

THE RELATIONSHIP OF FAT INTAKE AND NUTRITIONAL STATUS IN ADOLESCENT WOMEN OF THE ISLAMIC BOARDING SCHOOL, TUBAN DISTRICT

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ABSTRACT

Teenagers are one of the groups that easily experience nutritional problems such as malnutrition and overnutrition. Nutritional status is a description of the body's condition as a result of the use of nutrients from the food consumed daily. This research aims to determine the relationship between fat intake and nutritional status in adolescents. Analytical research method with a cross-sectional time approach. The population of this study consisted of 402 respondents with a sample of 200 teenagers, determined using a cluster random sampling technique. The Independent variable is a fat-intake and a dependent variable is nutritional status. The research analysis uses Spearman's correlation statistical test. The results of the study showed that the majority of adolescent girls' fat intake was higher. Based on the results of statistical tests using the Spearman correlation test for fat intake, a value of $p = 0.000$ was obtained so that $p < 0.05$, there is a significant relationship between fat intake and nutritional status, the Correlation Coefficient value is in the weak category at 0.312. The conclusion from this study is that there is a significant relationship between fat intake and nutritional status.

Keywords: Nutritional Status; Fat Intake; Adolescents.

1. INTRODUCTION

A person's health level is influenced by several factors, including freedom from disease or disability, good socio-economic conditions, good environmental conditions, and good nutritional status. People who have good nutritional status are not susceptible to disease, both infectious and degenerative diseases. Nutritional

status is an important factor in achieving optimal health. However, in our society, we still encounter various sufferers of diseases related to malnutrition (Ministry of Health, 2017).

Nutritional problems are a health problem that can occur at all ages, one of which is teenagers. Adolescents are one group that easily experiences nutritional problems such

as malnutrition and overnutrition (Cunningham et al., 2015). The impact of nutritional problems depends on the nutritional status experienced, adolescents with poor nutritional status may be at risk of suffering from infectious diseases, while adolescents with over-nutrition status and obesity will be at risk of experiencing various degenerative diseases (Charina et al., 2022).

Data from the Ministry of Health of the Republic of Indonesia in 2019 shows that the prevalence of adolescent girls aged 13-15 years suffering from malnutrition is 11.1%, and that aged 16-18 years is 9.4% (Direktorat jenderal bina gizi dan KIA Kementrian Kesehatan RI, 2010). The prevalence of underweight nutritional status in East Java in 2018 among adolescent girls aged 16-18 years was 3.86%, while the prevalence of overweight was 12.25% and obesity among adolescent girls aged 16-18 years was 5.65 % (Kemenkes RI, 2018). Specifically in Tuban Regency, the prevalence of nutritional status of adolescents aged 16-18 years with thin nutritional status is 6.50%, adolescents with obese nutritional status is 13.62% and adolescents with obese nutritional status is 5.34% (Kemenkes RI, 2018).

Adolescence is marked by many changes in the body, such as changes in muscle mass, changes in hormones, and fat tissue so the nutritional intake

needed by teenagers changes according to the growth that teenagers experience. Adolescents' nutritional needs, such as energy intake, greatly influence body growth, if energy intake is not met it can cause the entire functioning of adolescents to be disrupted (Istiany and Ruslianti, 2013).

An individual's nutritional status shows how much a person's physiological needs have been met. A balance between incoming intake such as macronutrients and the energy needed for optimal health is important. When a person's nutritional needs are sufficient to support the body's daily needs and any increase in metabolic needs, then a person will achieve optimal nutritional status (Rachmayani et al., 2018). This is in line with research conducted by Putri et al., (2022) which states that there is a relationship between macronutrient intake and the nutritional status of adolescents. If young women's energy intake meets their needs, their nutritional status will tend to be good. On the other hand, if energy intake is more than requirements, nutritional status will tend to be lower.

Malnutrition and excess nutrition are related to frequent consumption of processed foods with nutritional value that does not match needs. Unbalanced energy intake can cause overweight and underweight.

This causes a person to suffer from undernutrition and overnutrition (Hardiansyah & Supariasa, 2016). So the nutritional intake consumed by teenagers must be by the nutritional needs of each individual. In this study, the author wanted to examine the nutritional status of young women at Islamic boarding schools in Tuban Regency. Tuban Regency is one of the cities with Islamic boarding schools which are spread across various sub-districts in Tuban Regency commonly called Santri cities (Tuban Regency Islamic Boarding School Profile, 2022).

