The Relationship between Knowledge of Balanced Nutrition and the Nutritional Status of Female Adolescents at SMA N 1 Moyo Utara, Sumbawa Regency

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Abstract . The nutritional health status of adolescent girls is a picture of the physical well-being of women due to the fulfillment of nutritional needs in the body. Adolescent nutrition can affect reproductive health to prepare for reproduction from preconception, pregnancy, childbirth and postpartum. Stunting prevention efforts can be done by optimizing nutrition & child health from pregnancy to the age of 2 years. Therefore, the readiness of adolescent girls to undergo the pregnancy process later so as not to give birth to stunted children needs to be questioned. The knowledge of adolescent girls is very influential in the action of preparing for pregnancy in order to prevent stunting. To avoid the occurrence of KEK and BMI underweight category, it is expected that adolescent girls prepare themselves by fulfilling nutritional needs in the body. Thus, adolescent girls must understand and pay attention to the daily food intake consumed that contains nutrients so that nutritional needs in the body can be met. The purpose of this study was to determine the analysis of the relationship between knowledge of balanced nutrition and the nutritional status of adolescent girls at SMA N 1 Moyo Utara. This type of research is quantitative research with a cross-sectional design. The population in this study were adolescent girls at SMA N 1 Moyo Utara. The sampling technique was Accidental sampling. The results of the study showed that the knowledge of female adolescents about balanced nutrition was mostly sufficient, as many as 63 (63.6%) respondents. The nutritional status of female adolescents at SMA N 1 Moyo Utara, Sumbawa Regency was mostly thin, as many as 51 (51.5%). The results of the Fisher Exact test showed a p value of 0.044, meaning Ho was rejected and Ha was accepted, which means there is a relationship between knowledge about balanced nutrition and nutritional status in female adolescents at SMA N 1 Moyo Utara, Sumbawa Regency.
Keywords : Adolescent girls, balanced nutrition, nutritional status

1. BACKGROUND

Nutritional status is one of the determining factors in the quality of life of adolescents when they are adults. A person's growth and development will proceed perfectly if their nutritional status is good and optimal (Ariaini et al., 2022). Nutritional status can affect productivity, intelligence, and creativity which are important factors that determine the quality of human resources (Abdullah et al., 2022). The 2018 National Basic Health Research data for the prevalence of nutritional status in adolescents aged 16-18 years according to the BMI/U index is 1.4% categorized as very thin, 6.7% thin, and there are still as many as 9.5% overweight and 4.0% obese (Ministry of Health of the Republic of Indonesia, 2018).

Nutritional problems, in the sense of a condition of malnutrition and excess nutrition, are a nutritional problem that is often experienced by adolescents today. Individuals with poor nutritional status are at greater risk of illness and death (Lestari, 2022). Nutritional problems can be caused by low nutritional knowledge so that it can affect a person's growth and development as an adult (Kanah, 2020). Adolescents who experience malnutrition are at risk of anemia so that for adolescent girls there is a high

possibility of giving birth to stunted babies (Yuhana, 2019). In adolescents, excess nutrition can increase the risk of experiencing degenerative diseases that affect the quality of life (Tanjung et al., 2022). The nutritional status of adolescents is influenced by several factors, one of which is knowledge.

Knowledge of balanced nutrition is an understanding related to nutritional science, nutrients and the influence of nutrients on the nutritional status and health of an individual. Lack of knowledge possessed by a person triggers a lack of individual awareness in maintaining the balance of food intake consumed so that it can cause nutritional problems (Roring, 2020). Knowledge of balanced nutrition in this case eating behavior can influence individual habits in choosing and consuming food (Intantiyana et al., 2018). In his research conducted by Lestari (2022) stated that there is a significant relationship between knowledge of balanced nutrition in the nutritional status of adolescents because the level of knowledge of balanced nutrition of a person is closely related to behavior and attitudes in determining the choice of food to be consumed. Based on data taken from anthropometric examinations in the form of weight and height data which are then interpreted into Body Mass Index (BMI), then an assessment of the nutritional status of adolescents is carried out by comparing BMI with anthropometric standards based on the BMI index according to age (BMI/U) (Syarifurrahman, 2023). Overnutrition occurs when the body receives excessive amounts of nutrients, while undernutrition occurs when the body lacks one or more nutrients (Sholichah, 2023). The BMI threshold for Indonesia is underweight <17, normal 18.5-25, and overweight >25.

