DESCRIPTION OF TRIGICERIDE LEVELS IN HYPERTENSION PATIENTS IN RSUD Dr. MM DUNDA LIMBOTO

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ABSTRACT

Based on data from the Gorontalo Propinvi Health Office in 2019, Gorontalo District reached 39,694 people. And Gorontalo District ranks the second highest incidence of hypertension from 6 districts/cities in Gorontalo Province. While data from the Gorontalo District Health Office in the last two years from 2018 to 2019, it was noted that the total number of hypertension sufferers has increased quite significantly in 2018, the total number of hypertension cases was 8,834 people and in 2019 the total number of cases of hypertension had increased by 8,960 inhabitants. Report on the incidence of hypertension from RSUD Dr. MM Dunda Limboto, that the incidence of hypertension in 2019 in 6 months (July-December) reached 789 people.Hypertension is a health problem that is often found in society and correlates with other diseases. Many factors cause hypertension, one of which is abnormal triglyceride levels or excessive triglyceride levels,

This type of research is descriptive quantitative. conducted at the MM Dunda Limboto Regional Hospital with a total sample size of 41 with a purposive sampling technique. Using Univariate data analysis techniques, the results are presented in tabular form.

Based on the results of the research conducted, it was found that 31 respondents (75.6%) had triglyceride levels above normal limits (> 150mg/dl) and 10 respondents (24.4%) had normal triglyceride levels (<150mg/dl). The results of this study found that hypertensive patients are thought to have a great chance of having high triglyceride levels, this is in accordance with the results of research that has been done that 31 (75.6%) respondents have high triglyceride levels (>150mg/dl).

Keywords: hypertension, triglycerides, venous blood

INTRODUCTION

Non-Communicable Diseases (PTM) is one of the major public health problems in Indonesia which until now has become a concern in the world of health because it is one of the causes of death. This is indicated by non-communicable diseases which are increasing globally in the world and nationally have occupied the top ten diseases that cause death and most cases, including hypertension [1].

Hypertension is a health problem that is often found in society and correlates with other diseases. Many factors cause hypertension, one of which is abnormal triglyceride levels or hypertriglycerides. Excess triglyceride levels will inhibit lipogenesis. Lipogesis is a factor that causes hypertension from food intake, this is because food has a significant role in increasing blood pressure, especially protein and fat.

Hypertension is a global health problem that can lead to increased morbidity and mortality. Even now, hypertension is one of the main risk

factors for cardiovascular disease. Hypertension is called the silent killer because it rarely causes symptoms and is undiagnosed [7].

Many factors cause hypertension, one of which is the disruption of the lipid profile, the lipid profile consists of triglycerides. Lipid profile can trigger hypertension through various mechanisms, either directly or indirectly [5].

Triglycerides are blood fats that can increase with alcohol consumption and weight gain. Increased triglycerides are a risk factor for coronary heart disease and stroke. High triglyceride levels tend to cause blood pressure disorders [10].

Around the world, it is stated that around 972 million people or 62.4% of the population suffer from hypertension, this figure will increase by 29.2% in 2025. Of the 972 million people with hypertension, 333 million are also in developed countries and the remaining 639 are in developing countries, including the State of Indonesia. [15].

In 2019, it shows that the prevalence of hypertension based on measurement results in people aged over 18 years, found 34.1% cases of hypertension. This result has a significant increase, when compared to 2013 which states that the incidence of hypertension based on the results of blood pressure measurements in Indonesian people aged 18 years and over was 25.8% [11].

The Gorontalo Province Health Office in 2019 in Gorontalo District reached 39,694 people. And Gorontalo District ranks the second highest incidence of hypertension from 6 districts/cities in Gorontalo Province [3].

Meanwhile, from the Gorontalo District Health Office in the last two years from 2018 to 2019, the total number of hypertension sufferers has increased quite significantly in 2018, the total number of hypertension cases is 8,834 people and in 2019 the total number of hypertension cases has increased by 8,960. soul [2].

The high incidence of hypertension is caused by several factors including the lifestyle of people who often consume excessive salt, lack of exercise, smoking, alcohol consumption, and obesity [4].

Lipid profiles or the so-called triglycerides have a close relationship with hypertension. High lipid levels in the blood have an association with atherosclerosis and hypertension. Triglycerides in the blood are closely related to the occurrence of hypertension. The buildup of lipids, especially triglycerides, can trigger the formation of plaque on the artery walls which causes hardening of the arteries. The hardening of the arteries causes the blood to be pumped strongly as it passes through the blood vessels and in turn leads to an increase in blood pressure and hypertension [6].

Report on the incidence of hypertension from RSUD Dr. MM Dunda Limboto, that the incidence of hypertension in 2019 in 6 months (July-December) reached 789 people.

