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OBESITY WITH METABOLIC SYNDROME TO POLICE IN *POLRES DELI SERDANG*

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Abstract

Obesity became a health problem because the number of objects had been increased every year.It did not cause mortality directly, but health problem which could push respond, proteomic, metabolic, kidney, and cardiovascular. Empiric Research finding predict metabolic syndrome was found 22% for overweight and 60% for obesity. A person could call metabolic syndrome if it found three criteria which increase from fasting glucose level, blood pressure, waist size, and HDL-Cholesterol. The purpose of this research was finding the relationship between obesity with metabolic syndrome in police in Polres *Deli serdang*. This research was done from March to May 2015. The research design was Cross Sectional, the number of sample was 82. The collecting data was obesity, KDL, HDL-Cholesterol, and triglycerides blood and blood pressure. Data collecting was done with interview, weight and height and the blood investigation and blood measurement. The data was done by researcher and enumerator helped and analysis from Public Hospital *Deli Serdang*. The data which had been collecting was examined and treated with computer system. Chi Square test data analysis would be continued with Risk Estimate test to know OR with α=0,05. Research finding was showed that obesity prevalence was 63.4%, metabolic syndrome was 35.4% followed with Hypertension 67.1%, PJK and DM. Bivariat analysis was showing that there was relationship with metabolic syndrome (p=0,049), and obesity status gave chance 3.17 metabolic syndrome. It was suggested for police in *Polres Deli Serdang*to do more physical exercises and consume low food calories. It could help them lose their weight.

Key words: Obesity, Metabolic Syndrome, Police.

Introduction

Obesity was a condition of an imbalance between height and weight due to the amount of excess body fat tissue, usually stored in the subcutaneous tissue, around the organs and occasional infiltration into organs. Obesity was composed of

general obesity and central obesity / abdominal. General obesity could be seen through the indicator IMT, while central obesity / abdominal can be known through the Indicators and Pelvic Waist Ratio (RLPP)[1].

Obesity occurred because of an imbalance between energy intakes with energy output, causing further excess energy was stored as fat tissue. The excess energy could be caused by the intake of high energy or low energy output. High energy intake was caused by excessive food consumption, while low energy output caused by low metabolism, physical activity and thermo genesis effect of food. Obesity had become a health problem because of the number of sufferers is increasing every year. The problem of obesity was increasing rapidly in many countries, in developed countries, obesity had become epidemic by contributing 35% of the morbidity and contribute 15-20% to the deaths. Obesity did not cause death directly, but it caused serious health problems that can spur cardiovascular disorders, renal, metabolic and inflammatory responses protombik[2]. The prevalence of central obesity in Indonesia according to the Basic Health Research (Riskesdas) in 2007 amounted to 11.7%, Riskesdas in 2010 of 11.65%, and Riskesdas 2013 found the prevalence of obesity is based on indicators of IMT in males 19.7% and females amounted to 32.9%, while for the province of North Sumatra found a prevalence of 19.1%[3,4,5]. Based on research conducted by the Association of Obesity Studies Indonesia (HISOBI) in 2004 found that the prevalence of central obesity was higher than general obesity in men is 41.2% and in women by 53.3%[6]. One of the causes of obesity was consumption patterns which did not appropriate. At present, consumption patterns have changed in line with the increase in popularity of various kinds of dishes or meals ready to eat. A shift in eating patterns into foods that contain high-calorie, high-fat, high-carbohydrate and low in fiber cause an imbalance of nutrient intake to be a risk factor that a very large contribution to the emergence of various health problems such as obesity, hypertension, dyslipidemia, which resulted in the emergence of degenerative diseases.

Obesity was a global nowadays pandemic occurring, was closely associated with increased incidence of dyslipidemia, hypertension, insulin resistance, known as metabolic syndrome. Some empirical research estimates that 22% of metabolic syndrome was found in people who overweight and 60% were in people who obesitas[7]. One study showed an association between consumption patterns with the incidence of metabolic syndrome in female population, where consumption patterns containing high-carbohydrate, high-fat, and low in vegetables associated with increased risk of metabolic syndrome. This statement is reinforced by research Mawarti [8], in conditions of excessive food rich in simple sugars, carbohydrates and Saturated Fatty Acids (SFA) in the long term to stimulate employment sterol regulalatory

