiah, Heru Santoso Wahito Nugroho</i>	
87. The Effects of Cold Compress and Warm Compress on $\beta$ -Endorphin Levels, IL-6 and TNF $\alpha$ among Adolescent with Dysmenorrhea .....	474
<i>Mukhoirotin, Kurniawati, Diah Ayu Fatmawati</i>	
88. Mediating Effects of Wisdom in the relation between Lifestyle Habits (LH) and Health Conservation (HC) of Middle-aged Men .....	480
<i>Hee Kyung Kim</i>	
89. Association of Helicobacter Pylori and Irritable Bowel Syndrome .....	486
<i>Ali Talib Al-Damarchi, Ghufan Abdulelah Al-Talakani</i>	
90. Groundwater Contamination of Some Soils Near the Kefal River .....	492
<i>Kifaya Hasan Qassim</i>	
91. Relationship of Patient Characteristics with Patient Satisfaction .....	497
<i>Anggun Wulandari, Ester Mariana, Nyoman Anita Damayanti</i>	
92. Evaluation on Preparation of Fire Hazards in Pt. X Muncar Banyuwangi (Study on Fish Canning Company in Muncar Banyuwangi) .....	501
<i>Hesti Jatmikowati, Yustinus Denny Ardyanto Wahyudono, Tjipto Soewandi</i>	
93. Association between Exclusive Breastfeeding with Health Belief Model in Working Mothers .....	507
<i>Mardiana, Ave Alyatalaththova Mahabay Aryotochter, Galuh Nita Prameswari, Muhammad Azinar, Lukman Fauzi, Efa Nugroho</i>	

94. Availability, Accessibility, and Acceptability of Health Services in Remote Indigenous Community of the Baduy Dalam Tribe ..... 513  
*Asri Nur Maulidya, Dumilah Ayuningtyas*
95. The Effectiveness of Applying Score System in Growth Chart to Predict Stunting and Improve Nutritional Knowledge of Pre-Schoolers' Mother in Indonesia ..... 519  
*Haripin Togap Sinaga, Abdul Hadi, Alfridsyah, Ichsan, Nelson Tanjung*
96. The Relationship between Hypermobility Syndrome and Systemic Lupus Erythematosus ..... 526  
*Mohammed H. Al-Osami, Sarah Mohammed, Waleed Ibraheem Ali, Hayder Adnan Fawzi*
97. Mapping the Model of Ecological Vegetation as Potential Malaria Habitats in a Malaria-Endemic Region in Oesao Village, Kupang Regency, Indonesia ..... 533  
*Ragu Harming Kristina, Sri Subekti, Yoes P. Dachlan, Santi Martini, Heru Santoso Wahito Nugroho*
98. Barriers in Treating Patients with Acute Coronary Syndrome in Indonesia Primary Health Care: A Phenomenological Study ..... 544  
*Kumboyono Kumboyono, Dini Prastyo Wijayanti, Titin Andri Wihastuti, Septi Dewi Rachmawati, Yulia Candra Lestari*
99. Association between Papilledema and Guillian - Barré Syndrome ..... 549  
*Mohammad A.S. Kamil, Aqeel K. Hatem, Adel M. Abbass, Sajidli. Alhussaini*
100. Effect of Sensory and Tactile Stimulation to Increase Glasgow Coma Scale (GCS) Score on Stroke Clients who Have Consciousness Disorders at Abdul Moeloek Hospital, Lampung ..... 556  
*Purbianto, Dwi Agustanti*
101. Liver Function and Some Biochemical Parameters affected by Anabolic Androgen Steroids and Diet Supplements Consuming ..... 560  
*Enas Abdul Kareem Jabbar, Jamela Jouda, Haider Sabah Abdulhussein, Bassad A. AL-Aboody*
102. Relationship between Self-Concept with Women's Premenopause Anxiety in Facing the Menopause, in Pamekasan, East Java ..... 567  
*Yulianto, Yufi Aris Lestari, Erik Toga, Muh. Al Amin, Asef Wildan Munfadlila, Ahmadi*
103. The Effect of Use of Edutainment on Changes in Hemoglobin Levels in Adolescents (Case Study of SMPN 4 Banjarbaru) ..... 573  
*Nia Kania, Siti Nurhayani, Lenie Marlinae, Nida Ulfah*
104. Relationship between Folate Receptor Alpha (FR $\alpha$ ) with Estrogen Receptor, Progesterone Receptor, HER-2 Neu Expression in Breast Carcinoma ..... 576  
*R A Tandjung, Djumadi Achmad, Ni Ketut Sungowati, Muhammad Husni Cangara, Rina Masadah, Berti Julian Nelwan, Prihantono Prihantono*
105. Study of Quality of life at Worker User Train **Commuter line** and TransJakarta Busway Bogor - Jakarta 2018 ..... 583  
*David Kusmawan, Indri Hapsari Susilowati, Mufti Wirawan*
106. The Effect of Sleep Hygiene and Brain Gym on Increasing Elderly Comfort and Sleep Quality ..... 589  
*Nursalam, Fitriana Kurniasari S, Elida Ulfiana, Ferry Efendi*