Adolescent girls in Islamic boarding schools are very vulnerable to nutritional status problems such as malnutrition, overnutrition, and obesity. This is in line with the results of research conducted in Islamic boarding schools by (Khairani et al., 2021) that young women who live in Islamic boarding schools easily suffer from nutritional status. undernutrition, overnutrition, and obesity. Researchers will conduct research at the Tuban Regency Islamic boarding school which is located in Senori District with the largest number of boarding schools in Tuban Regency. The limited food available is one of the reasons why female students' nutritional needs are not met, plus the lack of sleep duration and busy activities of female students will drain them. energy, if the

nutritional requirements that need to be absorbed do not match the needs, it will affect the nutritional status of female students (Rokhmah et al., 2017).

Based on the background explained by the author, the author is interested in researching the relationship between fat intake and nutritional status in young women at Islamic boarding schools in Tuban Regency.

2. METHOD AND ANALYSIS

This type of research is included in analytical research because no treatment can be given to respondents. Researchers only collect data and observe the respondents who will be studied.

The research design that will be used in this research is cross-sectional. Cross-sectional was chosen as the design for this research because it aims at time efficiency and to look at factors related to a health problem at the same time.

The population in this study was located in Tuban Regency, but by selecting 1 population unit with the most Islamic boarding schools in Tuban Regency, namely in Senori District with a total of 20 Islamic boarding schools which were then taken using a proportion of 30%, we obtained 6 Islamic boarding schools, namely Poespita Islamic Boarding School,

Islamic Boarding School. Al-Hasaniyah, Ribat Al-Hadijah Islamic Boarding School, Al-Usman Islamic Boarding School, Mansyaul Huda 2 Islamic Boarding School, and Al-Husna Islamic Boarding School. Based on secondary data and based on consideration of inclusion and exclusion criteria obtained from 6 Islamic boarding school offices, the number of female students used as the population is 406 female students.

The samples in this study were female students who live at Poespita Islamic Boarding School, Al-Hasaniyah Islamic Boarding School, Ribat Al-Hadijah Islamic Boarding School, Al-Usman Islamic Boarding School, Mansyaul Huda 2 Islamic Boarding School and Al-Husna Islamic Boarding School who have met the inclusion criteria and free from exclusion criteria.

3. RESULT AND DISCUSSION

Results

Data collection carried out by researchers was obtained from information from 200 female students at the Al-Hasaniyah, Ribath Al Hadijah, Poespita, Al Usman, Mansyaul Huda, and AL Husna Islamic boarding schools who were willing to be respondents. Data is grouped by researchers into general data and special data which are described as follows:

Table 1. Frequency Distribution of Fat Intake in Female Islamic Boarding School Adolescents

No	Fat Intake	<i>f</i>	Percentage
1.	Severe Deficit	2	1%
2.	Moderate Deficit	29	14%
3.	Normal	65	33%
4.	More	104	52%
Total		200	100%

Based on Table 1, it is known that of the 200 respondents, most of their fat intake was in the more category, namely 104 respondents with a percentage of 52%. Assessment of fat intake using a 24-hour recall form.

Table 2. Frequency Distribution of Nutritional Status in Female Islamic Boarding School Adolescents.

No	Fat	<i>f</i>	Percentage
1.	Underweight	57	28%
2.	Normal	86	43%
3.	Overweight	47	24%
4.	Obesitas	10	5%
Jumlah		200	100%

Based on Table 2, it is known that of the 200 respondents, almost half of them had nutritional status in the normal category, namely 86 respondents with a percentage of 43%. Nutritional status was measured using a microtome to measure body height and a digital step scale to measure the respondent's weight.

Table 3. Relationship between fat intake and nutritional status

No	Fat	Nutritional status				Total
		Under weight	Normal	Over weight	Obesity	
1.	Heavy deficit	1 0,5%	1 0,5%	0 0,0%	0 0,0%	2 1,0%
2.	Moderate deficit	7 3,5%	20 10,0%	1 0,5%	1 0,5%	29 14,5%
3.	Normal	23 11,5%	39 19,5%	3 1,5%	0 0,0%	65 32,5%
4.	More	26 13,0%	26 13,0%	43 21,5%	9 4,5%	104 52,0%
Total		57 28,5%	86 43,0%	47 23,5%	10 5,0%	200 100,0%

Based on Table 3, it can be seen that more teenagers with more fat intake have overweight nutritional status (21.5%), while teenagers with moderate deficit fat intake (10%) and normal (19.5%) have more normal nutritional status. and only 0.5% of adolescents with a severe deficit in fat intake have underweight and normal nutritional status.

