The Relationship of Nutritional Status With Student Learning Outcomes

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Hubungan Status Gizi dengan Hasil Belajar Siswa The Relationship of Nutritional Status With Student Learning Outcomes



The purpose of this study was to determine the relationship between student nutritional status and learning outcomes, especially physical education in junior high schools in Bandung City, West Java Province. The type of research used is correlational. The population of this study amounted to 98,289 students. Sampling using simple range sampling technique. The research sample amounted to 1870 students. This study uses primary data that is obtained from the measurement of the nutritional status of students and secondary data from physical education teachers in Bandung. The data collection tool is in the form of measuring nutritional status based on body mass index. The data were analyzed by correlate nall statistics through a computerized process using the SPSS program. From the results of the study, it can be concluded that there is no significant relationship between nutritional status and learning outcomes for both male and female students in junior high school. Further research by examining other factors related to BMI and other factors related to learning outcome such as socioeconomic, and family factors.

Keywords: Nutritional Status, Learning Outcomes, students.

INTRODUCTION

Nutritional status is a state of balance between energy intake and expenditure (Boukrim et al., 2021). Nutritional status is a measure of the condition of the body that is consumed and the use of nutrients in the body (D'Angelo, 2019). Nutritional status is influenced by several things, such as consumption patterns, food intake, psychology, education, and income of the individual (Økland, 2012). Nutritional status can affect the level of intelligence and students' ability to capture lessons (Cavuoto Petrizzo et al., 2021). Students with good nutritional status can more easily receive lessons on campus and are able to get satisfactory and maximum learning outcomes, on the contrary students who have less or more nutritional status will be less than optimal in capturing lessons and less good in learning outcomes (Kupolati et al., 2016).

One indicator of measuring the quality of human resources is the Quality of Life Index or Human Development Index (HDI)(Som et al., 2007). Indonesia is ranked 109th out of 174 countries, lower than ASEAN countries such as Singapore, Brunei Darussalam, Malaysia, and Vietnam.

The three main determinants of HDI are Education, Economy, and Health(Abdel-Aziz et al., 2014). These three factors are closely related to people's nutritional status. Health problems are very important to know about in everyday life, especially in junior high school age children because this period is a period of growth and development of children which is in line with the age of the child(Tariku et al., 2019). To understand children's health problems. One of the most decisive factors is the nutritional factor in the food consumed by the child every day(Mbhatsani et al., 2017). Good food is the foundation of a child's life(Upadhyay et al., 2011). The whole of life, children need food to maintain, normal life processes, without sufficient food can cause children malnourished(Soriano et al., 2018). Knowledge of children's nutrition is very necessary which includes the sources of nutrients in food and the types of nutrients contained in foodstuffs that are needed for the growth and intelligence of children(Nkhoma et al., 2013). Besides that, the nutritional status of children can be used as a measure for the success of multi-sectoral development, including education.

The development of learning human resources in schools can be carried out in physical education lessons in schools(Irawan et al., 2017). Improving good learning outcomes in schools is not only in the fulfillment of existing facilities and infrastructure in schools, the availability of teachers, but which is no less important is the condition or adequate nutritional status to build or make students passionate and enthusiastic in learning at school(Li et al., 2019). To get a good physical condition to study Physical Education at school, it is necessary to have a balanced intake of nutrients, meaning that the amount of energy and nutrients that enter the body is the same as that required by the body and is the same as that which is removed from the body(Verburgh et al., 2016). Students who will do Physical Education learning at school need to consume nutritious food(Lorente, 2017). Before going to school, it is best for a child to eat foods that contain lots of calories such as carbohydrates, fats and proteins and the important thing is to pay attention to the balance of these

nutrients, because if they are not balanced it can cause wrong nutrition. Nutritional status and food intake are needed by the body as a source of nutrients(Machefer et al., 2007). Food intake that lacks nutrients can cause changes in metabolism in the brain it will reduce learning ability and concentration(Narayanan & Rao, 2019). So, if there is malnutrition (lack of nutrition or over-nutrition) it will affect the health.