107. Analysis of Factors Relating to Practice of Breast Self-Examination (BSE) among Women in Indonesia ..... 595  
*Sirajudin Noor, Diana Hardiyanti, Nursalam, Esti Yunitasari, Rr Dian Tristiana*
108. Mangosteen Rind on Oral Mucositis Caused by Radio and Chemotherapy in Cancer Treatment (In Vivo Study on Rats) ..... 600  
*Lanny Sunarjo, Iman Supardan, Ismi Rajiani*
109. Factors Related to Personal Absorbed Dose in Health Workers at Hospital's Radiology Unit ..... 606  
*Yunita Kemala Sari, Tri Martiana, Linda Dewanti*
110. Analysis of Factors Related to Communication Skills in Midwifery Students ..... 612  
*Rekawati Susilaningrum, Sri Utami, Nursalam Nursalam*
111. Improving the Immune Response Il-10 and Secretary Immunoglobulin A in the Elderly after Getting Synbiotic ..... 618  
*Rudy Hartono, Agustian Ipa, Aswita Amir, Bambang Wirjatmadi, Ridho Pratama, Ronny Horax*
112. Emotional Support of Family and Depression Incidence among Elderly in Ngumpul Village, Jogoroto Sub-District, Jombang City ..... 623  
*Wiwiek Widiatie, Siti Muniroh, Kurniawati*
113. Role of Procalcitonin in Detection of Bacterial Pneumonia ..... 628  
*Suha Maher Abed, Mohammed M. Al Boraqy, Sabah Neamah AL Fatlawi Syamsul Arifin, Fendy Suhariadi, Nyoman Anita Damayanti*
114. The Influence of Leadership Style and Domicile to Power Distance of Midwife Coordinators and Village Midwives in Hulu Sungai Tengah District ..... 635  
*Syamsul Arifin, Fendy Suhariadi, Nyoman Anita Damayanti*
115. Qualitative Study: A History of Stunting in the Massenrempulu Community of Enrekang District ..... 639  
*Agustian Ipa, R. Bambang Wirjatmadi, Shrimarti Rukmini Devy, Rudy Hartono*
116. The Effect of Rosella Beverage Intervention on Lipid Profiles and Antropometric in Obese Adult Men ..... 644  
*Fariza Yulia Kartika Sari, Evy Damayanthi, Lilik Kustiyah*
117. Exposure of Xylene in Working Environment and Methylhippuric Acid in Informal Footwear Worker in Bogor, Indonesia ..... 650  
*Ridcho Andrian Am, Ema Hermawati*
118. The Analysis of Risk Factors against Malaria in the Tangkiling Public Health Center, Bukit Batu District, Palangka Raya City, Indonesia ..... 656  
*Untung Halajur*
119. Correlation between Micronutrient intake and Hemoglobin Preconception Women ..... 661  
*Rahayu Yekti, Agussalim Bukhari, Nurhaedar Jafar, Abdul Razak Thaha*
120. Antibiotic Susceptibility Profile and Molecular Characterization of Quinolones Resistant ***Klebsiella Pneumonia*** Isolates: First Report from Iraq ..... 666  
*Sawsan Mohammed Kareem, Israa M.S. Al-Kadmy, Saba S. Kazaal, Alaa N. Mohammed Ali, Tuqa jawad abduljaleel, Zahrra Mohammed wahaeb, Zainab ali abdulhussain*

121. Joint Effect of Obesity and Cigarette Smoking Against Hypertension Stage 1 among Men Adults: Finding from the Indonesian Family Life Survey-5 ..... 673  
*Aprizal Satria Hanafi, Nurhayati A Prihartono*
122. Comparison of Various Obesity Indices against the Occurrence of Stage 1 Hypertension in Indonesia ..... 679  
*Anggun Pratiwi, Nurhayati A Prihartono*
123. The Status of Lipid Peroxidation System in Erysipelas Patients on the Background of Diabetes Mellitus ..... 686  
*Madina Marjokhova, Marina Afashagova, Asiat Marjokhova, Maryana Nagoeva, Marina Ivanova, Marina Nalchikova, Zarema Tagirova*
124. Environmental Health Risk due to Exposure to Lead in Batteries Smelter Industry- Cinangka Village, Bogor, Indonesia ..... 691  
*Ladyka Viola, Haryoto Kusnoputranto, Bambang Wispriyono*
125. Evaluation of Bone Mineral Density in Adult Epileptic Patients Treated with Valproate ..... 698  
*Mohammad A.S. Kamil, Aqeel K. Hatem, Mustafa Easa*
126. Policy and Role Analysis Integrated Health Education Centers for Non-Communicable Diseases Toward the Prevention and Controlling of Hypertension ..... 705  
*Yandrizal, Rizanda Machmud, Melinda Noer, Hardisman, Ekowati Rahajeng, Desri Suryani, P.A Kodrat Pramudho*
127. Association of Apolipoprotein E Polymorphism with Cognitive Functions in Elderly ..... 711  
*N. Saelan Tadjudin, Andi Jayalangkara Tanra, Andi Asadul Islam, Suryani As'ad, Muh. Nasrum Massi, Ilhamjaya Patellongi, Prihantono Prihantono*
128. Designing Instrument for Early Stimulation, Detection, and Intervention for Growth and Development of Children based on Android System ..... 717  
*Heru Santoso Wahito Nugroho, Sunarto, Budi Joko Santosa*
129. Effectiveness of the Training Model to Increase the Knowledge, Attitude, and Practice of Traditional Birth Attendants about Early Initiation of Breastfeeding in Bogor District, Indonesia ..... 723  
*Evi Martha, Hadi Pratomo, Siti N. Qomariyah*