Based on previous research (2019) there were 17 samples (77.2%) with normal triglyceride levels while 5 samples (22.7%) had an increase. High triglyceride levels may be caused by several factors, including age, nutritional status, physical activity, smoking, alcohol consumption and eating fatty foods. Triglycerides are normal because the hypertensive elderly are still in mild hypertension so that there is no accumulation of fat in the blood vessels, and hypertensive elderly people are accompanied by consuming fresh vegetables and fruits.

Therefore, the researcher wanted to conduct a study on the description of triglyceride levels in hypertensive patients at Dr. MM Dunda Limboto

RESEARCH METHODS

This type of research is a descriptive type of research with a quantitative approach which aims to explain the existing phenomena by using numbers to determine the characteristics of an individual or group that is carried out to determine the value of the independent variable, either one or more (independent) variables without making comparisons, or connecting with another variable. (This research design is a descriptive cross-sectional study. Descriptive cross-sectional study Is a study that is carried out in a cross-sectional manner (one specific point in time) in a population or a study on a sample that is part of the population [14].

The place Sampling was done at the hospital. MM Dunda Limboto, Gorontalo District. And where the sample is examined in the hospital laboratory. MM Dunda Limboto. The time of this research was conducted from November 02 to 29 of 2020.

The population in this study were all 789 inpatients with hypertension at the hospital. MM Dunda Limboto. While the sample used in the study was 41 samples. Sampling techniqueusing accidental sampling technique. Accidental sampling is accidental sampling by taking cases or respondents who are found and willing to be investigated [13].

The variable used in the study was a single variable in which the triglyceride levels of hypertension sufferers were hospitalized. A single variable is a description of something that is used as a feature, attitude, measure owned by a research unit regarding a particular research concept.

The tools used in this study were the red cap tube, Dispo, Bio sysmex analyzer A15, Micropipette, Tourniquet, Centrifuge, Cuvet, while the material used in this study was Serum., 70% alcohol cotton, Triglyceride Reagent and Blue Tip.

Data collection techniques using editing techniques, coding techniques and tabulating techniques. Then after the data has been collected, it is necessary to double-check the completeness of the respondent's identity, the completeness of the data and to double-check the various contents of the data. Then the research variable data tabulation was carried out then continued with the data analysis technique. TechniqueData analysis used an SPSS application method with the form of Unvariate and Biraviat analysis which aims to explain or describe a characteristic of each research variable where this analysis depends on the type of data [8].

RESEARCH RESULT

In accordance with the results of research which shows that Most of the hypertensive patients were in the age group ≥ 49 years as many as 26 people (63.4%) and most of the patients were female as many as 26 people (63.4%).

Table 1. Characteristic Distribution of Respondents with Hypertension

Characteristic	N	%
Age		
<49 Years	15	36,6
$\geq$49 Years	26	63.4
Total	41	100,0
Gender		
Male	15	36,6
Female	26	63.4
Total	41	100,0

Source: Primary Data (2020)

Based on table 1 above, it can be seen that most hypertensive patients are in the age group of ≥ 49 years as many as 26 people (63.4%) and most of the patients were female as many as 26 people (63.4%).

Table 2. Distribution of Hypertension respondents

Hypertension	N	%
Hypertensi I	8	19,5
Hypertensi II	13	31,7
Hypertensi III	20	48,8
Total	41	100,0

Source: Primary Data (2020)

Based on Table 2, it can be seen that most of the hypertension levels are in the Hypertension III category as many as 20 people (48.8%) and the least number are in the Hypertension I category as many as 8 people (19.5%).

Table 3. Distribution of Respondent Triglyceride Levels

Kadar Trigliserida	N	%
Normal	10	24,4
Tinggi	31	75,6
Jumlah	41	100,0

Source: Data Primary (2020)

Based on Table 3 above, it can be seen that most of the triglyceride levels were in the high category as many as 31 people (75.6%) and the least were in the normal category as many as 10 people (24.4%).

Table 4. Distribution of Hypertension Classification based on Triglyceride Levels (High) respondents

Hypertension Clasification	Triglyceride Levels (High)	
	N	%
Hypertensi I	3	9,7
Hypertensi II	8	25,8
Hypertensi III	20	64,5
Total	31	100,0

Source: Data Primary (2020)

Based on table 4 above, it can be seen that most of the respondents were in the hypertension category 3 as many as 20 people or (64.5%). And the lowest was in the hypertension category 1, which was 3 people or (9.7%).

DISCUSSION

The results of the research that I got at the time of the study showed that there were more hypertension patients who had high triglyceride levels (31 patients (75.6%) and normal triglyceride levels as many as 10 patients 24.4%).