element binding protein (SREBP-1) causes hyperinsulinemia resulting in adipocyte hypertrophy, subsequently formed a new adipocytes by insulin growth factor 1 (GF1). Production of new adipocytes increases the formation of new adipocytes again resulting in adipocyte hyperplasia, and FFA (Free Faty Acids) are increasing and get into the non adipose tissue, increase triglycerides and cause oxidative damage[9]. Increased FFA also disrupt hepatic glucose spending, stimulation of glucose uptake in skeletal muscle and insulin secretion from pancreatic β. Mechanism of high fat in adipose tissue increases insulin resistance will cause cannot be the entry of glucose into the cells and the rise in hepatic glucose production will worsen the situation of hyperglycemia. Increased fasting glucose levels indicate a disturbance in glucose tolerance that describes the resistance will be the action of insulin. At the heart exposed to high concentrations of FFA in compensation due to hyperinsulinemia which inhibit intra-abdominal fat cell lipolysis. This phenomenon stimulates gluconeogenesis, and the synthesis and secretion of VLDL. The high activity of the enzyme, hepatic lipase (HL), a factor that contributed to a decrease in HDL cholesterol. Increasing concentrations of triglycerides caused by increased production of VLDL and VLDL catabolism slow[10]. Research related to this has been done, such as research Jalal et al [11], and most researchers concluded that compared with subcutaneous fat or total body fat (general obesity), visceral fat (central obesity) are more strongly linked to metabolic syndrome abnormalities. According to the criteria of the National cholesterol Education Program Third Adult Treatment Panel (NCEP-ATP III), a person is said to have metabolic syndrome if there are at least three of the five components consisting of central obesity, hypertension, decreased levels of HDL cholesterol (High Density Lipoprotein), elevated triglyceride levels and an increase in fasting blood glucose levels. Set this syndrome is associated with an increased risk of cardiovascular disease. The police was the kind of work that requires a high health status because of mobility and task quite heavy. Ideal posture is an absolute necessity, but several studies had shown less consistent results, such as Riskesdas 2010 where the prevalence of overweight (obesity and overweight) occurred in the civil / military / police / employee. The prevalence of police in Semarang, which had nutritional status is not normal at 48.1%, while the police in Singapore showed that the prevalence of obesity of 14.3%[12]. The results of a preliminary survey conducted by researchers at the police on duty at the police station Deli Serdang by measuring weight and height at 115 police officers obtained the nutritional status of the police with a BMI> 27, as many as 63 people (54.78%). The high prevalence of obesity in the police as a result of this preliminary survey may illustrate the decline in labor productivity and a tendency to suffer from degenerative diseases. The problem of this research was

finding how the status of obesity with the incidence of metabolic syndrome in police at the police station *Deli Serdang*.

Research Method

This study was an observational study with cross sectional research that look at the analysis of the relationship between independent variables and the dependent variable to perform instantaneous measurements on the same study period. The study was conducted at the Police Resort *Deli Serdang Jalan Sudirman Lubukpakam* from November 2014 to June 2015, while the collection of research data held on March 9 to 18 April 2015. The entire population was male police officers in *Deli Serdang* district police. Search data / preliminary survey conducted on 26 November 2014 an unknown number of male police officers in *Deli Serdang* district police as many as 421 people. To obtain a homogeneous sample screening was carried out in accordance with the inclusion criteria were age> 30 years, have a common duty unit activity, and willing to be a sample, whereas the inclusion criteria was not / while on treatment or therapy weight loss. From the results of the second screening conducted from 9th to March 12th 2015, the police into the study population who served in the unit / *Intelkam* unit, Criminal Investigation unit, drug unit, and the unit then with the number of 183 policemen. The sample size in this study was determined based on the formula of the samples to the data on the proportion of the population is limited, and obtained a sample of 82 people were taken by systematic random sampling.

Result Finding and Discussion

Age or age was a time unit that measures the time of any object or creature, both living and dead. Measurements are usually set with years of age. The sample distribution by age could be seen in Figure 1.

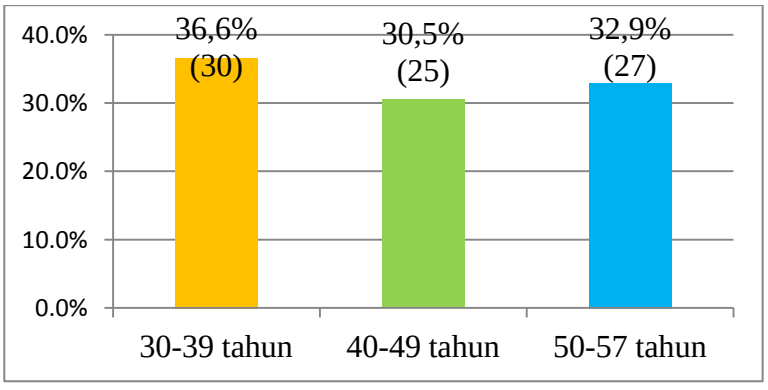

Figure 1. Sample Distribution Based on Age.

