



The Relationship Between Knowledge Of Balanced Nutrition And Nutritional Status Among Students

Izmi Arisa Putri Lubis

Lecturer of Nutrition Study Program, Institut Kesehatan Helvetia, Medan

corresponding author : izmiaris@gmail.com

Abstract. *The nutritional status of students can be influenced by their knowledge of balanced nutrition. This study aimed to analyze the relationship between knowledge of balanced nutrition and the nutritional status of students at SMK SPP SNAKMA Muhammadiyah Tanjung Anom. An analytical observational method with a cross-sectional study approach was applied. The research was conducted from November 2022 to June 2023 at SMK SPP SNAKMA Muhammadiyah Tanjung Anom. The study population comprised X and XI grade students, with a sample size of 90 students selected through systematic random sampling. The relationship between variables was assessed using the Chi-Square test with $\alpha = 0.001$. The findings revealed that a significant proportion of respondents had good knowledge of balanced nutrition (67.8%) and good nutritional status (78.9%). The conclusion of this research is that there is a significant relationship between knowledge of balanced nutrition and the nutritional status of students at SMK SPP SNAKMA Muhammadiyah Tanjung Anom, with a P-value of 0.001 ($P < 0.05$). Students are encouraged to read more books or seek journal references related to balanced nutrition to enhance their knowledge in this area.*

Keywords: *Knowledge of Balanced Nutrition; Nutritional Status; Students; Adolescents*

INTRODUCTION

Nutritional status can influence productivity, intelligence and creativity, which are important factors that determine the quality of human resources (Abdullah et al., 2022). Nutritional status is a determining factor in the quality of life of adolescents when they reach adulthood. A person's growth and development will proceed perfectly if their nutritional status is good and optimal (Ariaini et al., 2022). 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% in the very thin category, 6.7% thin, and there are still 9.5% obese and 4.0% obesity. The 2018 National Basic Health Research data reveals that the prevalence of nutritional status among adolescents aged 16-18 years, as determined by the BMI/U index, stands at 1.4% in the category of very thin, 6.7% in the thin category, and notably, 9.5% are classified as obese with an additional 4.0% falling under the category of obesity. (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 teenagers today. Individuals with poor nutritional status are more at risk of experiencing illness and death (Lestari, 2022). Nutritional problems can be caused by low nutritional knowledge so that it can influence a person's growth and development as an adult (Kanah, 2020). Adolescents who experience malnutrition problems are at risk of anemia so that adolescent girls are likely to give birth to stunted babies (Yuhana, 2019). In teenagers, excess nutrition can increase the risk of

experiencing degenerative diseases that affect quality of life (Tanjung et al., 2022).

Nutritional status during adolescence can be impacted by various determinants, among them being knowledge. The comprehension of balanced nutrition entails an awareness of the scientific principles underlying nutrition, nutrients, and their effects on one's nutritional well-being and overall health. Inadequate knowledge among individuals can lead to a lack of consciousness in regulating a well-proportioned dietary consumption, consequently resulting in nutritional issues (Roring, 2020). Understanding of balanced nutrition, particularly in relation to eating habits, has the potential to impact an individual's choices and consumption of food. (Intantiyana et al., 2018).

The results of observations carried out at SPP SNAKMA Muhammadiyah Tanjung Anom Vocational School, where measurements based on BMI/U were carried out, showed that there were still students who had nutritional problems, namely malnutrition or excess nutrition. And based on interviews conducted with one of the teachers and several students, it is known that at SMK SPP SNAKMA Muhammadiyah Tanjung Anom there has been no provision of special material about balanced nutrition either in learning according to the curriculum or in providing information by the school. SPP SNAKMA Muhammadiyah Tanjung Anom Vocational School is not yet supported by literature explaining balanced nutrition around the school environment such as flyers or banners about balanced nutrition.

METHOD

The research conducted employed an analytical observational method and cross-sectional study approach. It was conducted between November 2022 and June 2023 at SMK SPP SNAKMA Muhammadiyah Tanjung Anom. The study population involved students from X and XI grades at SMK SPP SNAKMA Muhammadiyah Tanjung Anom. The research sample was determined using the Lameshow formula, resulting in 90 samples selected through systematic random sampling. In this study, data collection involved utilizing a questionnaire to assess balanced nutrition knowledge, and *Seca* brand instruments for measuring height and weight. The relationship between variables is based on statistical tests applying the Chi-Square test with $\alpha = 0.001$.

RESULTS AND DISCUSSION

1. Respondent Characteristics

The research was conducted using several subjects from class X and XI of SMK SPP SNAKMA Muhammadiyah Tanjung Anom with a sample size of 90 respondents.

Descriptive analysis related to gender, age, parental education and parental occupation can be shown in (Table 1).

