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Relationship Between Knowledge About Dyslipidemia And Fat Consumption Levels In Early Adults

Abellinda Putri Pribadi*, Intan Nabilah, Marshella Disty Yustiani, Shafa Auliya, Asti Dewi Rahayu Fitrianingsih

Universitas Pendidikan Indonesia, Indonesia

*Correspondence: E-mail: aabelpp@upi.edu

A B S T R A C T

Background: Dyslipidemia is a condition of impaired blood lipids and lipoproteins. A high-fat diet and underactivity can increase the risk of dyslipidemia

Research Methods: This type of research is descriptive with a cross-sectional design conducted in several areas of Bandung City. The sample was taken by accidental sampling as many as 30 respondents of the people of Bandung City who were in early adulthood. Data analysis using the Chi-Square correlation test.

Research Result: there is no significant relationship between knowledge related to dyslipidemia and the frequency of consumption of fatty foods (p=0.460) in early adult communities in Bandung City.

Conclusion: Most respondents had a good understanding of dyslipidemia. Respondents with lesser knowledge tend to have an irregular diet and consume foods high in saturated fat.

A R T I C L E I N F O

1. INTRODUCTION

Dyslipidemia is a condition that refers to the dysfunction or abnormal composition of blood lipids and lipoproteins, caused by various factors. This condition, either independently or in combination with other risk factors, can lead to the development of atherosclerosis (Ashcheulova, T. V, Gerasimchuk, N. N, Demydenko, G. V, Kompaniiets, K. N, & Kochubiei, O. A, 2017). Significant contributions to the occurrence of dyslipidemia can be found in the habit of consuming high-fat foods. Certain health behaviors are known to impact and increase lipid levels in the body (Siregar, S. R. M & Boy, E, 2022). The sedentary lifestyle of individuals who engage in not much physical activity, such as sitting, reading, watching television, studying, playing games, and using computers, can contribute to various diseases, including dyslipidemia (Wahyuni, S., 2015).

World Health Organization (WHO) statistics from 2008 show that the prevalence of dyslipidemia in Southeast Asia is 30.3%, characterized by a total cholesterol level >190 mg/dL in adults aged ≥25 years. In the same reference, data on dyslipidemia prevalence in Indonesia, based on the findings of total cholesterol levels ≥160 mg/dL in adults aged ≥25 years, is about 36% (33.1% in men and 38.2% in women) (Lin, C. F, Chang, Y. H, Chien, S. C, Lin, Y. H, & Yeh, H. Y, 2018). Meanwhile, 2018, Riskesdas data shows that 28.8% of Indonesians aged ≥15 have total cholesterol levels ≥200 mg/dL, and 27.9% have triglyceride (TG) levels ≥150 mg/dL. Compared to data from 2013, there has been an increase in the prevalence of dyslipidemia in the Indonesian population (Kementerian Kesehatan Republik Indonesia, 2023). Bandung, as one of the major cities in Indonesia, is not exempt from various health issues, including dyslipidemia (Dinas Kesehatan Kota Bandung, 2015).

Dyslipidemia is considered to be an important risk factor for a variety of non-communicable chronic diseases. This aligns with previous research findings, indicating that dyslipidemia contributes to coronary heart disease by 85.6%, acute coronary syndrome by 82.3%, acute myocardial infarction by 78.8%, and stroke by 62.4% (Mitha, 2022). Strong knowledge about dyslipidemia can be a significant first step in prevention and management efforts. Hence, it is crucial to gain a deeper understanding of the public's understanding of dyslipidemia and the impact of dietary patterns on dyslipidemia (Purwantiningrum, D. A, Cahayani, W. A, Rahayu, I. D, Ratnaningrum, S. D, & Wijayanto, F. H, 2021)

This study not only provides insights into the extent to which the Bandung community knows about dyslipidemia, but also explores how this knowledge is reflected in their dietary patterns. Hence, this article is expected to make a significant contribution to the prevention and management of dyslipidemia in the community

2. METHODS

2.1. Participant and Study Design

This type of research is descriptive research with a cross-sectional design. The study was conducted in several areas of Bandung City in 2023, namely Gasibu Stadium, Ujung Berung Square, and Ledeng Health Center Work Area. This study aims to determine the risk factors for dyslipidemia in early adulthood in Bandung City. The population in this study was all people in Bandung City. The sample taken in this study was the people of Bandung City who were in early adulthood as many as 30 respondents. Sampling in this study was carried out by accidental sampling, which is a sampling technique based on anyone who happens to meet the researcher and is suitable for use as a data source.

2.2. Measurements and Procedures

All data used in this study are original data. Data collection was carried out by means of interviews using informed consent, SQ-FFQ questionnaires, and knowledge questionnaires, as well as anthropometric measurements in the form of body weight using digital scales and height using a stadiometer. The knowledge questionnaire consisted of 10 questions about dyslipidemia that had been tested for validity first.