Tahun = age

Age distribution of the sample at most at the age of 30-39 years is 36.6%, followed by the age of 50-57 years and 32.9% aged 40-49 years by 30.5%, while the lowest age of 30 years and the highest 57 years old, with an average age of 44

years. Decision age groups starting from the age of 30 years in accordance with the theory that an increase in body fat significantly occurred over 30 years of age, and in males these fats increase the maximum occurs at age 35-44 years[11].

Waist circumference was the anthropometric measure that could be used to define central obesity. Waist circumference is said to be a useful index to define central obesity and related metabolic complications. Distribution of samples based on waist size can be seen in Figure 2

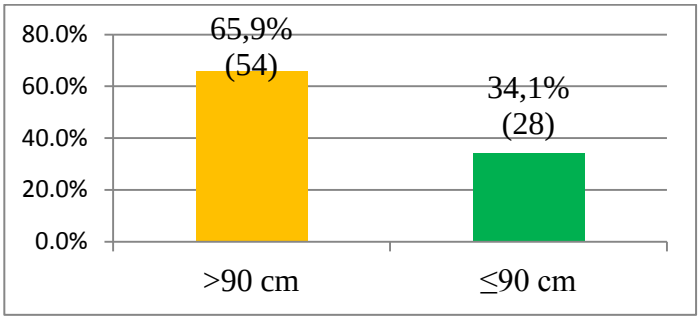

Figure 2. Sample Distribution Based on Waist Size.

From Figure 2 it can be seen that the samples with a waist circumference> 90 cm of 65.9% and ≤90 cm waist circumference of 34.1%. The measurement results showed higher waist circumference of 118 cm, and the lowest was 79 cm, and the average value of 94.17 cm. The average value indicates that there is a tendency of the sample had central obesity, where the normal value for males' ≤90 cm and the average value have exceeded the normal rate.

a. Obesity Status

Obesity was a result of energy imbalance where the intake far surpasses the energy output within a specified period. Measurement of weight and height is done on the sample, based on the measurement of IMT, it was known according to Figure 3.

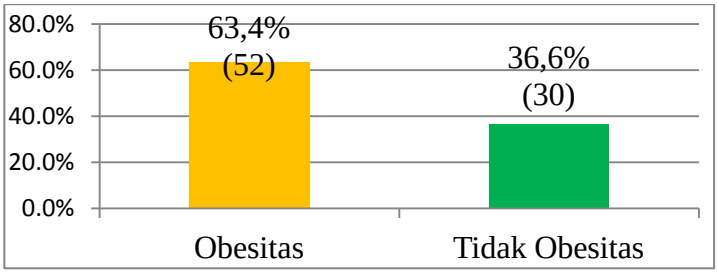

Figure 3. Sample Distribution Based on General Obesity.

Obesitas = Obesity *Tidak Obesitas* = Underweight

Based on Figure 3 it could be seen that the bulk of the sample suffered from general obesity (over all) that is equal to 63.4%, while those not obese amounted to 36.6%. From the result of data processing shows that the highest BMI at 35.6

and the lowest value at a value of 23.2, and an average BMI of 28.21 samples where the value is in the category of overweight heavy level. Obesity has become a public health and nutrition problems of the world, both in developed countries and in developing countries. 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, around the organs and sometimes there is infiltration into organs. From the results of this study found the prevalence of obesity in *Deli Serdang* police at the police station amounted to 63.4%, the rate is higher than Health Research Association in 2007 and 2010 were 11.7% and 11.65% in the adult population aged ≥18 years. This result was also supported by measurements of waist circumference at the police who also showed sizable prevalence was 65.9% for waist circumference> 90 cm, only 34.1% with Polices' waist size ≤90 cm waist circumference. Obesity based on BMI was positively correlated with increased waist circumference. People with normal waist circumference above usually have a high BMI, and vice versa BMI above the normal was usually followed by the accumulation of abdominal fat and insulin resistance so that said obesity is strongly associated with metabolic syndrome. If the distribution of the sample based on age obesity status, the highest distribution of samples with a BMI> 27, at the age of 30-39 years at 23.3%, followed by the age group 40-49 years at 19.5% and the age group of 50-57 years 17.1%. This is not in line with the results Liliany[13], who called high IMT was most from 41 to 55 years old.