Based on the results of statistical tests using the Spearman correlation test for fat intake, a value of $p = 0.000$ was obtained so that $p < 0.05$, there is a significant relationship between fat intake and nutritional status, the Correlation Coefficient value is in the weak category at 0.312.

Discussion

Identification of Fat Intake in Adolescent Girls at Islamic Boarding Schools

The results of research conducted by researchers show that the fat intake of young women in 6 Islamic boarding

schools is based on table 5.4, namely that the majority of fat intake in the higher category is the largest percentage 104 (52%) this is because respondents often consume foods that are sources of high fat, namely foods that they consume from the Islamic boarding school canteen such as snacks, meatballs, chicken noodles and so on. Most half of the fat intake in the normal category is 65 (33%) this is because the fat intake consumed by respondents is by their needs. Meanwhile, a small percentage of fat intake in the moderate deficit category amounted to 29 respondents with a percentage of 14% and the heavy deficit category amounted to 2 respondents with a percentage of 1%. This was due to some respondents only consuming half a portion of their food and also some skipping the main meal.

Young women in Islamic boarding schools get fat from various sources including vegetable oils (coconut oil), dairy products (butter, cheese), nuts, and processed foods that contain fat. Fat is an important source of reserve energy for the body, when the body does not get enough energy from carbohydrates, fat will be used as energy reserves.

Fat also contains essential fatty acids which cannot be produced by the body and must be obtained from food. Teenagers need an amount of fat that

suits their body's needs, but it is important to remember that excessive fat consumption can cause health problems such as obesity and cardiovascular problems (Mauliza, 2018).

Based on the facts and theories that have been explained, researchers think that most of the fat intake of female Islamic boarding school teenagers falls into the over category, this is due to the high intake of fat obtained from food in Islamic boarding school canteens such as meatballs, chicken noodles and processed food from Islamic boarding schools. which are high in fat, such as foods cooked by frying.

Analysis of the Relationship between Fat Intake and Nutritional Status in Female Adolescent Islamic Boarding Schools in Tuban Regency.

The results of the interpretation of data obtained from research results from 200 respondents showed that there was a significant relationship between fat intake and nutritional status. The lower the fat intake of teenage female students, the risk of experiencing underweight nutritional status, and if the fat intake is excessive, the risk of experiencing overweight nutritional status, meanwhile, adolescents whose fat intake is normal have normal nutritional status. This is

because the fat intake is by the needs of female-female students. However, female-female students whose fat intake is in moderate deficit have normal nutritional status.

Fat intake has a role in influencing the nutritional status of adolescent girls. If young women experience a deficit in fat intake, namely less fat than the body needs, this can lead to underweight nutritional status, this is because fat accumulates in the body and is not balanced with sufficient physical activity. A lack of fat can cause growth and development problems, decreased endurance, and other health problems. On the other hand, if young women experience excess fat intake, that is, consuming excess fat over the body's needs, this can cause nutritional problems, overweight and obesity as well as an increased risk of cardiovascular disease (Praditasari & Sumarmik, 2018).

This is in line with research conducted by Pendidikan & Konseling, n.d. with the title "Breakfast Habits, Macro Nutrient Intake and Nutritional Status of Adolescents in the City of Medan". The results of the Spearman correlation statistical test showed a p-value of $0.003 < 0.05$ which can be concluded that there is a significant relationship between fat intake and nutritional status. In a study entitled "The Relationship between Fat Intake

and the Nutritional Status of Adolescents at SMA Negeri 3 Palu" conducted by (Menteng, 2023), there was a significant relationship between fat intake and nutritional status, the results of the Spearman correlation statistical test showed a p -value of $0.042 < 0.05$.

Based on the facts and theories obtained, researchers think that female students with moderate fat intake have a normal nutritional status, due to the body's adaptation mechanisms to fat deficit conditions and other factors that influence nutritional status. Young women who live in Islamic boarding school environments have a limited or simple diet, which can cause a deficit in fat intake. Even though they experience a fat deficit, these young women's bodies can reset the use and absorption of fat efficiently to maintain optimal body function. In addition, the adaptation of adolescent girls' bodies to fat-deficit conditions can be influenced by physical activity, metabolic levels, and genetic factors which vary in each individual. Not only that, young women who experience a fat deficit but have normal nutritional status can also be influenced by adequate intake of other nutrients. Although fat is important for body health, the body also requires other nutritional intake, such as protein, carbohydrates, vitamins, and

minerals, which contribute to optimal nutritional status.

4. CONCLUSION

There is a relationship between fat intake and the nutritional status of female Islamic boarding school students in Tuban Regency. The less fat intake will cause underweight nutritional status.

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