2.3. Statistical Analysis

The data collected was processed using IBM SPSS Statistic 21. The independent variable in this study was knowledge and the dependent variable was fat consumption. Both variables were analyzed using descriptive tests. Then, a normality test was conducted using the Kolmogorov-Smirnov test. The test results will show whether the p-value <0.05 (abnormal) or p-value >0.05 (normal). The correlation test was conducted using the Chi-Square correlation test. The correlation between two variables will be said to have a significant correlation if the p-value ≤0.05.

3. RESULTS AND DISCUSSION

The research, several characteristics of the respondents were selected, including age, gender, highest level of education, and occupation, as presented in the following Table.

Table 1. Respondent's Characteristic

Characteristics	f	%
Age		
20-30	24	80
31-40	6	20
Gender		
Man	12	40
Woman	18	60
Last Education		
Elementary School	1	3.3
Senior High School	20	66.7
D3	1	3.3
Bachelor degree (S1)	7	23.3
Bachelor degree (S2)	1	3.3
Job		
Employee	3	10
Enterpreneur	6	20
College student	13	43.3
Athlete	1	3.3
Notary Public	1	3.3
Housewife	3	10
Freelance	3	10

The total number of respondents who met the inclusion criteria in this study was 30 respondents. There were 12 (40%) male respondents and 18 (60%) female respondents. The age of the respondents is the young adult age group, namely in the range 20 – 40 years. Most of the respondents had a high school education, namely 20 respondents (66.7%) and came from university students. Respondents' job types varied from freelance, self-employed, clerk/employee, notary, athlete, to housewife

Table 2. Respondent's Nutritional Status

BMI	f	%
Underweight (<18,5 kg/m2)	4	13.1
Normal (18,5 - 22,9 kg/m2)	8	26.7
Overweight (23 - 24,9 kg/m2	3	10
Obesity I (25-29,9 kg/m2)	11	36.7
Obesity II (>30 kg/m2)	4	13.3

The nutritional status of the respondents was measured based on Body Mass Index (BMI) which is calculated by means of body weight in kilograms divided by height squared in centimeters. The results of the calculation were classified using WHO criteria and the results showed that the highest number was in the category of Obesity I with 11 respondents (36.7%). Other categories include underweight with 4 respondents, normal nutritional status with 8 respondents, overweight with 3 respondents, and Obesity II with 4 respondents.

Table 3. Knowledge Level

Knowledge	f	%
Good	22	73.3
Poor	8	26.7

Based on table 3, it is known that the majority of respondents have a good level of knowledge related to dyslipidemia knowledge, as many as 22 respondents (73.3%).

Table 4. Fatty Food Consumption

Fatty Food Consumption	f	%
Frequenly (3-7 times a week)	5	16.7
Rarely (1-2 times a week)	25	83.3

Based on the results of the study, most respondents rarely eat fatty foods. A total of 25 respondents were included in the rare category with a percentage of 83.3% and 5 other respondents were included in the frequent category with a percentage of 16.7%.

Table 5. Correlation between Knowledge and Fatty Food Consumption

Knowledge	Fat Food Consumption		Total	P-Value
	Frequently	Rarely		
Good	3	19	22	0,460
Poor	2	6	8	

Based on the table above, it is known that there is no significant relationship between knowledge related to dyslipidemia and the frequency of consumption of fatty foods (p=0.460) in early adult communities in Bandung City.

Dyslipidemia is a condition characterized by abnormalities in lipid (fat) metabolism, marked by an increase in total cholesterol (≥200 mg/dl), LDL cholesterol (≥130 mg/dl), triglycerides (TG) (≥150 mg/dl), or a decrease in High-Density Lipoprotein (HDL) cholesterol (<35 mg/dl) (1,2).12 The prevalence of dyslipidemia in Indonesia in the age range of 25-34 years is reported to be 9.3%, and it continues to increase with age, reaching 15.5% in the 55-64 age group. Women tend to have a higher rate of dyslipidemia, specifically 14.5% compared to men at 8.6%. Dyslipidemia is more prevalent in women (14.5%) than in men (8.6%). Data from Indonesia, taken from the 2013 National Basic Health Research (RISKESDAS), show that 35.9% of the population aged ≥15 years have abnormal cholesterol levels.

The condition of dyslipidemia can be caused by several factors such as overweight or obesity, excessive consumption of fatty foods, excessive alcohol intake, and irregular eating patterns. Being overweight can increase triglycerides and decrease HDL levels in the body (Isfandi, 2020). Based on previous research, respondents declared obese based on BMI have a 3.98 times greater risk of suffering from dyslipidemia compared to respondents with normal BMI or nutritional status (Rahmawati, N. D & Dewi S. R. A, 2020). Nutritional status is a condition resulting from the balance between nutrient intake from food, and the nutritional needs required for the body's metabolism. According to the research results in Table 2, 18 respondents have overweight to severe obesity nutritional status. Respondents with higher nutritional status can increase the incidence of dyslipidemia because higher nutritional status leads to the distribution of body fat, especially around the abdomen (central obesity), which may be associated with an increased risk of dyslipidemia (Jayani, I & Fadilah, C, 2017).