2. THEORETICAL STUDY

Nutritional status is an indicator of success in assessing the adequacy of nutritional intake as seen from height and weight (Lembong and Ardiansyah, 2018 in Kartini et al., 2023). Nutritional status is a physical description of a person influenced by the food consumed and the nutrients utilized by the body (Budiman et al., 2021 in Muchtar et al., 2022). According to Mandiangan et al. (2023), nutritional status is a representation of physical condition as a result of nutritional intake obtained and how these nutrients are used for daily activities. Lembong and Ardiansyah (2018) in Kartini et al. (2023) state that nutritional status is a state of health influenced by the interaction between diet, environment, and the body. Hepti Muliyati (2019), Rika Fitriani (2020), and Sutrio (2017) suggest that there is a relationship between nutritional understanding and nutritional status of adolescents. A significant relationship between knowledge about nutrition and nutritional status is seen in eating patterns, where the better the understanding about nutrition, the better the eating patterns implemented, and vice versa, the less knowledge about nutrition, the worse the food consumption patterns followed.

3. RESEARCH METHODS

This research is a quantitative study with a *cross-sectional design* , which is a study to determine the relationship between two or more variables (Nursalam, 2020). This research is a quantitative study with a correlation design, which explores the relationship between two or more variables (Nursalam, 2020). The population in this study were adolescent girls at SMA N 1 Moyo Utara. The sampling technique was *accidental sampling* with a total of 99 adolescent girls as respondents.

4. RESULTS AND DISCUSSION

a. Distribution of Knowledge About Balanced Nutrition for Adolescent Girls

Table 4.1. Distribution of Knowledge about Balanced Nutrition for Adolescent Girls

Category	N	%
Good	25	25.3
Enough	63	63.6
Not enough	11	11.1
TOTAL	99	100

Source: Primary Data, 2025

Based on the results in table 4.1 above, it can be seen that the majority of female adolescents' knowledge about balanced nutrition has a sufficient level of knowledge of 63 (63.6%) respondents, good knowledge of 25 (25.3%) respondents and insufficient knowledge of 11 (11.1%). From the results of the researcher's observations in the field, all female students have received information about nutrition from counseling activities at school, teachers and parents. However, not all have good knowledge, where there are still those with sufficient and insufficient knowledge. This happens because they do not apply it in their daily lives so that female students tend to forget the information that has been conveyed.

b. Distribution of Nutritional Status of Adolescent Girls

Table 4.2. Distribution of Nutritional Status of Adolescent Girls

Category	N	%
Normal	39	39.4
Thin	51	5.5
Fat	9	9.1
TOTAL	99	100

Source: Primary Data, 2025

Table 4.2 above shows that the majority of female adolescents interviewed were underweight, representing 51 (51.5%) respondents. This occurs because their bodies struggle to gain weight even when consuming sufficient food. It was also found that some adolescents restrict their eating because they desire a certain body shape, known as body image. According to Henggaryadi (2012), a discrepancy between one's body perception and the body shape considered ideal can lead to self-dissatisfaction, which can affect self-esteem. A positive body image can increase self-worth, self-confidence, and strengthen one's sense of identity, both within oneself and others.

According to Luluk R and Luluk KD (2020), nutritional problems in adolescents occur due to an unbalanced diet, namely a mismatch between nutritional needs and their fulfillment. Adolescents often skip two meals a day and are deficient in macronutrients such as carbohydrates, protein, and fat, as well as micronutrients such as vitamins and minerals. This can lead to thinness and weight loss. In addition to food, physical activity also affects nutritional status. According to Oktovina RI and Ekawati S (2020), most adolescents or school-age children have light to moderate levels of physical activity because most of their time is spent studying at school. If adolescents lack physical activity, body fat can accumulate, potentially leading to excess weight. The role of parents is also important in determining adolescents' nutritional status.

According to Siti Q et al. (2021), the more active parents are in influencing their children's eating habits, the better the impact on the types of snacks they choose. Furthermore, hereditary factors also influence nutritional status. According to Symsopyan I et al. (2019), genetic factors can determine the number of fat cells in the body. Adolescence is a transitional period from childhood to adulthood, so balanced nutrition during this period is crucial for determining future maturity.

c. The Relationship Between Knowledge of Balanced Nutrition and Nutritional Status in Adolescent Girls

Table 4.3. Relationship between Knowledge of Balanced Nutrition and Nutritional Status in Adolescent Girls

Category			Nutritional status			Total	P-Velue
			Thin	Normal	Fat		
	Good	F	15	8	2	25	
		%	15.2	8.1	2	25.3	
	Enough	F	32	28	3	63	
Knowledge		%	32.3	28	3	63.6	
	Not enough	F	4	3	2	11	0.044
		%	4	3	4.1	11.1	
TOTAL		F	51	39	9	99	
		%	51.5	39.4	9.1	100	

Source: Primary Data, 2025

Based on table 4.3 above, the p-value is 0.044, meaning Ho is rejected and Ha is accepted. Therefore, it can be said that there is a relationship between knowledge about balanced nutrition and nutritional status in female adolescents at SMA N 1 Moyo Utara, Sumbawa Regency.