The need for food and drink is a daily basic need for humans and other living things. Even the smallest creatures such as cells still need food to survive. Growth, physical and psychological abilities, and human behavior are influenced by the food they eat(Kupolati et al., 2016). Consumption of food as one of the human pleasures must also pay attention to the principles and the appropriate composition(Galasso & Umapathi, 2009). If the food program is arranged regularly, it will get delicious food as well as a long life(de Brauw et al., 2015). Delicious food if consumed in excess of the limit or contains harmful ingredients for the body will cause various diseases. There have been many previous studies on nutrition and academic values, but not many have conducted research on male and female students of Bandung City Junior High School, especially since the new normal era of the Covid-19 pandemic.

METHOD

The type of research that will be used is analytic observational. The approach used is cross sectional. This research was conducted in March-June 2022. In this study, the population used was Bandung City Junior High School students, amounting to 98,289. Due to lack of time, the researcher used simple random sampling so that the sample in this study only amounted to 1870 students. The instrument used in this study was a questionnaire. The questionnaire used in this study is a closed questionnaire, which is a questionnaire whose answers have been provided so that the respondents just have to choose. Nutrient intake with needs assessed using Body Mass Index (BMI). Academic achievement is the result of learning at formal educational institutions in the form of grades or numbers(Wallhead et al., 2021). Academic achievement is seen by

looking at the value of each student obtained from the service. The data analysis used in this research is the univariate analysis and bivariate analysis. The univariate analysis aims to analyze each variable from the research results to get an overview of each variable presented in the form of a frequency distribution according to the variables studied. The bivariate analysis aims to see whether there is a relationship between the dependent variable and the independent variable.

Equation and formula

The analysis was carried out on two variables that were thought to be related or correlated, namely the criteria for Nutritional Status and Learning Outcomes. Analyzed using the formula:

$$r_{xy} = \frac{n\sum X_i Y_i - (\sum X_i)(\sum Y_i)}{\sqrt{n\sum X_1^2 - (\sum X_1)^2 / n\sum Y_1^2 - (\sum Y_1)^2}}$$
(1)

Knowing the relationship between two variables whether the significance or not with a significance of 0.05 by using the Spearman rank test with SPSS 19 software.

RESULT

In this section, the results of research conducted on junior high school students in the city of Bandung will be described with a total of 1870 respondents. The research was carried out from March 2022 to June 2022. The results of the research are as follows:

Male student data

The results of the analysis of nutritional status obtained the arithmetic mean (mean) = 17.55, standard deviation = 2.10, minimum value = 14.44 and maximum value = 20.38. While the results of the analysis of learning outcomes, obtained the arithmetic mean (mean) = 77.50, standard deviation = 6.86, minimum value = 60 and maximum value

= 85. For more details on the frequency distribution of nutritional status based on BMI (Body Mass Index) can be seen in the following table:

Table 1. Frequency Distribution of Nutritional Status Based on BMI (Body Mass Index)

No	BMI Value	Frequency	
	Interval Class	f	%
1	14.44 - 15.63	439	23.48%
2	15.64 - 16.82	526	28.13%
3	16.83 - 18.01	337	18.02%
4	18.02 - 19.20	275	14.71%
5	19.21 - 20.39	293	15.66%
	Total	1870	100%

(Primary data of Body Mass Index male students, 2022)

Based on the table above, it can be seen that the results of the nutritional status of 1870 male junior high school students in the city of Bandung are in the range of 15.64 - 16.82 by 28.13%. More details can be seen in the image below:

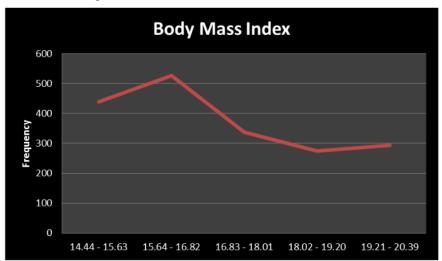


Figure 1. Body Mass Index of male students

Furthermore, for male student learning outcomes can be seen in the following table:

Table 2. Frequency Distribution of Learning Outcome

No	Learning Outcome	Frequency		
	Interval Class	f	%	
1	60 – 65	1	0.02%	
2	66 – 70	1	0.02%	
3	71 – 75	451	24.18%	
4	76 – 80	520	27.81%	
5	81 – 85	897	47.97%	
	Total	1870	100%	

Primary data of Learning Outcome, 2022)

Based on the table above, it can be seen that the results of the learning outcome of 1870 male junior high school students in the city of Bandung are in the range of 81-85 by 47.97%. More details can be seen in the image below:

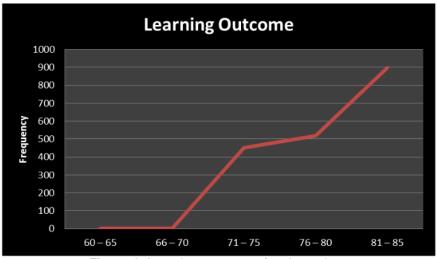


Figure 2. Learning outcome of male students

· Female student data

The results of the analysis of nutritional status obtained the arithmetic mean (mean) = 14.25, standard deviation = 1.39, minimum value = 11.41 and maximum value = 16.40. And for the analysis of learning outcomes, the arithmetic mean (mean) = 72.50, standard deviation = 6.84, minimum value = 60 and maximum value = 82. For more details on the frequency

distribution of nutritional status based on BMI (Body Mass Index) can be seen in the following table:

Table 3. Frequency Distribution of Nutritional Status Based on BMI (Body Mass Index)

No	BMI Value	Frequency	
	Interval Class	f	%
1	13.41 - 14.40	293	15.67%
2	14.41 - 15.40	276	14.76%
3	15.41 - 16.40	438	23.42%
4	16.41 - 17.40	525	28.07%
5	17.41 - 19.40	338	18.07%
	Total	1870	100%

(Primary data of Body Mass Index female students, 2022)

Based on the table above, it can be seen that the results of the nutritional status of 1870 male junior high school students in the city of Bandung are in the range of 16.41 – 17.40 by 28.07%. More details can be seen in the image below:

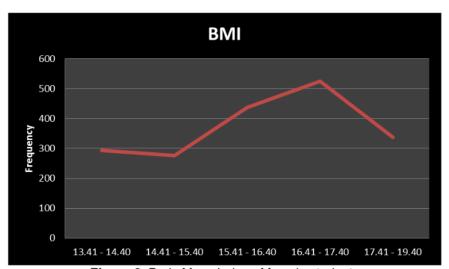


Figure 3. Body Mass Index of female students

Furthermore, for male student learning outcomes can be seen in the following table:

Table 3. Frequency Distribution of Learning Outcome

No	Learning Outcome	Frequency	
	Interval Class	f	%
1	60 - 65	1	0.06%
2	66 - 70	0	0%
3	71 - 75	347	18.55%
4	76 - 80	993	53.10%
5	81 - 85	529	28.29%
	Total	1870	100%

(Primary data of Learning Outcome, 2022)

Based on the table above, it can be seen that the results of the learning outcome of 1870 female junior high school students in the city of Bandung are in the range of 76-80 by 53.10%. More details can be seen in the image below:

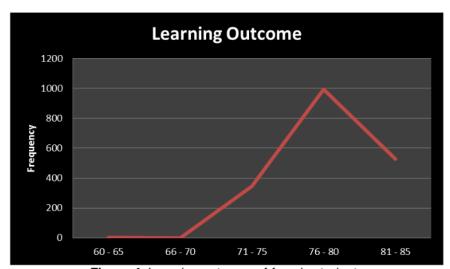


Figure 4. Learning outcome of female students

Correlations

			ВМІ	Learning Outcome
19		Correlation Coefficient	1.000	.320 [*]
Spearman's rho	BMI	Sig. (2-tailed)		.002
		N	1870	1870

	Correlation Coefficient	.320°	1.000
Learning Outcome	Sig. (2-tailed)	.002	
	N	1870	1870

^{*.} Correlation is significant at the 0.05 level (2-tailed).