Apart from nutritional status, a person's knowledge about disease is also a crucial aspect in achieving optimal health. According to previous research, adequate knowledge can be influenced by various factors, both internal and external to the individual (Utami, Y. M, Rosdiana, D, & Ernalia, Y, 2014). Internal factors include aspects of education, motivation, and perception. On the other hand, external factors include receiving information from various mass media such as television, radio, newspapers, magazines, the internet, and so on. Even though someone has a good level of knowledge, that does not necessarily mean they have a similar perspective to an individual who has a lower level of knowledge. Various factors, including environment, economic conditions, lifestyle, and beliefs, can act as elements that influence a person's level of knowledge (Mitha, 2022).

Based on the conducted research, it is known that the majority of respondents have a good level of understanding about health issues related to dyslipidemia. However, alongside this, there are also respondents with a less favorable level of knowledge. This can be influenced by several factors such as beliefs, convictions, culture, traditions, and so on. According to existing books, the results show that housewife or people with busy work schedules are vulnerable to dyslipidemia due to tendencies to neglect dietary patterns and lack of physical activity (Riyadina, 2019). Previous research has also found that people with a lower level of knowledge about dyslipidemia are those who do not maintain regular eating patterns and consume foods with high levels of saturated fats. If this condition persists without changes, it can pose difficulties for the body to clear excess metabolic fuel, which can trigger the onset of dyslipidemia and other health risks (Rahmawati, D, Rezal, F, & Erawan, P. E, 2017). To improve knowledge, respondents can take various steps, such as consulting with individuals who have better knowledge. What's more, personal experiences can also serve as valuable sources of knowledge as a guide to further understand a particular condition or disease (Budiman, R. A, 2013).

A person's food behavior and attitude will influence their food choices, including fatty food consumption. Although the results showed that almost respondents had adequate knowledge and low fat consumption, a strong correlation could not be found between that. This finding is supported by previous research which asserts that although respondents have good knowledge, they do not necessarily apply healthy eating behavior (Kabir, A, Miah, S, & Islam, A, 2018). A variety of factors, including dietary habits, can have an impact. Hence, even though respondents have good knowledge related to fat intake, they may continue to consume fatty foods. So, that it can cause no relation between dyslipidemia knowledge and fatty food intake. The results of this study are in line with a previous research too which states there is no relationship between the level of knowledge and the

level of fat consumption (Sa'adah, W. L, Cahyaningrum, A, Sulendri, N. S, & Luthfiyah, F, 2019).

As we mentioned earlier, one of the factors that play an important role in the incidence of dyslipidemia is the habit of eating foods that contain high fat. The results of the SQ-FFQ analysis showed that the majority of respondents fell into the category of rarely consuming fatty foods. These results are in line with the statement in a previous research that Indonesian people's fat consumption is still below the minimum requirement of less than 20% (Rahma & Wirjatmadi, R. B, 2017). Even so, the level of consumption that rarely shows one of the behaviors that can prevent dyslipidemia. This is because saturated fat intake, which comes from animal food products, if consumed in excess will increase blood levels of LDL cholesterol and HDL cholesterol. Meanwhile, the intake of unsaturated fatty acids, which mostly come from plants and nuts, can reduce blood LDL and HDL cholesterol levels (Djuwita, 2013)

The prevalence of subnormal cholesterol levels among the Indonesian population aged 15 years and above is 69.6%. Elevated blood cholesterol can affect young people. Starting at age 20, cholesterol levels increased in both men and women, but female respondents tended to have higher cholesterol levels than male respondents. High blood cholesterol is associated with an increased risk of cardiovascular disease, especially dyslipidemia. This can be caused by a variety of risk factors, such as lack of physical activity, an unhealthy diet (such as fast food, which is often high in fat, cholesterol, and low in fiber), smoking, excessive alcohol consumption, stress and high blood pressure (Yuningrum, Rahmuniyati, M. E, & Lende, T. D. P, 2022).

4. CONCLUSION

Dyslipidemia is a condition involving disruptions in lipid metabolism characterized by elevated levels of total cholesterol, LDL cholesterol, triglycerides, and reduced HDL cholesterol. The prevalence of dyslipidemia tends to increase with age, with women experiencing higher rates than men. Overweight, unhealthy eating habits, lack of physical activity, and poor nutritional status, particularly obesity, are major factors contributing to dyslipidemia. Individual knowledge levels also play a crucial role, with good knowledge associated with a healthy lifestyle. Research shows variation in respondents' knowledge, with the majority having a good knowledge, but some exhibiting inadequate knowledge levels. Factors such as beliefs, convictions, and cultural influences also affect community knowledge about dyslipidemia. Nutritional aspects, especially fat consumption, are key factors in dyslipidemia prevention, although the majority of respondents demonstrate infrequent fat consumption.

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