# Association between Exclusive Breastfeeding with Health Belief Model in Working Mothers

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## ABSTRACT

Exclusive breastfeeding is important thing to do from the mother to the baby since it could decrease infant mortality rate. Exclusive breastfeeding on work place has been arranged in Indonesian Government Regulation No. 33/ 2012. Though the company has provided dedicated room for lactation as supporting factor to the achievement of exclusive breastfeeding, yet it only reach 14.25%. This research has objective to find out factors related with exclusive breast feeding practice by Health Belief Model theory. The research is conducted with cross sectional design. Sample size is 78 working women having baby ages 6-12 months. The sample is obtained by simple random sampling technique. The analysis of data correlation is processed by chi square test ( $\alpha=0,05$ ) and logistic regression. Research result showed that perception ( $p=0,036$ ), parity ( $p=0,018$ ), knowledge ( $p=0,017$ ), socio culture ( $p=0,016$ ), family support ( $p=0,006$ ), direct superior support ( $p=0,013$ ), and nanny role ( $p=0,045$ ) in the relation of exclusive breastfeeding practice on working mother at Garment Company "X". Result of logistic regression indicate direct superior support is the most influenced variable. Low practice of exclusive breast feeding on working mother at Garment Company "X" is influenced by direct superior support factor. Also the factor of perception, parity, knowledge, socio culture, family support and nanny role.

**Keywords :** *working, mother, lactation, exclusive, breastfeeding*

## INTRODUCTION

Based on Indonesia Demography and Health Survey (IDHS) in 2012 indicate infant mortality rate (IMR) is 32 per 1000 life birth. This is quite far from 2015 target which is 23 per 1000 birth life. One effort to decrease the IMR is by exclusive breast feeding. Exclusive breast feeding means giving breast milk to the baby for first six month of life without additional food or other liquid. The percentage of exclusive breast feeding in Indonesia in 2013 is 54.34%, in 2014 it is increased to 60%. And still, far from the target 80%.<sup>1</sup>

The government has tried to increase exclusive breast feeding. One of the effort is through health regulation number 33 year 2012. In the regulation mentions that every work place is obligated to provide lactation room. The garment X company has provided it as regulated yet the number of working mother giving exclusive breast feeding is still low, which is only 14.25%.

Rahmawati, research result mentioned that job is one of the reason of exclusive breast feeding failure. The 8 hours work hours become the reason of low intensity of mother-baby meet. Indeed, there has been a 3 ministries joint regulations issued by Ministry of Women Empowerment and Children Protection (48/MEN.PP/XII/2008), Ministry of Workers and Transmigration (PER.27/MEN/XII/2008) and Ministry of Health (1177/MENKES/PB/XII/2008) mentioned breast feeding during work hour at work place.<sup>2</sup>

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Anggraeni, mentioned that there is a difference of exclusive breast feeding based on work status.<sup>3</sup> Research by Putri, mentioned that exclusive breast feeding on mother working in factory is less than housewife.<sup>4</sup> Other research by Hidayanti, found out work place support like lactation room and health attendant suggestion influence exclusive breast feeding by working mother.<sup>5</sup>

The Health Belief Model (HBM) theory can be used to describe behaviour determined factor. It can be used in this research since the practice of exclusive breast feeding is a matter of privacy. The HBM theory says the behavior of one is influenced by the perception or individual belief it self.<sup>6</sup> Therefore, this research's objective is to find out the factors influencing exclusive breast feeding by HBM theory approach.

## MATERIAL AND METHOD

The research is conducted at Garment Company

**Table 1. Factors related with Exclusive Breast Feeding Practice of Working Mother at Garment Company "X"**

No	Variables	Cathegory	Exclusive Breast Feeding Practice						p value
			No		Yes		Number		
			f	%	f	%	f	%	
1.	Perception	Poor	36	46,2	2	2,6	38	48,7	0,036 *
		Good	30	38,5	10	12,8	40	51,3	
2.	Parity	1 child	33	42,3	1	1,3	34	43,6	0,018 *
		>1 child	33	42,3	11	14,1	44	56,4	
3.	Knowledge	Poor	35	44,9	1	1,3	36	46,2	0,017 *
		Average	26	33,3	9	11,5	35	44,9	
		Good	5	6,4	2	2,6	7	9,0	
4.	Socioculture	Negative	22	28,2	0	0	22	28,2	0,016 **
		Positive	44	56,4	12	15,4	56	71,8	
5.	Nanny Role	Poor	35	44,9	2	2,6	37	47,4	0,045 *
		Good	31	39,7	10	12,8	41	52,6	
6.	Family Support	Less Support	37	47,4	1	1,3	38	48,7	0,006 *
		Support	29	37,2	11	14,1	40	51,3	
7.	Direct Superior Support	Less Support	52	66,7	5	6,4	57	73,1	0,013 **
		Support	14	17,9	7	9,0	21	26,9	
8.	Peer Support	Less Support	28	35,9	5	6,4	33	42,3	1,000 *
		Support	38	48,7	7	9,0	45	57,7	
9.	Education	Elementary ( $\leq 9$ years)	30	38,5	2	2,6	32	41,0	0,108 **
		High School ( $> 9-12$ years)	36	46,2	10	12,8	46	59,0	