The analysis of this study also illustrates that there were as many as 27% (22 votes) Police with a BMI ≥30, these figures show a fairly high fat distribution throughout the body. Factors that lead to a high BMI at police in *Deli Serdang* district police was excessive energy intake and physical activity factors was lacking. Excessive food intake and / or decrease in energy expenditure gave rise to a positive energy balance. Positive energy balance occurs from excessive food intake mainly from excess intake of energy and carbohydrates, resulting in the accumulation of excess fat in the abdominal adipose tissue[11]. In this research the average energy intake Police in *Deli Serdang* district police amounted to 2545 kcal / day and 69.95 grams of fat intake / day, to the Police by the age of 30-49 years is still appropriate intake with Nutritional Adequacy Score (AKG) years 2012, but for the police to the age of 50-57 years, then this intake has exceeded AKG. Consumption of foods high in fat is a risk factor for central obesity, the magnitude of the risk of central obesity among respondents with high fat intake is 9.3 times greater than the respondents with sufficient fat intake and low. Fat was the largest supplier of nutrients 1gr produce 9 calories of energy. The high intake of energy in the sample indicates the age from 50 to 57 years fat intake is still quite high. The results were consistent with research on factors associated with obesity

in men (40-55 years) in the Office of the Director General of Engineers of the Army, found there was a significant association between obesity and fat consumption[2].

b. Metabolic Syndrome

Metabolic syndrome was a group of symptoms that lead to the onset of degenerative diseases in a person such as diabetes mellitus, atherosclerosis and coronary heart disease. A person was said to have metabolic syndrome when found at least 3 following assessment criteria such as fasting blood glucose> 110 mg / dl, blood pressure of 130/85 mmHg and waist circumference> 90 cm for men and> 80 cm for women or HDL cholesterol levels <40 mg / dl in men[7]. Blood sugar was a term that refers to the level of glucose in the blood. Blood sugar concentration, or serum glucose level, was strictly regulated in the body. Glucose was channeled through the blood is the main source of energy for the body's cells. Distribution of samples is based KGD can be seen in Figure 4.

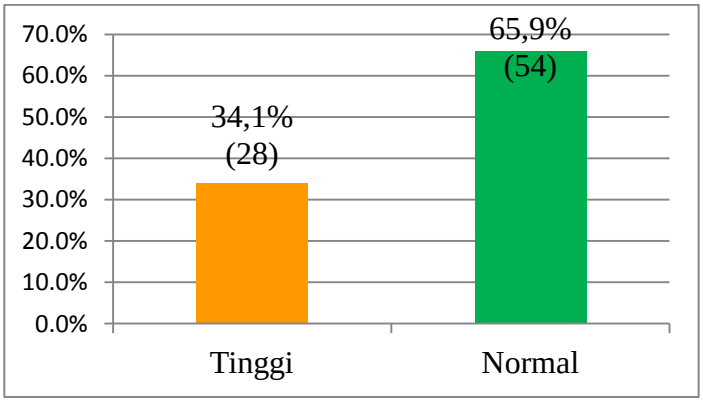

Figure 4. Sample Distribution Based on KGD Fasting.

Tinggi = High *Normal* = Normal

Based on Figure 4 was known that there are 32.9% of the samples with high blood glucose levels. Based on the measurement results obtained by the highest value of 385 mg / dl and the lowest value of 74 mg / dl, and the average value of fasting KGD is 121.8 mg / dl. The normal rate for KGD value was 70-100 mg / dl. Glucose is the energy source for the body, especially for some cells such as erythrocytes, brain and nerves; more or less KGD expressed by the level of blood sugar, diabetes mellitus disease is closely related to the blood sugar level. HDL was often called good cholesterol because it serves to bring the excess bad cholesterol from blood vessels throughout the body back to the liver for processing and disposal. The distribution of the sample based on the levels of HDL-Cholesterol can be seen in Figure 5.