Many factors cause hypertension, one of which is a disruption in the lipid profile or what is called dyslipidemia. Dyslipidemia is a change in blood lipid profile levels which include an increase in total cholesterol, triglycerides, Low Density Lipoprotein (LDL)-cholsterol and accompanied by a decrease in High Density Lipoprotein (HDL)-cholesterol. Long-standing high cholesterol and triglyceride levels can lead to thickening of the arteries with the risk of narrowing the arteries [9].

High cholesterol and triglyceride levels are a major risk for hypertension and heart disease. Excess cholesterol and triglycerides will react with other substances and settle in the arteries and cause plaque or blockage called atherosclerosis, the narrowing of these blood vessels causes the heart to work harder so it can meet blood needs to all tissues, which can lead to hypertension. [16].

Hypertension is a health problem that is often found in society and correlates with other diseases. Many factors causethe occurrence of hypertension, one of which is abnormal triglyceride levels or hypertriglycerides. Excess triglyceride levels will inhibit lipogenesis. Lipogesis is a factor that causes hypertension from food intake, this is because food has a

significant role in increasing blood pressure, especially protein and fat [1].

This research is in line with previous research. The results of the chi-square statistical test also showed a significant relationship between triglyceride levels and the incidence of hypertension. Triglycerides are a risk factor for hypertension by 2.49%. The similarity can also be seen from the results made by Darmastono, who conducted a bivariate analysis test, which stated that there was a relationship between triglyceride levels and the incidence of both systolic and diastolic hypertension among employees of SMAN 8 Semarang.

These results are in line with previous studies that found that blood triglyceride levels were significantly associated with uncontrolled hypertension in menapouse women in the city of Bogor, the results obtained, 13 respondents (65%) of abnormal triglycerides (65%) Increase in triglyceride levels will cause an increase in blood pressure degrees. someone. This can be explained that excess triglyceride levels will inhibit lipogenesis. Lipogenesis is a factor causing hypertension.

In contrast to the results of previous studies, where the results showed that most respondents with hypertension had normal triglycerides, namely 69 respondents (79.3%). This difference is due to the possibility that this variable does not have a significant relationship with an increase in systolic and diastolic pressure, namely the number of uncontrollable trigger factors such as age, genetics, gender, health conditions, smoking, history of hypertension.

CONCLUSION

Based on the results of research on the examination of triglyceride levels in hypertensive patients, the following results were obtained. Of the 41 samples examined, 31 samples (75.6%) were obtained from the number of samples examined, while the normal results obtained were 10 samples (24.4%).). From the description above, it can be concluded that the triglyceride levels in hypertensive patients have higher triglyceride levels.

REFERENCES

[1] Anggraeny, Rini. 2013. Risk Factors for Physical Activity, Smoking, and Alcohol Consumption on the Incidence of Hypertension in the Elderly in the Work Area of Patingaloang Community Health Center, Makassar City. Makassar Public Health Journal: Hasanudin University.

[2] Gorontalo District Health Office. (2019). Gorontalo Province Health Profile. Gorontalo

[3] Gorontalo Provincial Health Office. (2019). Gorontalo Province Health Profile. Gorontalo

[4] Divine J G. 2012. Exercise Program: High Blood Pressure. Yogyakarta: PT Intan Sejati.

[5] Ferri, FF 2017. Ferri's Clinical Advisor 2017: 5 Books in 1. Philadelphia: Elsevier, Inc.

[6] Hartini, E. 2010. Relationship between Plumbum Levels in Blood and Blood Profiles in Women of Fertile Age in Brebes, 2010. Page 116.

[7] Ministry of Health of the Republic of Indonesia, 2016, Hypertension The Silent Killer, Center for Data and Information, 1-8

[8] Notoadmodjo, S. Prof. Dr (2015), Health Research Methodology. Publisher PT Rineka Cipta, Jakarta.

[9] Price SA. 2019. The Effect of Exposure to Electromagnetic Waves on Total Cholesterol Levels and Serum Trigloserides. Journal. Lampung University.

[10] Puspiitaningsih roses. 2011. Description of triglyceride levels in

the elderly. Scientific papers. Muhammadiyah University Semarang.

[11] Riskesdas. 2019. National Riskesdas 2019 Report. Ministry of Health of the Republic of Indonesia. Health Research and Development Agency.

[12] Sugiyono, 2012. "Qualitative and Quantitative Research Methods R & D". Alfabeta. Bandung

[13] Sugiyono. 2014. Educational Research Methods with Quantitative Approaches, Qualitative, and R & D. Alfabeta. Bandung

[14] Swarjana IK. 2012. Health Research Methodology. Yogyakarta: CV Andi Offset

[15] WHO, 2013. Non Communicable Disease. Jakarta: medika

[16] Yulianti Bahari T. 2019. Dyslipidemia as a Risk Factor for Coronary Heart Disease. Journal. University of Northern Sumatra.