Remark :

\* : *chi-square test*

\*\* : *fisher exact test*

"X", located on Bawen, Central Java, Indonesia, in March to April 2016. This research is analitical with cross sectional study . The samples are working mother at Garment Company "X" having infant ages 6-12 months and 78 working mothers are selected by simple random sampling. The data analysis is conducted by two methods which are chi-square test or Fisher Exact Test  $\alpha = 0,05$ ) and logistic regression.

## FINDING

HBM theory is the theory of the alter of health behavior and psychological model used to predict health behavior by focusing on perception and individual belief on a disease. The HBM theory is based on an understanding that someone will take any action related with health based on the perception and belief. *Chi-square test* or *fisher exact test* results are as below:



From table 1 can be found that p value on perception variable = 0.036, parity = 0.018, knowledge = 0.017, socio culture = 0.016, nanny role = 0.045, family support = 0.006, direct superior support 0.013, peer support = 1.000 and education = 0.108. Variables with p value < 0.05 are variables having significant relation with exclusive breast feeding practice. On the opposite, variables having p > 0.05 do not related with exclusive breast feeding practice on working mother at Garment Company “X”.

**Table 2. Logistic Regression of Exclusive Breast Feeding Practice Research Variables**

Variable	Wald	df	p
Education(1)	c	1	.996
Socioculture(1)	.000	1	.996
Family Support(1)	.000	1	.998
Direct Superior Support(1)	4.187	1	.041
Nanny role(1)	.000	1	.999
Constant	.067	1	.796

From Logistic Regression Analysis can be seen that direct superior support variable is the most dominant among all variables. As on table 2, Wald value of the variable is 4.187 which is the highest compare to others. Aligned with the p value 0.041 which is the smallest value compare to others.

Perception is one of the variable that related with exclusive breast feeding practice on working mother at Garment Company “X”(p = 0,036 < 0,05). Mother having poor perception regarding lactation management mostly do not do exclusive breast feeding compare to mother having good perception. Questions asked consist of vulnerable perception, seriousness, advantage, obstacle, and terms and condition to do lactation management and exclusive breast feeding. From the result can be known that respondents perception regarding vulnerability and seriousness of health problem due to do not give exclusive breast feeding obtain lower score compare to other perception. This is caused by the impacts or disadvantages occurred from do not give exclusive breast feeding are indirectly visible. This result is supported by one by Fikawati, Miguel, and Pawenrusi, stated that there is significant relation between mother perception regarding exclusive breast feeding.<sup>7,8,9</sup> It is also aligned with HBM Theory stated that one behavior is determined by perception owned.<sup>6</sup>

Parity has a significant relation with exclusive breast feeding practice on working mother at Garment

Company “X”(p = 0,018 < 0,05). Mother having child >1 is tend to give exclusive breast feeding than mother having 1 child. The experience of breast feeding on previous birth giving influencing someone to repeat it on the next birth giving.<sup>10</sup> In HBM theory, parity is included in demography variable. Demography is one of the factor influencing someone perception to behave.<sup>6</sup> Breast feeding experience also become a terms to repeat it on next birth giving, thus it will initiate a mother to give exclusive breast feeding to the baby though she is working by doing lactation management.

Beside the perception and parity, other variable having significant relation with exclusive breast feeding is knowledge (p = 0,017 < 0,05). Most of mothers are less aware the importance of breast milk as baby main nutrition source. Mother only know about exclusive breast feeding, yet does not know and understand correctly regarding lactation management and other things that should be concerned in order to keep giving exclusive breast milk particularly on working mother.<sup>11</sup>

A behavior is closely related with the local culture. Research result indicates that socio culture has a significant relation with exclusive breast feeding practice on working mother at Garment Company “X”(p = 0,016 < 0,05). Mother having negative socio culture (still rely on belief and tradition regarding breast feeding) does not give exclusive breast milk. On the opposite, mother giving exclusive breast milk is no longer rely on

belief, tradition and myth that can fail exclusive breast feeding such as giving or spreading honey on the lips of new born baby so the baby can talk earlier, giving coffee so the baby do not stiff and feeding banana so the baby gains weight and health.

