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Hubungan Status Gizi Dengan Konsentrasi Belajar Pada Atlet Renang FIKK UNM

The Relationship Of Nutritional Status And Learning Concentration In FIKK UNM Swimming Athletes

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Abstract. This study aims to determine the relationship between nutritional status and learning concentration of FIKK UNM swimming athletes. The independent variables in this study are sleep patterns and nutritional status, while the dependent variable is study concentration. This research is a quantitative research with an observational analytical design. The population in this study were all athletes, while the sample consisted of 30 respondents. The sampling technique in this research is total sampling. The data collection technique used was to provide a questionnaire containing several questions to respondents. Data were analyzed using the chi square test with a significance value of $p < 0.05$. The research results showed that the Chi Square Test was obtained on the relationship between sleep patterns and concentration (p -value = 0.025), which shows that there is a relationship between sleep patterns and nutritional status and the learning concentration of FIKK UNM swimming athletes.

Keywords: nutritional status with study concentration.

1 Introduction

The meaning of learning is a process of changing a person's personality where the change is in the form of improving the quality of behavior, such as increasing knowledge, skills, thinking power, understanding, attitudes and various other abilities. Learning is something that is a process and is a fundamental element in each level of education (Djamaluddin, 2019).

Sleep is an important need for our body. Because by sleeping, we can rest our bodies after being tired from activities all day. One person to another definitely has different sleep needs. The higher level 2 development, the less sleep the need for. Having a poor sleep pattern will affect your health. Children will easily feel tired and if their sleep patterns are not changed this can cause their immune system to decrease. However, it not only affects health but also

affects behavior. Children become hyperactive, cannot concentrate on studying, and have behavioral problems both at school and at home (Yohana Intan Dili Susanti, 2018).

Learning concentration is a psychological condition that is often difficult for people other than the learner to understand. This is because sometimes what is felt through someone's actions is not always in accordance with what that person actually thinks. (Setyani & Ismah, 2018). According to the American Psychiatric Association (APA), 1-20% of school-aged children have difficulty concentrating on studying, either with or finding it difficult to understand what they have learned, which makes it difficult for them to complete assignments, quizzes, and tests. This can affect learning outcomes. A study in the journal *Psychological Medicine* claims that one of the problems that children often face is difficulty focusing and remembering things. The challenges for children's potential to develop optimally at school are influenced by this. (Annisa, 2019).

The best source of energy for the brain to focus in class is breakfast. Apart from that, breakfast has an impact on brain function. It energizes the brain and can improve memory and concentration. (Masrikhiyah & Octora, 2020). Sleep is an important physiological process for humans, where the purpose of sleep is to maintain and maintain health, in addition to its biopsychosocial and cultural functions (Haryati, 2020). Sleep is a person's condition in unconsciousness which is one of the basic human needs. Getting enough sleep depends on 2 factors, namely sleep quantity and sleep depth. If there is no indication of lack of sleep, then the quality of sleep is considered good. Many of today's young age groups experience sleep disturbances or lack of sleep, especially students who often lack sleep, which has various negative impacts on individuals, such as difficulty concentrating on studying and decreased physical health (Djamalilleil & Dewi, 2021).

Nutritional status is a condition resulting from the balance between nutritional intake and needs required by the body. Each person has a different nutritional status seen in terms of age, gender, activity level and so on (Par'i, Nutritional Status Assessment Equipped with a Standardized Care Process, 2019). Nutritional status is currently still a problem for developing countries which has an impact on the growth and development of the young generation itself. Many children and teenagers today do not get food that can meet their nutritional needs during their growth period. This will have an impact on growth and development which will tend to slow down due to lack of nutritional intake. Indonesia, as one of the developing countries in the world, has cases of malnutrition affecting children and adolescents. According to data from the Ministry of Health, there are around 3.5 million children (19.2%) who are undernourished and 1.5 million children are malnourished (8.4%) (Dipkes RI, 2018; Minister of Health 2020).

One of the organs that will be directly affected is the brain. If food intake is insufficient and does not contain the substances needed by the body and this continues for a long time, it will cause metabolic changes in the brain so that the brain will lack an adequate supply of nutrients for optimal brain performance. In chronic conditions, malnutrition can cause body growth to be disrupted and the number of cells in the brain will increase so that there will be an imbalance and perfection of biochemical organization in the brain (Sudarjat, 2019; Mahyiddin et al., 2020).