Based on the results in table 4.3, it can be seen that the majority of respondents (63.6%) had sufficient knowledge, with the majority of respondents having a nutritional status of underweight (32.3%) and 3 (3%) having a nutritional status of overweight. This occurs because adequate knowledge is not accompanied by positive attitudes and behaviors, which can affect the nutritional status of adolescents. Some adolescents limit their diet and nutritional intake because they are worried that their body shape will not meet the desired ideal body standards. In adolescents who are overweight, even though their knowledge is quite good, most of their eating habits are still poor. In addition, it was also found that adolescents do not limit their consumption of unhealthy foods, such as liking to consume junk food, sweet foods and drinks, fried foods and having a lack of activity patterns, which causes fat in the body to accumulate, which makes adolescents experience obesity.

A total of 25 respondents (25.3%) had good knowledge, and the majority of them, namely 15 respondents (15.2%), also had a nutritional status of underweight. This occurs because although they understand nutritional needs, they do not apply it in their daily lives due to peer influence, such as going on a diet (reducing food intake) to achieve a certain body shape or meet the desired body image. In addition, body condition also plays a role in influencing the nutritional status of adolescents, even though they have consumed sufficient food but there is no increase in weight. Meanwhile, as many as 8 people (8.1%) had normal nutritional status due to good knowledge, supported by positive attitudes and behaviors and support from parents in providing food and monitoring their children's eating patterns where respondents said that parents limit their children's consumption of instant foods or junk food. In addition, there were also respondents with obese nutritional status as many as 2 (2%) respondents.

This situation occurs due to the influence of friends in following food trends, so they often consume junk food such as kebabs, pizza, burgers, and others. This study also found that 11 respondents (11.1%) had a low level of knowledge, with the majority of 4 respondents (4.1%) experiencing obesity because they did not know the types of healthy food and did not limit the consumption of instant foods and junk food. In addition, there were also 4 (4%) respondents with thin nutritional status caused by dieting to achieve a certain body shape and lack of appetite so that food intake was small. There were also 3 respondents (3%) with normal nutritional status caused by parental supervision in controlling eating patterns.

Festi P (2018) stated that several factors influence nutritional status in adolescents, one of which is knowledge, which influences attitudes and behavior. Having good knowledge can lead to positive behaviors, particularly in adopting a healthy diet to achieve normal nutritional status. Furthermore, growth spurts also impact nutritional status, as increased body or organ development makes nutritional needs crucial. Age also influences nutritional status, especially at a young age. A person's nutritional status is determined by their nutritional intake and needs. A balanced nutritional intake will result in a good nutritional status (Bhavya & Somashekar, 2023). Conversely, an unbalanced nutritional intake will result in poor nutritional status (Wulandari & Mardisentosa, 2021).

5. CONCLUSION AND SUGGESTIONS

a. Conclusion

From the results of the study above, it can be concluded that the knowledge of female adolescents about balanced nutrition is mostly sufficient, amounting to 63 (63.6%) respondents. The nutritional status of female adolescents at SMA N 1 Moyo Utara, Sumbawa Regency, is mostly thin, amounting to 51 (51.5%). The results of the Fisher Exact test show a p value of 0.044, meaning Ho is rejected and Ha is accepted, meaning there is a relationship between knowledge about balanced nutrition and nutritional status in female adolescents at SMA N 1 Moyo Utara, Sumbawa Regency.

b. Suggestion

1) For Institutions

The results of this study can be used as reference or comparative material in delivering material on nutritional status in adolescents.

2) For Teenagers

Especially for Young Women Through the results of this study, young women can broaden their knowledge about proper nutrition for their teenage years by reading journals or utilizing internet access as a source of information about healthy eating patterns to improve their own nutritional status.

3) For Research Sites

Through the results of this study, it is hoped that schools will pay attention to food provision within the school environment, for example by providing healthy food in the canteen, so students can enjoy nutritious meals at school. Furthermore, activities are needed to increase adolescents' understanding of nutrition, such as counseling sessions conducted by teachers or by inviting speakers from health professionals.

4) For Further Researchers

It is hoped that the results of this study can be a reference for future researchers, by continuing to address the shortcomings in this study and being able to develop its variables.

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