Other variable having significant relation with exclusive breast feeding is nanny role ( $p = 0,045 < 0,05$ ). The nanny has an important role to replace the mother during work time. Yet many of the nannies are not provide sufficient support to give exclusive breast feeding and do lactation management. The data indicates that mothers having nanny with good role tend to give exclusive breast feeding compare to them having nanny with less role.

A support is one of the factor that can motivate someone to behave. It can be obtained the environment, whether it is family or work place. Family support is significantly related with exclusive breast feeding practice on working mother at Garment Company "X" ( $p=0,006 < 0,05$ ). The respondent said that the most supporting family member in lactation management are husband and mother (the baby's grandmother). Support giving can ignite mother behavior in exclusive breast feeding. It is showed by the research result. Respondents with family support tend to do lactation management and exclusive breast feeding compare to them with less family support.

Beside family support, one from direct superior also related with exclusive breast feeding practice ( $p = 0,013 < 0,05$ ). The data obtained indicate that many direct superior does not give sufficient support the mother to do exclusive breast feeding . This causing many mother do not give exclusive breast milk to the baby. Mother with support tend to do exclusive breast feeding for her baby compare to them with less support from direct superior.

The tolerance and special permission for breast feeding mother to do lactation management like breast milk squeezing within working hour surely will give positive impact on exclusive breast feeding by working mother. Beside, if a sufficient facility is provided on the work place, it will be assisted working mother to do exclusive breast feeding.<sup>11</sup> The support from direct superior is cathegorized in sign to act in HBM theory. The support gived can motivate a mother to practice exclusive breast feeding though she is working.<sup>6</sup>

Yet, for peer support statistically does not related with exclusive breast feeding practice ( $p = 1,000 > 0,05$ ). This result is contradictive compare with result of research by Ida and Suyes, stated that one of the factors influencing exclusive breast feeding is peer support.<sup>12,13</sup> Mother working outside her home will interact more with the people in the work environment. Thus the support from work peer will influence the mother decision to do exclusive breast feeding.<sup>11</sup> In HBM theory, peer support also become a sign to act influencing a mother to behave.

Based on the data obtained can be known that tough many work peer support, yet only few mother do exclusive breast feeding practice. This is due to the peer giving the support does not practice lactation management and experience failure in exclusive breast feeding practice. According to behavior theory stated by Bandura which is Social Learning Theory explaining that human behavior is a continuous both side interaction between cognitive, environment and behavior factors. So the behavior to do exclusive breast milk is not only influenced by cognitive factor, but also environment factor. Environment factor in this term is not just a support provided by work peer but much further is the example given by the work peer (modeling). With many case of unpracticing lactation management such as squeezed breast milk and failure to do exclusive breast feeding by friend that viewed as a model or example, are caused the respondents not to do squeezed breast milk and do not give exclusive breast feeding though they got support from their work peer.<sup>6</sup>

Other variable that does not related with exclusive breast feeding practice on working mother at Garment Company "X" is education ( $p= 0,108 >0,05$ ). This result is aligned with Weber and Banu, stated that education does not related with exclusive breast feeding practice.<sup>14,15</sup> Yet vary with the research by Sholeye, stated that mother education is related with exclusive breast feeding practice.<sup>16</sup>

HBM theory categorize education as demography variable that able to influence perception to behave on someone.<sup>6</sup> But as statistical test result, obtain that there is no relation between education with breast feeding practice on working mother at Garment Company "X". This difference can be occured due to the respondent's education back ground is only reached senior high school. Beside that the information regarding breast milk does not obtained from the school, but from instantion and health attendant. So does on Theory of

Reasoned Action (TRA) which stated that one behavior is influenced by belief, attitude and will, ignoring the education background.

From all variables significantly related with exclusive breast feeding practice, the analysis result of logistic regression stated that variable of direct superior support as the most dominant variable. This is acceptable, since the respondent is the working mother. The work environment is one of the circumstance that able to influence a mother to behave. Work demand and high work load dictate the mother to complete her job. If it does not counterbalance with support from the superior to lactation management, then the mother will have large percentage to fail in exclusive breast feeding practice.

### CONCLUSION

The research showed that low practice of exclusive breast feeding on working mother at Garment Company "X" Semarang, Central Java, Indonesia is influenced by some variables. Variables that related with exclusive breast feeding practice are perception, parity, knowledge, socio culture, family support, direct superior support and nanny role. While variables of education and peer support are not related with exclusive breast feeding practice on working mother at Garment Company "X". Result of logistic regression showed that direct superior support is the most dominant variable in this research.

**Ethic Statement:** This study was approved by the Health Research Ethics Committee (HREC) Universitas Negeri Semarang in 2016.