The results of the study using the Spearman's Rho test showed that the probability value or error level (p: 0.002) was smaller than the standard significantly (0: 0.05), so what was accepted meant that there was a no relationship between Body Mass Index and learning outcome in junior high school students in Bandung, West Java Province.

DISCUSSION

Based on the correlation analysis of male data, the value of the correlation coefficient (rxy) of nutritional status on learning outcomes = 0.273 < rtab (0.492). Seeing that the correlation coefficient rxy is smaller than r table at a significance level of 0.05, it can be concluded that nutritional status has no significant relationship to learning outcomes. Based on the correlation analysis of female data, the correlation coefficient value (rxy) of nutritional status on learning outcomes = 0.203 < rtab (0.467). Seeing that the correlation coefficient rxy is smaller than r table at a significance level of 0.05, it can be concluded that nutritional status has no significant relationship to learning outcomes.

Nutrition is food that is needed by the body in adequate amounts to grow and maintain a healthy body. While nutritional status can be interpreted as the state or position of staple food substances in a person's body that are needed for growth and health. The term nutritional status is closely related to the health of the body that provides energy, builds and maintains body tissues and regulates life processes in the body. As stated by Mbhatsani et al., (2017) that nutrition is an organism's process of food consumed normally through the process of food metabolism and the

expenditure of substances that are not useful to maintain life, growth and normal function of organs and produce energy. In carrying out daily activities we need energy, which is obtained from the food we eat. As stated by de Brauw et al., (2015) that energy is needed by the body first to maintain the basic functions of the body called the basic functions of basal metabolism by 60-70% of the total energy needs. This means that the body requires a minimum of energy in a state of complete rest but not in a state of sleep. Meanwhile, for other activities such as walking, working, digesting, studying, it requires more energy.

From the quote above, it can be seen how important balanced nutrition is for a person's growth and physical fitness, especially for students whose main activity is learning. Balanced nutrition will increase their intelligence and physical fitness. The same thing was stated by Shi et al., (2014) that "the process of fostering a pattern or healthy lifestyle is with balanced nutrition, so that there is an integrated knowledge of values, attitudes and real behavior". Learning is a process marked by a change in a person. Where the change is a change in values or attitudes. Meanwhile, learning outcomes are benchmarks used to determine the level of success of students or students in knowing and understanding a subject.

As stated by Grebener et al., (2021) that learning outcomes are "behaviors that arise from not knowing to knowing, the emergence of new understanding, changes in attitudes, skills, respect for the development of social, emotional and physical characteristics". Seeing this fact, it can be interpreted that an increase in nutritional status is not always in line with an increase in learning outcomes, on the contrary, low student learning outcomes are not always followed by a decrease in their nutritional status. There are many factors that influence this to happen, for example (1) the method used by teachers in giving lessons to students, (2) the condition of the school environment, (3) the background of educators, (4) the economy of parents, (5) the physical activities of students who are minimal, (6)

innate factors from birth of each child, (7) the weather, (8) lack of student motivation, (9) the available resource books are not adequate. The description above states that physical fitness is one of the factors that affect learning outcomes, where physical fitness will be created if students have good nutritional status. However, to determine the success of students in achieving learning outcomes, it cannot only be seen and consider their nutritional status, but other supporting factors are needed such as the availability of educational facilities and infrastructure, student motivation, teacher abilities, environment and other socio-economic factors. This is evidenced by the results of research findings which show that there is no significant relationship between nutritional status and student learning outcomes.