Table 1. Distribution of respondents according to sociodemographic characteristics

Respondent Characteristics	n	%
Gender		
Woman	49	54.4
Man	41	45.6
Age (Years)		
15	9	11.1
16	57	63.3
17	22	23.3
18	2	2,2
Father's Education		
elementary school	1	1.1
Junior High School	2	2,2
Senior High School	57	63.3
D3	3	3.3
S1	26	28.9
S2	1	1.1
Mother's Education		
elementary school	1	1.1
Junior High School	2	2,2
Senior High School	60	66.7
D3	2	2,2
S1	20	22.2
S2	5	5,6
Father's occupation		
Private	39	43.2
Self-employed	19	21.1
Laborer	10	11.1
Civil servants	8	8.9
TNI	6	6,7
Respondent Characteristics		
Retired	2	2,2
Driver	2	2,2
THL	2	2,2
Kostor	1	1.1

Based on Table 1, the majority of students at SMK SPP SNAKMA Muhammadiyah Tanjung Anom are female with a total of 49 respondents (54.4%) and are dominated by students aged 16 years with a total of 57 respondents (63.3%). Based on the final education level of the respondents' parents, the majority were Senior High School respectively, there were 60 people (66.7%) and 57 people (63.3%). The level of parental education can influence how parents educate their children. Apart from that, good parental education can make it easier for parents to find and receive information. The level of education can influence the fulfillment of children's nutritional needs, because parents have adequate knowledge in choosing food and meeting children's needs, parents can even provide education about parents' nutrition to their children (Hartini, 2022).

Based on parents' occupation, the father's occupation is mostly in the private sector with 34 people (37.8%) and the mother's occupation is more dominant as a housewife (housewife) with 49 people (54.4%). The work of parents is closely related to the socioeconomic status of a family. The socioeconomic status of a family has the potential to impact the capacity to supply food that not only meets essential need requirements to body but also has high quality and nutritional value. When faced with uncomplicated socioeconomic circumstances, individuals are inclined to satisfy their requirements with limited food resources, which in turn, may affect their nutritional well-being. (Hartini, 2022).

2. Univariate Analysis

Knowledge of Balanced Nutrition

Balanced nutrition knowledge was obtained based on a balanced nutrition knowledge questionnaire which was directly distributed to respondents and then answered according to the provisions. The distribution of respondents according to knowledge of balanced nutrition can be shown in (Table 2).

Table 2. Distribution of respondents according to knowledge of balanced nutrition

Knowledge of Balanced Nutrition	n	%
Good	61	67.8
Not good	29	32.2
Total	90	100

Based on Table 2, the majority of students have good knowledge. So it can be concluded that respondents who have good knowledge of balanced nutrition have received information and become knowledgeable about knowledge of balanced nutrition. Similar to research produced by Fitriani (2020), it shows that 54 respondents (59.3%) had a good level of balanced nutritional knowledge and 37 respondents (40.7%) had a poor level of balanced nutritional knowledge. Good nutritional knowledge can influence a person's nutritional needs through food consumption (Wongkar et al., 2021). Students with poor or unhealthy eating behavior can have an adverse impact on body health, so that the nutritional intake consumed by the body is not balanced with the needs required by the adolescent's body. This can have a lasting impact on the growth and survival of adolescents (Fitriani, 2020).

Nutritional status

Nutritional status is obtained according to the measurement of body mass index based on age (BMI/U). The distribution of respondents according to nutritional status is shown in (Table 3).

Table 3. Distribution of respondents according to nutritional status

Nutritional status	n	%
Good Nutrition	71	78.9
Poor Nutrition	19	21.1
Total	90	100

In accordance with Table 3, the results obtained show that the majority of students' nutritional status is good. Good nutritional status of students can be supported by adequate knowledge that students have, and the way students choose food and balance students' nutritional needs so that students have good nutritional status. In line with research conducted by Mulyati, Ahmil, Mandola (2019), the results of the research showed that 80 respondents (85.1%) had normal nutritional status and 14 respondents (14.9) had obese nutritional status. Brain development and physical growth, health in general has the best possible level, and brain development can be achieved if a person has good nutritional status (Mulyati, 2019). Nutritional status can be influenced by the level of knowledge, food consumption and body health (Akbar et al., 2021).

3. Bivariate Analysis

Relationship between Knowledge of Balanced Nutrition and Nutritional Status

This study used the Chi-Square test to determine the significance of the relationship between knowledge of balanced nutrition and nutritional status. The research results obtained were $P = 0.001$ ($P < 0.05$). This means that the results obtained are that there is a significant relationship between knowledge of balanced nutrition and the nutritional status of students at SPP SNAKMA Muhammadiyah Tanjung Anom. Similar to research conducted by Mulyati (2019), a statement was made regarding the existence of a relationship between knowledge of balanced nutrition and nutritional status and obtained a result of $P = 0.001$ (<0.05).