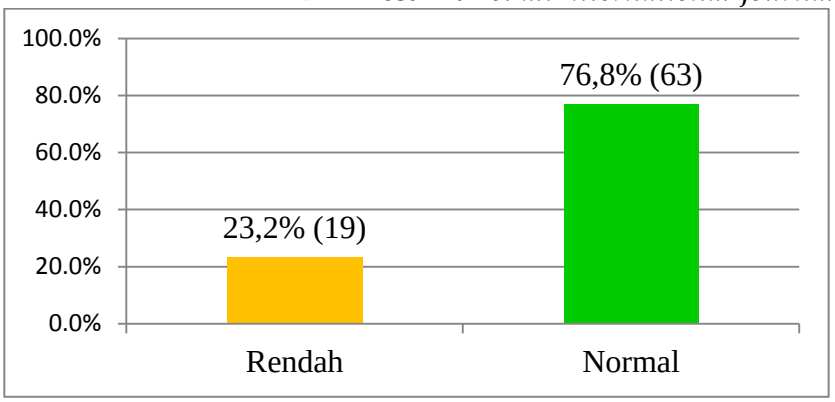

Figure 5. Sample Distribution Based on HDL Cholesterol.

Rendah= Low Normal=Normal

It can be seen from Figure 5 that as many as 23.2% of the sample had higher levels of HDL-cholesterol at a low value, and as much as 76.8% of the samples in the normal value. Low HDL-cholesterol levels stood at 37 mg / dl and the highest at 87 mg / dl, and the average value of 52.12 mg / dl. HDL-cholesterol is the heaviest density lipoproteins and small structure. Levels of HDL cholesterol were good is ≥60 mg / dl, HDL at this value will be able to protect the heart from various heart diseases are caused by the intake of fat and cholesterol overload.

TG was the main fat in the body, was formed in the liver from glycerol and fats from food or from excess calories due to overeating, especially carbohydrates. Distribution of samples based on TG levels could be seen in Figure 6.

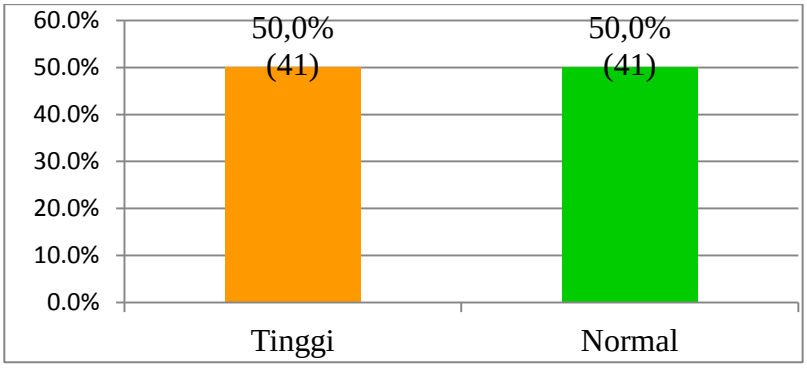

Figure 6. Sample Distribution Based on Triglycerides Blood.

From Figure 6 it can be seen that 48.8% of the sample had high TG levels, while samples with normal TG levels by 51.2%. The value of the highest TG 399 mg / dl, the lowest value of 55 mg / dl, with an average value of 173.85 mg / dl, where the value is included in the high threshold values. High blood TG levels could potentially cause fatty liver (fatty liver). If TG levels far beyond the normal rate it is concerned at high risk of having a heart attack. High or low blood pressure was defined by systolic blood pressure and diastolic blood pressure. Limit of normal blood pressure varies

according to age, generally have a range of numbers 120/80 mmHg. Distribution of samples based on the blood pressure value can be seen in Figure 7.

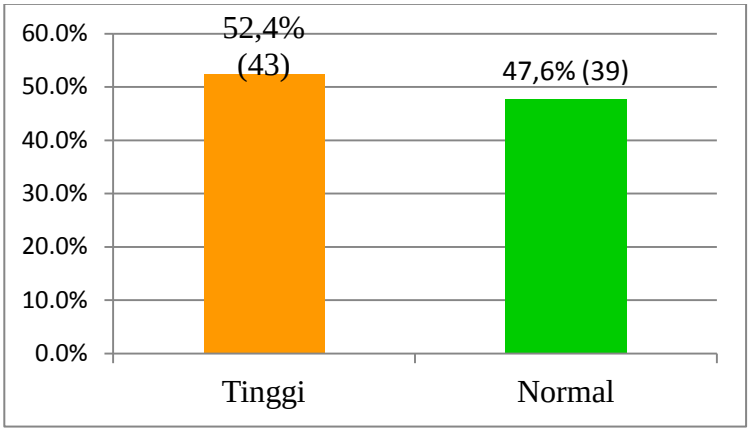

Figure 7. Sample Distribution Based on Blood Pressure.

