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Diet Patterns in Hypercholesterolemia Patients in Lemito District

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ABSTRACT

Hypercholesterolemia is one of the lipid metabolism disorders that contributes to the risk of cardiovascular disease, the leading cause of death in the world. This study aims to describe the dietary patterns of hypercholesterolemia patients in Lemito District. The research method uses an analytical observational approach with a descriptive analytical design. The study population was hypercholesterolemia patients registered at the Wonggasari I Health Center and Lemito Health Center in 2024, with a total of 52 respondents selected using the total sampling method. The results showed that the majority of respondents (53.8%) had poor dietary patterns, characterized by high consumption of saturated fat, processed foods, and sugar, and low fiber intake. Meanwhile, 46.2% of respondents showed a good diet. Social, economic, and cultural factors are challenges in implementing a healthy diet. This study suggests the need for ongoing education about healthy diets through community-based programs to increase public awareness of the importance of consuming nutritious foods. This intervention is expected to help reduce the prevalence of hypercholesterolemia and the risk of cardiovascular complications in the area.

1. INTRODUCTION

Hypercholesterolemia is a lipid metabolism disorder characterized by blood cholesterol levels that exceed the normal threshold, which is ≥ 200 mg/dL (NCEP, 2002). This condition is one of the main risk factors for cardiovascular disease, which is the leading cause of death in the world. The World Health Organization (WHO) reports that more than 17 million deaths per year are caused by cardiovascular disease, and about a third of them are related to high blood cholesterol levels (WHO, 2021). In Indonesia, the prevalence of hypercholesterolemia is quite high. The 2018 Basic Health Research (Riskesdas) data shows that around 28% of the adult population has high total cholesterol levels. This problem is influenced by various factors, including an unhealthy diet, lack of physical activity, obesity, and genetic factors (Ministry of Health of the Republic of Indonesia, 2019). In Lemito District, the increasing trend of hypercholesterolemia cases has also begun to be seen in recent years based on internal health center reports.

Diet plays a central role in the management and prevention of hypercholesterolemia. Consumption of foods high in saturated fat and low in fiber can increase levels of low-density lipoprotein (LDL) cholesterol, known as "bad cholesterol." Conversely, a healthy diet involving the consumption of foods high in fiber, healthy fats, and low in sugar can help lower total cholesterol levels in the blood (Mahan & Escott-Stump, 2016). Although the importance of a healthy diet has been widely discussed, its implementation in everyday life often faces various obstacles. Social, economic, and cultural factors and lack of public knowledge are the main challenges. Research conducted by Notoatmodjo (2020) shows that many Indonesians have a low understanding of the relationship between diet and health, including the risk of hypercholesterolemia. At the global level, research on the diet of patients with hypercholesterolemia has provided significant insights. A study by Hu et al. (2020) in China showed that diet-based interventions, such as increasing vegetable and fruit consumption, were able to lower cholesterol levels by up to 15%. This condition is greatly influenced by local habits and population characteristics.

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Previous research in Indonesia, such as that conducted by Susilowati et al. (2021), shows that traditional diets that are low in fiber and high in fat are one of the main causes of high rates of hypercholesterolemia in rural areas. In addition, changes in modern lifestyles that are starting to enter rural areas also affect people's eating patterns. Consumption of fast food and sweet drinks is increasing, especially among those of productive age. This shows that the phenomenon of hypercholesterolemia is not only an individual problem but also a problem for society at large (Kumar et al., 2019). Hypercholesterolemia Data Prevalence The last three years World Data 38% National In Indonesia reached 28%, Gorontalo 60% Boalemo Regency Data 34% Bone Bolango Regency 24%, North Gorontalo Regency 43%, Pohuwato Regency 45% Work area of UPTD Lemito District Health Center 42%, Wonggarasi Health Center 1.27%, Motolohu Health Center 24%, Marisa Health Center 52%, Paguat Health Center 31%, Popayato Health Center 52%, Pancakarsa II Health Center 41%, Wanggarasi Health Center 26%. The latest three-year data from Wonggarasi 1 Health Center 2024 as many as 52 Patients, 2023 as many as 63 Patients 2022 as many as 75 Patients. Survey Results in Two Working Areas of the Wonggarasi 1 Health Center and the Lemito Health Center Each = 5 Patients, among whom were LDL Figures = 240mg/dL, 290mg/dL, 300mg/dL, 400mg/Dl with this The community has unique characteristics, both in terms of culture and food consumption patterns. Most people in this area still rely on seafood as their main source of protein. However, the use of coconut oil in food processing can increase saturated fat intake, which contributes to high cholesterol levels (Local Research, 2022).