Nutrition has a dominant role in influencing the health status of adolescents. Their nutritional status is affected by their understanding of nutrition and its importance (Selaindoong et al., 2020). Knowledge of balanced nutrition and nutritional status are closely linked. As students' understanding of balanced nutrition increase, it becomes essential to identify the types and quantities of food they should consume. Nutritional knowledge enables teenagers to make healthy food choices and understand the connection between food, health, and nutrition. (Lestari, 2022).

CONCLUSION

Understanding the importance of balanced nutrition can also positively affect students' nutritional well-being. The results of the analysis test revealed that there was a

significant association between knowledge of balanced nutrition and the nutritional status of students at SMK SPP SNAKMA Muhammadiyah Tanjung Anom.

BIBLIOGRAPHY

- Abdullah, D., Muharramah, A., et al. (2022). Description of the nutritional status and nutritional intake of adolescent students at the Shuffah Hizbullah Islamic Boarding School and the Al-Fatah Lampung Madrasah. *Aisyah Nutrition Journal*, 5(1), 6–12. <http://journal.aisyahuniversity.ac.id>
- Akbar, H., Arni, F., et al. (2021). *Nutritional epidemiology*. Indonesian Science Media.
- Ariaini, S., Nisa, A., et al. (2022). The relationship between nutritional knowledge and physical activity with the nutritional status of adolescent girls at SMP Negeri 1 Banjarbaru. *Indonesian Health Journal*, 13(1), 1. <https://doi.org/10.33657/jurkessia.v13i1.769>
- Fitriani, R. (2020). The relationship between knowledge of balanced nutrition, body image, level of energy adequacy and macronutrients with nutritional status in students at State High School 86 Jakarta. *Journal Health & Science: Gorontalo Journal Health and Science Community*, 4(1), 29–38. <https://doi.org/10.35971/gojhes.v4i1.5041>
- Hartini, D. A., Dewi, N. U., et al. (2022). The relationship between physical activity and nutritional knowledge with the post-disaster nutritional status of adolescents in Palu City. *Ghidza: Journal of Nutrition and Health*, 6(1), 17–25. <https://doi.org/10.22487/ghidza.v6i1.444>
- Intantiyana, M., Widajanti, L., et al. (2018). The relationship between body image, physical activity and knowledge of balanced nutrition with the occurrence of obesity in over-nutriented adolescent girls at SMA Negeri 9 Semarang City. *Journal of Public Health (Undip)*, 6(5), 404–412. <https://ejournal3.undip.ac.id/index.php/jkm/article/view/22064>
- Kanah, P. (2020). The relationship between knowledge and consumption patterns and nutritional status in health students. *Medical Technology and Public Health Journal*, 4(2), 203–211. <https://doi.org/10.33086/mtphj.v4i2.1199>
- Ministry of Health of the Republic of Indonesia. (2018). 2018 basic health research report. *Ministry of Health of the Republic of Indonesia. 2018 National Riskesdas Report*, 53(9), 154–165. <http://www.yankes.kemkes.go.id>
- Lestari, P. Y. (2022). Relationship of knowledge about nutrition to nutritional status of teenagers. *Surya Medika Journal*, 8(1).
- Muliyati, H., Ahmil, et al. (2019). The relationship between body image, physical activity and knowledge of balanced nutrition with the nutritional status of adolescent girls. *CHMK Midwifery Scientific Journal*, 2(1).
- Roring, N. M., Posangi, J., et al. (2020). The relationship between nutritional knowledge, physical activity, and exercise intensity and nutritional status. *Biomedical Journal*, 12(2). <https://www.studocu.com/id/document/universitas-muhammadiyah->

surakarta/izi/5-relationship-between-nutrition-knowledge-physical-activity-and-exercise-intensity-with-nutritional-status/4613688

Jenisdoong, S. J., Amisi, M. D., et al. (2020). Description of the nutritional knowledge of Semester IV students, Faculty of Public Health, Sam Ratulangi University during social restrictions during the Covid-19 pandemic. *KESMAS Journal*, 9(6), 8–16.

Tanjung, N. U., Amira, A. P., et al. (2022). Junk food and its relation to overnutrition in adolescents. *Scientific Journal of Public Health*, 14(3), 133–140. <https://jikm.upnvj.ac.id/index.php/home/article/view/343/129>

Wongkar, C. G., Malonda, N. S. H., et al. (2021). Description of nutrition knowledge among Semester VI students, Faculty of Public Health, Sam Ratulangi University during the Covid-19 pandemic. *KESMAS Journal*, 10(2).

Yuhana, S. (2019). The relationship between nutritional status and the incidence of anemia in young women at SMK N 1 Rangkasbitung. *Mutiara Mahakam Midwifery Journal*, 7(2), 439–451.