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### REFERENCES

1. Kemenkes RI. Profil Kesehatan Indonesia Tahun 2014. Jakarta:Kemenkes RI; 2015.
2. Rahmawati, Meiyana D. Faktor-Faktor Yang Mempengaruhi Pemberian ASI Eksklusif Pada Ibu Menyusui Di Kelurahan Pedalangan Kecamatan Banyumanik Kota Semarang. *Jurnal KesMaDaSka*.2010;1(1).
3. Anggraeni, Marisa F, dkk. Pemberian ASI Eksklusif Berdasarkan Status Bekerja Ibu yang Memiliki Bayi Usia 6-11 Bulan Di Wilayah Kerja Puskesmas Karangawen 1 Kabupaten Demak. *Jurnal Kebidanan*. 2015; 4: 50-56.
4. Putri, Anun IM. Hubungan Antara Pengetahuan Ibu Bekerja Tentang Manajemen Laktasi Dan Dukungan Tempat Kerja Dengan Perilaku Ibu Dalam Pemberian ASI di Wilayah Kerja Puskesmas Kartasura. Naskah Publikasi. Surakarta : Universitas Muhammadiyah Surakarta; 2013.
5. Hidayanti, Lilik, Lina N. Kontribusi Persepsi dan Motivasi Ibu dalam Meningkatkan Keberhasilan Pemberian ASI Eksklusif di Wilayah Pedesaan. Tasikmalaya : Universitas Siliwangi; 2014.
6. Priyoto. Teori sikap dan Perilaku dalam Kesehatan Dilengkapi Contoh Kuesioner. Yogyakarta: Nuha Medika; 2014.
7. Fikawati, Sandra, Syafiq A. Status Gizi Ibu dan Persepsi Ketidacukupan ASI. *Jurnal Kesehatan Masyarakat Nasional*. Jun 2012; 6( 6): 249-254.
8. Miguel A, et al. Prevalence and Determinants of eksklusif breastfeeding among adolescent mothers from quito, equador : a cross-sectional study. *International Breastfeeding Journal*. 2015;10: 33.
9. Pawenrusi EP. Faktor Yang Berhubungan dengan Pemberian ASI Eksklusif Di Kelurahan Tamamaung Kota Makassar. *Media Gizi Pangan*. 2011;12(1).
10. Megasari, Miratu, dkk. Panduan Belajar Asuhan Kebidanan I. Yogyakarta: Deepublish; 2014.
11. Damayanti, Diana. Asyiknya Minum ASI. Jakarta: PT. Gramedia Pustaka Utama; 2013.
12. Ida. Faktor-Faktor yang Berhubungan dengan Pemberian ASI Eksklusif 6 bulan di Wilayah Kerja di Puskesmas Kemiri Muka Kota Depok Tahun 2011. Skripsi. Depok: Universitas Indonesia; 2012.
13. Suyes, Kathryn, et al. Breatfeeding in The Workplace: Other Employees' attitudestoward service for lactating mother. *International Breastfeeding Journal*.2008; 3:25.
14. Weber,Danielle,etal. Female employees'perceptions of organisational support for breastfeeding at

- work: findings from an Australian health service workplace. *International Breastfeeding journal*. 2011; 6:19.
15. Banu, Bilkis, Khursida K. Effects of Education Level of Father and Mother on Perceptions of Breastfeeding. *Journal of Enam Medical College*. 2012; 2(2): 67-73.
16. Sholeye, Oluafolahan O, et al. Exclusive Breastfeeding and Its Associated Factors among Mothers in Sagamu, Southwest Nigeria. *Journal of Health Science*. 2015; 5(2):25-31.

# Availability, Accessibility, and Acceptability of Health Services in Remote Indigenous Community of the Baduy Dalam Tribe

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## ABSTRACT

**Background:** Unequally in rights to health cause a disparity between indigenous communities and people in general, which should be avoidable. The *Baduy Dalam* tribe is one of the indigenous communities in Indonesia that refuses to follow modern developments. The *Baduy Dalam* tribe's strong obedience to their tradition bothersome health workers in delivering modern health services. Availability, accessibility, and acceptability of health services as a base of health service concept and rights to health need to be further analyzed in the *Baduy Dalam* tribe.

**Method:** This qualitative research uses a Basic Human Rights paradigm approach to obtain in-depth information regarding health services among the *Baduy* community. The method used was in-depth interviews, and informants were chosen using a purposive technique to achieve correct and adequate information for this research. Results were analyzed using a matrix and content analysis to identify the thematic information. To maintain validity, document review and literature review on the subject were conducted.

**Results:** Utilization of available healthcare facility majorly affected by community acceptance. Mobile health services can't be conducted without the community leader's permit and acceptance. There's an urgent need to do strategic approach to increase the community acceptance using sensitive cultural approach. Attention and effort from multi-sectoral governments are very low.

**Conclusions:** Healthcare services to the *Baduy Dalam* community is not performed well as there are various obstacles in the availability, accessibility, and acceptability of modern healthcare services in The *Baduy Dalam* community.

**Keywords:** *Primary Healthcare services; indigenous communities; availability; accessibility; acceptability*

## INTRODUCTION

There are approximately 370 million indigenous communities spread across 90 countries around the world. The total population of indigenous communities makes up 5% of the world population.<sup>1</sup> In Indonesia there are 231,268 families in remote indigenous communities. A regulation from the Indonesian government defines remote indigenous communities as

a group of individuals attached as a unit, geographically, economically, and/or by social culture, and poor, remote, and/or fragile social economy.<sup>2</sup> On the other hand, the UN categorizes indigenous community such as a group of people with their own social structures such as pre-colonial communities, those who profess to being an indigenous community, have strong ties to an area or the surrounding environment, form a minority, have specific culture and language, and protects the culture of the ancestors.<sup>3</sup>

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Currently, indigenous communities in developing and in developed countries are a marginal group with minimal access to basic healthcare and poor health



are really needed by ESDIGDC program implementers, a second phase preliminary study was conducted through the FGD which was attended by 10 midwives in community health centers, with conclusions: 1) too much use of paper-based ESDIGDC instruments inefficient, 2) ESDIGDC instruments need to be made that can be run using gadgets because this tool is already popular.