CONCLUSION

Based on the results of research on the relationship between nutritional status and learning outcomes of junior high school students in Bandung, West Java, it can be stated that there is no significant relationship between nutritional status and learning outcomes for male and female students.

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REFERENCES

Abdel-Aziz, E. A., Hamza, R. T., Youssef, A. M., & Mohammed, F. M. (2014). Health related quality of life and psychological problems in Egyptian children with simple obesity in relation to body mass index. *Egyptian Journal of Medical Human Genetics*, 15(2), 149–154. https://doi.org/10.1016/j.ejmhg.2014.01.002

Boukrim, M., Obtel, M., Kasouati, J., Achbani, A., & Razine, R. (2021). COVID-19 and confinement: Effect on weight load, physical activity and eating behavior of higher education students in southern Morocco. *Annals of Global Health*, *87*(1), 1–11. https://doi.org/10.5334/aogh.3144

- Cavuoto Petrizzo, M., Block, L., Olvet, D. M., Sheridan, E. M., Dougherty, R., Whitson, M., John, J. T., Barilla-LaBarca, M. L., DiFiglia-Peck, S., & Fornari, A. (2021). Implementation of an Interprofessional Nutrition Workshop to Integrate Nutrition Education into a Preclinical Medical School Curriculum. *Journal of the American College of Nutrition*, 40(2), 111–118. https://doi.org/10.1080/07315724.2020.1737985
- D'Angelo, S. (2019). Polyphenols and Athletic Performance: A Review on Human Data. *Plant Physiological Aspects of Phenolic Compounds*, 1–23. https://doi.org/10.5772/intechopen.85031
- de Brauw, A., Eozenou, P., & Moursi, M. (2015). Programme Participation Intensity and Children's Nutritional Status: Evidence from a Randomised Control Trial in Mozambique. *Journal of Development Studies*, *51*(8), 996– 1015. https://doi.org/10.1080/00220388.2015.1018907
- Galasso, E., & Umapathi, N. (2009). Improving nutritional status through behavioural change: Lessons from Madagascar. *Journal of Development Effectiveness*, 1(1), 60–85. https://doi.org/10.1080/19439340902727669
- Grebener, B. L., Barth, J., Anders, S., Beißbarth, T., & Raupach, T. (2021). A prediction-based method to estimate student learning outcome: Impact of response rate and gender differences on evaluation results. *Medical Teacher*, 43(5), 524–530. https://doi.org/10.1080/0142159X.2020.1867714
- Irawan, V. T., Sutadji, E., & Widiyanti. (2017). Blended learning based on schoology: Effort of improvement learning outcome and practicum chance in vocational high school. *Cogent Education*, 4(1). https://doi.org/10.1080/2331186X.2017.1282031
- Kupolati, M. D., Gericke, G. J., MacIntyre, U. E., Ferreira, R., Fraser, W., & Du Toit, P. (2016). Nutrition education practices of primary school teachers in a resource-constrained community in Gauteng, South Africa. *Ecology of Food and Nutrition*, 55(3), 279–291. https://doi.org/10.1080/03670244.2016.1161615
- Li, J., Han, S. hyun, & Fu, S. (2019). Exploring the relationship between students' learning styles and learning outcome in engineering laboratory education. *Journal of Further and Higher Education*, 43(8), 1064–1078. https://doi.org/10.1080/0309877X.2018.1449818