In addition, access to healthy foods such as vegetables and fruits in this area may still be limited. This is due to geographical factors and the lack of public awareness to make these foods a part of their daily menu. Based on the health center survey report, the majority of people tend to consume processed foods that are high in salt and fat (Lemito Health Center Annual Report, 2023). The results of the initial survey at the Wonggasari I Health Center and the Lemito Health Center in July 2024, observation data from 5 patients each showed that respondents with a diet that consumed a lot of fatty foods and had high cholesterol levels. Data from the Wonggasari I Health Center and the Lemito Health Center for inpatients and outpatients for the last 3 years, namely for 2024 as many as 52 patients, 2023 as many as 63 patients and the 2022 period as many as 75 patients.

2. METHOD

This study was conducted in Lemito District from 13 to 30 December 2024. The method used was observational analytic with a cross-sectional approach, where data was collected simultaneously at one time to analyze the relationship between diet and the incidence of hypercholesterolemia. The population in this study were patients diagnosed with hypercholesterolemia at the Wonggasari I Health Center and the Lemito Health Center in 2024, with a total of 52 respondents. Sampling was carried out using the total sampling method. Primary data were collected through interviews using the Food Frequency Questionnaire (FFQ), while secondary data were obtained from patient medical records. Data analysis was carried out using SPSS software version 22.0, involving univariate analysis to describe the distribution of variables and bivariate analysis to identify relationships between variables. All stages of this study were carried out by the principles of research ethics, including informed consent, anonymity, and confidentiality of respondent data.

3. RESULTS AND DISCUSSION

Table 1 Frequency Distribution of Respondent Characteristics Based on Age in the Lemito Health Center Work Area.

Age	Frequency (n)	Persentase (%)
Adults (19-59 years)	21	40.4
Seniors (60 years and above)	31	59.6

Total	52	100,0

Source: Primary Data 2024

Based on table 1, it is found that the age of the respondents is mostly between 60 years old (elderly) totaling 31 respondents (59.6%). The age classification above is categorized according to the Indonesian Ministry of Health (2008).

Table 2 Frequency Distribution of Respondent Characteristics Based on Gender in the Lemito Health Center Work Area.

Gender	Frequency (n)	Persentase (%)
Male	21	40.4
Female	31	59.6
Total	52	100,0

Source: Primary Data 2024

Based on table 2, it is found that the gender of the respondents is mostly female, totaling 31 respondents (59.6%).

Table 3 Frequency Distribution of Respondent Characteristics Based on Education in the Lemito Health Center Work Area.

Pendidikan	Frequency (n)	Persentase (%)
Elementary School	21	40.4
Junior High School	11	21.2
Senior High School	11	21.2
SPK	4	7.7
D3	4	7.7
S1	1	1.9
Total	52	100,0

Source: Primary Data 2024

Based on table 3, it is found that the majority of respondents' education is elementary school, amounting to 21 respondents (40.4%) and the least is S1, amounting to 1 (1.9%).

Table 4 Frequency Distribution of Respondent Characteristics Based on Place of Residence in Lemito District.

Residence	Frequency (n)	Persentase (%)
Desa Lemito	20	38.5
Desa Lemito Utara	2	3.8
Desa Suka Damai	7	13.5
Desa Wonggrasi Barat	8	15.4
Desa Wonggarasi Tengah	15	28.8
Total	52	100,0

Source: Primary Data 2024

Based on table 4, it is found that the majority of respondents live in Lemito Village, totaling 20 respondents (38.5%) and the fewest in North Lemito Village, totaling 2 (3.8%).