Tinggi= High Normal=Normal

From blood pressure readings showed that systolic and diastolic blood pressure values sampled at a high of 52.45% and 47.6%. Systolic and diastolic blood pressure was lowest at 90 mmHg and 60 mmHg, the highest blood pressure of 190 mmHg and 120 mmHg.

Average value of the average systolic and diastolic blood pressure of 129.6 mmHg and 84.6 mmHg. Of the average value of these could be drawn that most of the samples have a tendency to rise in blood pressure levels.

Metabolic syndrome was multi factorial and developed through a partnership of interrelated between obesity and metabolic vulnerability. From the measurement results KGD, HDL-Cholesterol, TG and blood pressure then performed data processing in which a person was said to have a tendency to have metabolic syndrome if ≥ 3 types KGD test results, TG and TD on a range of high value and HL-cholesterol at a low value. Distribution of samples was based on incidence of metabolic syndrome can be seen in Figure 8.

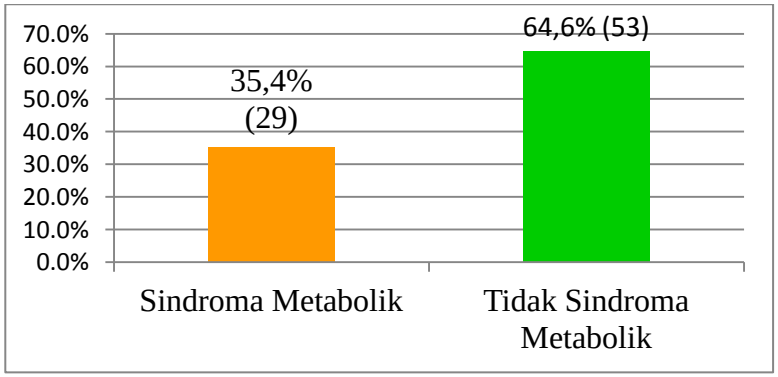

Figure 8. Sample Distribution Based on Metabolic Syndrome.

Sindroma Metabolic = Metabolic Syndrome Tidak Sindroma Metabolik = Non Metabolic Syndrome

From Figure 8 it was known that the incidence of metabolic syndrome in the sample amounted to 35.4% and 64.6% of the samples there that did not have metabolic syndrome.

Metabolic syndrome was a condition in which a person has high blood pressure, central obesity and *dyslipidemia*, with or without hyperglycemic. When these conditions are at the same time on one person, then that person has a high risk of the disease *macrovascular*[6].

DM, CHD and hypertension gave symptoms characteristic of these diseases, such as pain in the head and neck for each occurrence of increased blood pressure, poly *pagia*, poly *uri* and poly *dipsi* in DM patients and pain in the chest, heart rate irregular heart disease patients. Disrtibusi samples based on some perceived symptoms could be seen in Figure 9.

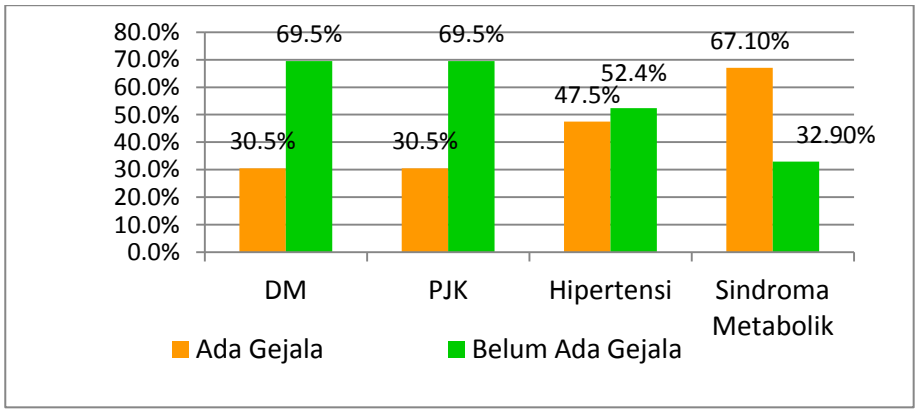

Figure 9. Sample Distribution Based on Symptom Disease.