It can be predicted that these instruments will be easily accepted and applied by health workers, especially midwives as implementers of the ESDIGDC program.

## METHOD

This descriptive research produced e-Health instruments in the field of early detection of child growth and development. In this study, the design of “Android-based ESDIGDC instruments” was made. The design of the instrument was limited to the “detection” aspect of child development, so specifically the production was called “Android-Based Child Development Detection Instrument” (ABCD-DI).

The “ABCD-DI” was a dynamic soft questionnaire about child development that includes four sectors, namely: 1) gross motor, 2) fine motor, 3) speech and language, and 4) socialization and independence. This questionnaire was classified into several age groups, namely: 3, 6, 9, 12, 15, 18, 21, 24, 30, 36, 42, 48, 54, 60, 66 and 72 months.<sup>(1)</sup> This program was designed to be installed on Android-based gadgets.

The first stage of steps was the identification and provision of design equipment: 1) hardware (computers / laptops, gadgets, printers, blank DVD data, external file storage, and internet service); 2) software (operation system, word processor, data base program, database creator for Android, PDF creator, icon and interface designer, and photo editor); 3) brainware (programmer, technician, and midwives as evaluator); 4) supporting material books about ESDIGDC, e-health and Android-based applications.

The second stage was the development of instrument by programmers and technicians: 1) frame making using interface designer programs; 2) preparation of material in accordance with the frame; 3) integration of material into the frame.

The third stage was the evaluation of the quality of the ABCD-DI through trials to midwives as the main users, which include: content, accuracy, format, ease of

use, timelines, and speed of operation<sup>(2)</sup>; with the FGD approach.

The fourth stage was giving recommendations to government institutions as holders of ESDIGDC program policies, and for researchers as developers of child growth and development monitoring instruments.

The study was conducted in 2016 in the Department of Midwifery, Health Polytechnic of Surabaya, while the evaluation of the quality of the instruments was conducted at the Sukorejo Health Center, Ponorogo.

The stages of data analysis were as follows: 1) descriptive presentation of the provision of hardware, software, brainware, and supporting books; 2) descriptive presentation of the results of frame making, material compilation, and material integration into the frame; 3) descriptive presentation of the results of evaluating the quality of “instruments; 4) descriptive presentation of recommendations given based on the evaluation of the quality of the instrument.

## FINDINGS

The provision of hardware, software, brainware, and supporting books are as follows:

**Table 1. Hardware provided for instrument design making**

No	Hardware	Number	Function
1	Laptop: Dell Model Inspiron 114 3000 Series	1	Programming
2	Gadget: OPPO Joy 1	1	Programming
3	Printer: HP Deskjet 1040	1	Programming
4	Blank DVD data: Verbatim	25	Data storage
5	Memory card: SD card	2	Data storage
6	Internet service: Midwifery Department, Health Polytechnic of Surabaya	2	Literature and software searching



**Table 2. Software provided for instrument design making**

No	Original Software	Number	Function
1	Operation system: Microsoft Windows 8, Android system	2	Basic operating system to run all programs on the computer.
2	Word processor: Wordpad, Ms. Office Sharepoint Designer	2	As a word processor for compiling text material.
3	Database program: Database creator for Android	1	Integration of instrument data into the Android system.
4	Read only file creator: PDF Creator	1	Making read only files about instrument usage instructions.
5	Icon creator: Junior Icon Editor 4.1	1	Making the ABCD-DI program icon.

**Table 3. Brainware provided for instrument design making**

No	Brainware	Number	Function
1	Programmer	3	Designing programs and materials.
2	Technician	1	Helps programmers compile and run programs.
3	Evaluator	10	Evaluating (testing) the quality of instruments through FGD

**Table 4. Books as supporting the design of instruments**

No	Book title	Number	Function
1	Guidebook for the Implementation of ESDIGDC	1	Guidelines for making ESDIGDC material
2	ESDIGDC Facilitator Handbook	1	Guidelines for preparing ESDIGDC learning strategies
3	Information System Analysis and Design	1	Programming guidelines

The resulting ABCD-DI frames were: 1) Level I, consisting of: homepage; 2) level II, consisting of: detection of development of children aged 3 months, 6 months, 9 months, 12 months, 15 months, 18 months, 21 months, 24 months, 30 months, 36 months, 42 months, 48 months, 54 months, 60 months, 66 months and 72 months. Figure 1 shows the shape of the frame.