Table 5 Description of Dietary Patterns in Hypercholesterolemia Patients in Lemito District.

Diet	Frequency (n)	Persentase (%)
Good Diet	24	46.2

Diet	Frequency (n)	Persentase (%)
Poor Diet	28	53.8
Total	52	100,0

Source: Primary Data 2024

The results of the study showed that of the total 52 respondents, the majority had poor eating patterns, namely 28 respondents (53.8%), while respondents with good eating patterns only numbered 24 people (46.2%).

4. DISCUSSION

Description of Good Diet Patterns in Hypercholesterolemia Patients in Lemito District.

Based on Table 5 regarding the description of diet patterns in hypercholesterolemia patients, the number of respondents who have a good diet is only 24 people (46.2%). This figure shows that almost half of the respondent population has implemented a healthy diet, although the number is still smaller than respondents who have a poor diet. A healthy diet involves consuming a balanced diet, which includes complex carbohydrates, low-fat protein, healthy fats such as those found in olive oil, nuts, and fish, as well as sufficient fiber intake from vegetables, fruits, and grains. These healthy foods can help lower total cholesterol levels, increase HDL cholesterol levels (good cholesterol), and reduce LDL cholesterol and triglyceride levels in the blood.

A study by Sari et al. (2019) states that a healthy diet can help reduce the risk of metabolic diseases, including hypercholesterolemia, by maintaining the balance of lipid levels in the body. According to the study, a balanced diet that includes foods rich in fiber, healthy fats, and low in saturated fat is essential for controlling cholesterol levels and preventing cardiovascular disease. Therefore, although some respondents have implemented a healthy diet, further efforts are needed to increase public awareness and understanding of the importance of consuming healthy foods to reduce the prevalence of hypercholesterolemia in this area.

Description of Poor Dietary Patterns in Hypercholesterolemia Patients in Lemito District.

The majority of respondents in this study had poor dietary patterns, namely 28 respondents (53.8%), as shown in Table 4.5. Poor dietary patterns are often associated with high consumption of foods containing saturated fat, sugar, and processed ingredients, which are known to increase blood cholesterol levels. This high number indicates that more than half of hypercholesterolemia patients in the work area of the UPTD Puskesmas Lemito District still do not understand the importance of a healthy diet and its impact on health, especially on controlling cholesterol levels.

This finding is in line with the research of Pratama et al. (2020), which states that a diet high in saturated fat contributes significantly to an increased risk of hypercholesterolemia. Poor diet is also often caused by a lack of fiber consumption from vegetables and fruits, which can actually help reduce LDL cholesterol levels. In addition, irregular eating habits, such as frequent consumption of fast food or foods with low nutritional content, worsen the condition of lipid metabolism in the body, thereby increasing the risk of metabolic diseases.

Researchers assume that the lack of nutrition education and limited access to healthy food are the main factors in poor diet in most respondents. Socioeconomic and cultural factors can also influence people's eating habits, where cheaper but less nutritious foods tend to be more easily accessible. Therefore, targeted interventions are needed in the form of education about the importance of a healthy diet, promotion of nutritious food consumption, and increasing public awareness through a community-based approach. Programs like this are expected to help people adopt a healthier diet and reduce the prevalence of hypercholesterolemia in this region.

A study by Pratama et al. (2020) revealed that consumption of foods high in saturated fat can affect lipid metabolism, thereby increasing the risk of hypercholesterolemia. Saturated fats, found in processed foods, fatty meats, and full-fat dairy products, are known to increase total

cholesterol and LDL cholesterol (bad cholesterol) levels in the blood. In addition, a lack of fiber consumption from vegetables and fruits also contributes to cholesterol imbalances, because soluble fiber is known to help lower LDL cholesterol levels in the body by binding cholesterol in the digestive tract and eliminating it through feces.

5. CONCLUSION

The results of the study indicate that the Description of Dietary Patterns in Hypercholesterolemia Patients in Lemito District from a total of 52 respondents, the majority have poor dietary patterns, namely 28 respondents (53.8%), while respondents with good dietary patterns only numbered 24 people (46.2%).

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