From Figure 9 it could be seen that most of the samples have not felt any symptoms of diabetes that is equal to 75.6%, but there are 24.4% who are already feeling the symptoms of the disease that leads to diabetes. For symptoms that lead to coronary heart disease 69.5% do not feel the symptoms of the disease, but 30.5% have started to feel the symptoms of the disease. What stands out is the symptom for the disease Hypertension, of which 46.3% have felt the symptoms of the disease. The combined results of some of these symptoms are grouped into metabolic syndrome symptoms that follow, from Figure 9 note that 67.1% of the sample had experienced symptoms and as much as 32.9% did not experience symptoms. So, from these data that had been most widely symptoms felt by the sample is a symptom of a disease Hypertension, followed CHD and DM. Metabolic syndrome was a group of symptoms that lead to the onset of degenerative diseases in a person such as diabetes mellitus (DM), atherosclerosis and coronary heart disease (CHD). A person was said to have metabolic syndrome when found at least three assessment criteria such as fasting blood glucose>

110 mg / dl, blood pressure of 130/85 mmHg, triglycerides> 150 mg / dl and HDL-cholesterol <40 mg / dl (Wiardani, 2011). In this research note that 34.1% of Police in *DeliSerdang* district police with fasting blood sugar levels above the normal (high), 23.2% with higher levels of HDL-cholesterol was low (risky), amounting to 50% with high levels of triglycerides blood above normal (high) as well as blood pressure above the normal figure of 52.4%. From these data are then analyzed to establish the incidence of metabolic syndrome in *Deli Serdang* police at the police station, the analysis results met the diagnostic criteria according to NCEP-ATP III was found at 35.4% Police in *Deli Serdang* district police exposed metabolic syndrome. It had recorded the prevalence of metabolic syndrome in the world reached 20%, while in Jakarta, the prevalence was 28.4%. An understanding of the metabolic syndrome was also important in metabolic syndrome is closely related to changes in metabolism, oxidative stress, inflammation, insulin resistance, *dyslipidemia*, physical activity, age, genetics, and race[14]. Sedentary lifestyle and unhealthy diet is also known to be risk factors for obesity that triggers metabolic syndrome. From the analysis of the symptoms of the disease diabetes, coronary heart disease and hypertension, also note that 30.5% of the police had been feeling the symptoms of diseases such as type II diabetes symptoms ease hunger, much to drink, easy thirsty, easy tingling and numbness -numb, fatigue, and decreased sexual ability. 30.5% have felt the symptoms of CHD. Typical symptoms are often expressed by patients with CHD include chest pain *retrosternal* heavy objects like pressure, squeezing, burning hot, sometimes it just feels discomfort in the chest, radiating to the left arm, neck, jaw and back. Symptoms most often felt that their symptoms of hypertension, such as neck strain, stiffness in the neck and frequent migraine is 47.6%. In CHD events, the fat deposited in the abdominal wall are more at risk, the fat cells in the abdominal wall has a larger size that is dominated by Low Density Lipoprotein (LDL) cholesterol that is harmful to the body. Fat cells bind to internal organs and produces harmful substances that can change the reactions in the body including blood vessels and organs in the abdomen that sparked cardiovascular disease[15]. The increase in weight with a BMI over 30 kg / m2 increase 4-fold risk of CHD, both in men and women. The risk of CHD and other metabolic diseases, known as metabolic syndrome is associated with central obesity / android / visceral[16]. Overweight (obesity) is a hallmark of the hypertensive population, and proved that this factor is closely linked with the occurrence of hypertension later in life. The results are consistent with research Anggara, which concluded that there was a significant relationship between BMI and hypertension. The risk of hypertension in people who are obese are two to six times higher than someone with normal weight[17].

c. Analysis of Obesity Status with Metabolic Syndrome

Statistical test results from the available data showed that the prevalence of Metabolic Syndrome on the sample amounted to 35.4%, amounting to 64.6% and there was not suffering from Metabolic Syndrome. Analysis of samples based on the status of obesity with the incidence of metabolic syndrome can be seen in Table 6.

Table 6. Analysis of Obesity Status with Metabolic Syndrome.

Obesity Status	Metabolic Syndrome				Total		OR 95% CI	P value
	Metabolic Syndrome		Non-Metabolic Syndrome					
	n	%	n	%	n	%		
a. Obesity	23	44,2	29	55,8	52	100	3,17	0,049
b. Non Obesity	6	20,0	24	80,0	30	100	1,112-9,054	
Total	29	35,4	53	64,6	82	100		