The material consisted of three groups, namely: 1) general instructions (how to operate ABCD\_DI); 2) introduction to ESDIGDC; 3) detection of child development which includes four sectors, namely: 1) gross motor, 2) fine motor, 3) speech and language, and 4) socialization and independence. This material was classified into several age groups, namely: 3, 6, 9, 12, 15, 18, 21, 24, 30, 36, 42, 48, 54, 60, 66, and 72 months.

The process of preparing ESDIGDC material was: 1) text or narration made using Wordpad and Microsoft Office Sharepoint Designer; 2) a graphic vector image created and edited using Inkscape 0.48; 3) photographic images edited using Photo Pos Pro 1.87; 4) animated images created and edited using Sothink SWF Quicker 5.3 and Pivot Stickfigure Animator 2.2.6; 5) video edited using Honestech Video Editor 8.0. To change the video file format, the Any Video Converter 3.2.7 program is used; 6) After the frame is filled with complete material, then an icon is created using the Junior Icon Editor 4.1; 7) making read only files regarding instructions for using ABCD-DI using PDF Creator 9.

The next stage was the integration of all material that has been successfully collected into the frame that has been prepared previously (Figure 1).

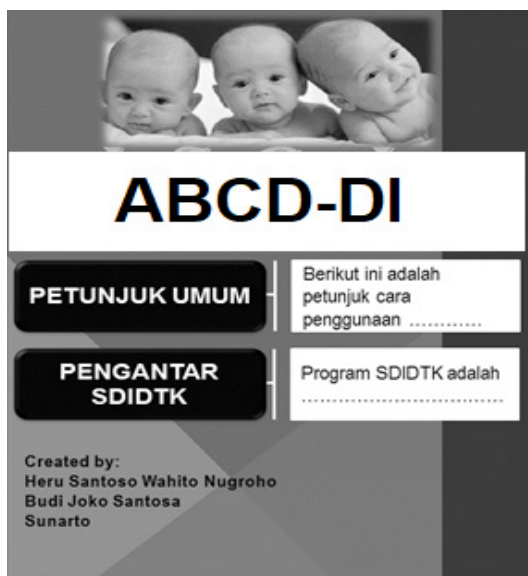


Note:

*Halaman utama* = Homepage  
*Petunjuk umum dan Pengantar SDIDTK* = General instruction and introduction of ESDIGDC  
*Deteksi perkembangan* = detect the development of child

*Gerak kasar, gerak halus, bicara dan bahasa, sosialisasi dan kemandirian* = Gross motor, fine motor, speech and language, socialization and independence  
**Figure 1. Results of integration of materials into frames (in Indonesian version)**

There were two stages of material integration into the frame: 1) filling in the Level I frame (homepage), in this case, the frame homepage is filled with two material namely “General Guidelines” and “Introduction to ESDIGDC” (Figure 2).

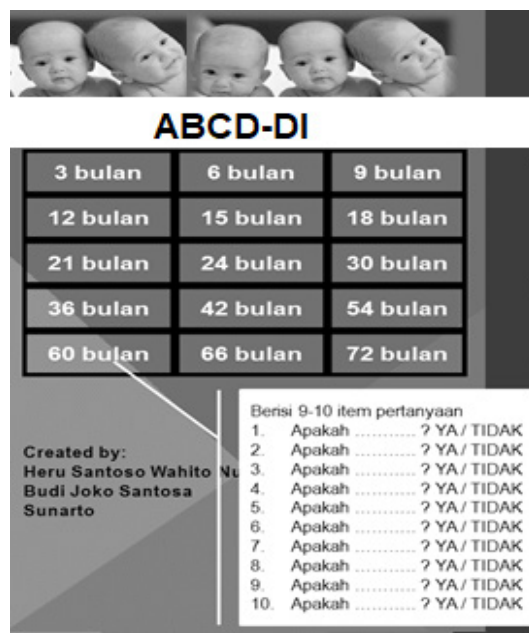


Note:

*Halaman utama* = Homepage  
*Petunjuk umum* = General instruction  
 Berikut ini adalah cara penggunaan ..... = This is the instruction to use .....  
*Pengantar SDIDTK* = Introduction of ESDIGDC  
*Program SDIDTK adalah .....* = ESDIGDC program is .....

**Figure 2. The content of Level I (homepage) (in Indonesian version)**

At the top of the main page was included general instructions on how to operate the program, then at the bottom is presented about the general concept of ESDIGDC; 2) filling in Level II frames (detection of child development), in this case, the frame of child development detection is filled with the Child Development Pre-Screening Questionnaire, starting from the age group of 3 months, then proceeding sequentially and ending in the 72 month age group (Figure 3).



Note:

*3 bulan* = 3 months  
*Berisi 9-10 pertanyaan* = contain 9 to 10 questions  
*Apakah .....? YA/TIDAK* = Is .....? YES/ NO

**Figure 3. The content of Level II (detection of child development) (in Indonesian version)**

Questionnaire for each age group consisted of 9-10 items, and each item had 2 answer options “Ya (yes)” and “Tidak (no)”. After all Level II frames were filled in, a calculation formula was made with 3 output categories, namely: a) Development of “*Sesuai* (accordance)”