- Lorente, L. M. (2017). Implementation of Early Childhood Physical Activity Curriculum (SPARK) in the Central Valley of California (USA). *Procedia - Social and Behavioral Sciences*, 237(June 2016), 319–325. https://doi.org/10.1016/j.sbspro.2017.02.097
- Machefer, G., Groussard, C., Zouhal, H., Vincent, S., Youssef, H., Faure, H., Malardé, L., & Gratas-Delamarche, A. (2007). Nutritional and plasmatic antioxidant vitamins status of ultra endurance athletes. *Journal of the American College of Nutrition*, 26(4), 311–316. https://doi.org/10.1080/07315724.2007.10719616
- Mbhatsani, V. H., Mbhenyane, X. G., & Mabapa, S. N. (2017). Development and Implementation of Nutrition Education on Dietary Diversification for Primary School Children. *Ecology of Food and Nutrition*, 56(6), 449–461. https://doi.org/10.1080/03670244.2017.1366319
- Narayanan, R., & Rao, N. (2019). Adult learning for nutrition security: Challenging dominant values through participatory action research in Eastern India. Studies in the Education of Adults, 51(2), 213–231. https://doi.org/10.1080/02660830.2019.1573782
- Nkhoma, O. W. W., Duffy, M. E., Davidson, P. W., Cory-Slechta, D. A., McSorley, E. M., Strain, J. J., & O'Brien, G. M. (2013). Nutritional and cognitive status of entry-level primary school children in Zomba, rural Malawi. *International Journal of Food Sciences and Nutrition*, 64(3), 282–291. https://doi.org/10.3109/09637486.2012.746287
- Økland, G. M. (2012). Determinants of Learning Outcome for Students at High School in Norway: A Constructivist Approach. *Scandinavian Journal of Educational Research*, *56*(2), 119–138. https://doi.org/10.1080/00313831.2011.568622
- Shi, X., Tubb, L., Chen, S., Fulda, K. G., Franks, S., Reeves, R., & Lister, G. (2014). Associations of health disparities and physical activity with children's health and academic problems. *Journal of Exercise Science and Fitness*, 12(1), 7–14. https://doi.org/10.1016/j.jesf.2013.12.003
- Som, S., Pal, M., & Bharati, P. (2007). Role of individual and household level factors on stunting: A comparative study in three Indian states. *Annals of Human Biology*, 34(6), 632–646.

- https://doi.org/10.1080/03014460701671772
- Soriano, T. T., Eslick, G. D., & Vanniasinkam, T. (2018). Long-Term Nutritional Outcome and Health Related Quality of Life of Patients Following Esophageal Cancer Surgery: A Meta-Analysis. *Nutrition and Cancer*, 70(2), 192–203. https://doi.org/10.1080/01635581.2018.1412471
- Tariku, A., Belew, A. K., Gonete, K. A., Hunegnaw, M. T., Muhammad, E. A., Demissie, G. D., Biks, G. A., Awoke, T., Gelaye, K. A., Zeleke, E. G., Abebe, Z., Gete, A. A., Yesuf, M. E., Abebe, S. M., Gete, Y. K., Gelagay, A. A., Fekadu, A., Muchie, K. F., & Wassie, M. M. (2019). Stunting and Its Determinants among Adolescent Girls: Findings from the Nutrition Surveillance Project, Northwest Ethiopia. *Ecology of Food and Nutrition*, 58(5), 481–494. https://doi.org/10.1080/03670244.2019.1636793
- Upadhyay, S., Kumar, A. R., Raghuvanshi, R. S., & Singh, B. B. (2011).
 Nutritional Status and Knowledge of Hill Women on Anemia: Effect of Various Socio-demographic Factors. *Journal of Human Ecology*, 33(1), 29–34. https://doi.org/10.1080/09709274.2011.11906346
- Verburgh, L., Scherder, E. J. A., Van Lange, P. A. M., & Oosterlaan, J. (2016).
 Do elite and amateur soccer players outperform non-athletes on neurocognitive functioning? A study among 8-12 year old children. *PLoS ONE*, 11(12), 1–12. https://doi.org/10.1371/journal.pone.0165741
- Wallhead, T. L., Hastie, P. A., Harvey, S., & Pill, S. (2021). Academics' perspectives on the future of sport education. *Physical Education and Sport Pedagogy*, 26(5), 533–548. https://doi.org/10.1080/17408989.2020.1823960

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