In Table 6 it could be seen the results of the analysis of the status of obesity with the incidence of metabolic syndrome that there are as many as 23 of the 52 (44.2%) samples were obese with metabolic syndrome, whereas among non-obese samples there were 6 of 30 (20.0%) were suffering from metabolic syndrome. Statistical test results obtained by value p = 0,049, it can be concluded no difference in the proportion of incidence of metabolic syndrome among obese samples and samples that are not obese (no significant relationship between obesity status with the incidence of metabolic syndrome). From the results obtained by analysis of the value of OR = 3.17, meaning that samples of obesity have a chance of 3.17 times suffer from metabolic syndrome compared with samples that are not obese with 95% CI 1.112 to 9.054. Metabolic syndrome was multi factorial and developed through a partnership of interrelated between obesity and metabolic vulnerability. Obesity was measured by BMI and waist circumference be regarded as a major risk factor in the development of insulin resistance, diabetes mellitus type 2. Approximately 70% of people with diabetes are overweight and more than 50% of patients with obesity decreased glucose tolerance. weight gain is a strong predictor for the risk of type 2 diabetes, which increase in BB> 20 kg after age 18 increases the risk of diabetes up to 12 times, and the risk increases to 61 times greater when BMI above 35 kg / $m^{2;18}$. The development of type 2 diabetes increases progressively with increasing pile of adipose tissue as measured by BMI. Each increase of 1 kg of body weight increases the risk of type 2 diabetes by 4.5% 18. In people who are obese increased release of free fatty acids (Free Fatty Acid / FFA) of the

visceral fat is more resistant to the metabolic effects of insulin and more sensitive to *lipolytic* hormones. Increased FFA causes a bottleneck of insulin resulting in the failure of glucose uptake into cells that lead to increased hepatic glucose production via *gluconeogenesis*. Weight and BMI also directly correlated with blood pressure, especially systolic blood pressure. The relative risk for obese people suffering from hypertension in 5 times higher than those of normal weight[19]. Wiardani research (2011) shows that there are significant differences in the incidence of metabolic syndrome with obesity status. Samples were obese had a 6.3 times greater risk of the incidence of metabolic syndrome compared with those not obese. The results of this study are also consistent with studies Diah (2008) who found that there was significant relationship between body mass index with blood triglyceride levels, and waist circumference as a component metabolik20 syndrome. Obesity is an independent risk factor for *dyslipidemia*, hypertension, hyperglycemia further complication and cause of death for a person suffering from diabetes and cardiovascular diseases. In insulin resistance and obesity occurs vascular endothelial function disorder that causes vasoconstriction and sodium re absorption in the kidney resulting in hypertension. Android-type obesity (central obesity) was risked of developing the metabolic syndrome, and cardiovascular disease. The relationship between the metabolic syndrome with BMI and the ratio of total cholesterol / HDL cholesterol was a sample of overweight are at risk 5.54 times more likely to have metabolic syndrome compared with normal BMI. The existence of a positive relationship between the metabolic syndromes with obesity parameters was included BMI and the amount of fatty liver under the skin. The increase in IMT would be positively correlated with systolic and diastolic blood pressure. The results were consistent with several studies where there was a significant correlation between body mass index with high levels of triglycerides, and waist circumference as a component of metabolic syndrome. Pandemic developing metabolic syndrome along with the prevalence of obesity occurring in the Asian region, using 25 BMI categories, the prevalence of metabolic syndrome population of 13.13%, whereas in this study with a BMI> 27, the importance of the prevalence of metabolic syndrome was 35.4%. There was correlation between obesity and the metabolic syndrome, they were hypercholesterolemia as a risk factor for cardiovascular disease in adulthood suggests that medications to lower cholesterol levels should be used to prevent and reduce the incidence of morbidity and mortality.

Conclusion: There were 52 (63.4%) Police in *Deli Serdang* district police are obese with a BMI> 27 kg / m2. Value KGD, HDL-Cholesterol, Blood Pressure and Triglycerides in *Deli Serdang* police station Police in a row by 28 (34.1%),

19 (23.2%), 43 (52.4%), and 41 (50%) in a state of high / not good. Based on the values mentioned above, there were 29 (35.4%) Police in *Deli Serdang* district police had metabolic syndrome. Based on these values then there is a significant relationship between obesity status with the incidence of metabolic syndrome, and police with obesity status has a chance of 3.17 times suffer from metabolic syndrome compared with those not obese.

Suggestion

In order for sports activities in the Police *Deli Serdang* done routinely to increase physical activity, causing weight loss, so it does not undergo general obesity or central obesity, as well as do counseling on dietary adjustments, beginning with the pattern of eating a low-calorie balanced so that the weight loss aligned with nutrient intake and physical activity. Then proceed to the arrangement of food with a balanced diet, to keep the recurrence of weight gain.

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