Study Concentration

School is a time when every individual has the opportunity to study to realize what they have dreamed of since childhood. In order to achieve the intended goals, individuals must continue to strive optimally according to their abilities or even exceed their own abilities. In

realizing the ideals, every individual requires a learning process (Nasrullah, 2018). The meaning of learning is a process of changing a person's personality where the change is in the form of improving the quality of behavior, such as increasing knowledge, skills, thinking power, understanding, attitudes and various other abilities. Learning is something that is a process and is a fundamental element in each level of education (Djamaluddin, 2019).

According to the American Psychiatric Association (APA), 1-20% of school-aged children experience difficulty concentrating in learning, either with or without hyperactivity. The impact of students who suffer from learning focus disorders find it difficult to understand what they have learned, which makes it difficult for them to complete assignments, quizzes and tests. This can affect learning outcomes. A study in the journal *Psychological Medicine* claims one of the problems that children often face namely difficulty focusing & remembering things. The challenges for children's potential to develop optimally at school are influenced by this. (Annisa, 2019).

2 Method

The type of research used in this research is quantitative using descriptive methods, this was chosen because it allows direct observation of an event, data collection requires a short time, and provides fast results (Zangirolami-Raimundo et al., 2018). This research aims to determine the relationship between sleep patterns and nutritional status and study concentration

Population

Population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn. (Sugiyono, 2020). The population in this study were all FIKK UNM swimming athletes

Sample

The sample is part of the population which is included in the number and characteristics of the population (Irawan, 2022). The sample in this study was all swimming athletes. A sampling technique where the number of samples is the same as the population. The reason for taking total sampling was because the population was less than 100.

Data Analysis Techniques

a. Univariate Analysis

Univariate analysis was used to explain the variables in the research. The display of the results of variable analysis with categorical data, in the form of frequencies and percentages, will be presented in table form.

b. Bivariate Analysis

Bivariate analysis is analysis carried out on two variables. The types of tests used can be relationship tests, difference tests and the magnitude of risk. In this bivariate analysis, it is carried out to connect the independent variable and the dependent variable which is used to test the relationship between two variables and measure the strength of the relationship between the two variables.

3 Result

1. Univariate Analysis

a. Characteristics of Research Respondents

Table 1. Characteristics of Respondents Based on Gender among FIKK UNM Swimming Athletes

Gender	n	%
Man	13	43.3
Women	17	56.7
TOTAL	30	100

Based on table 1, it shows the characteristics of respondents based on gender, namely, 13 respondents were male (43.3%) and 17 respondents were female (56.7%).

Table 2. Characteristics of Respondents Based on Age of FIKK UNM Swimming Athletes

Age	n	%
17 Year	2	6.7
18 Year	20	66.7
19 Year	8	26.6
TOTAL	30	100

Based on table 2, it shows the characteristics of respondents based on age, namely, 2 respondents aged 17 years (6.7%), 20 respondents aged 18 years (66.7%) and 8 respondents aged 19 years (26.6%).

a. Research Distribution

Tabel 3. Distribution of Respondents Based on Sleep Patterns of FIKK UNM Swimming Athletes

Variable	n	%
Good	12	40
Enough	10	30,3
Not Enough	2	06,7
TOTAL	30	100

The results of uivariate analysis based on Table 4.3 on the variable type of level of knowledge of sleep patterns show that the majority of respondents have sleep patterns that are categorized as poor, namely 2 respondents (06.7%). Respondents who had adequate sleep patterns were 10 respondents (30.3%), and respondents who had good sleep patterns were 12 respondents (40%).

Tabel 4. Distribution of Respondents Based on Knowledge Level of Nutritional Status of Respondents at FIKK UNM Swimming Athletes

Variable	n	%
Very Good	1	3.3
Good	18	60
Enough	9	30
Not Enough	2	6.7
TOTAL	30	100

The results of the univariate analysis based on Table 4.4 on the variable type of level of knowledge of nutritional status among respondents show that some of the 30 respondents had a level of knowledge of nutritional status that was categorized as very good, namely 1 respondent (3.3%). There were 18 respondents (60%) in the good category, 9 respondents in the fair category (30%), and 2 respondents in the poor category (6.7%).

Tabel 5. Distribution of Respondents Variable Results Based on Learning Concentration

Variable	n	%
Very Good	2	6.7
Good	24	80
Enough	4	13.3
Not Enough	0	0
TOTAL	30	100

The results of univariate analysis based on Table 4.5 on the type of learning concentration variable show that respondents have learning concentration in the very good category, namely 2 respondents (6.7%). Meanwhile, there were 24 respondents (80%) with study concentration in the good category, in the fair category 4 respondents (13.3%) had these characteristics. So from the results of the analysis based on learning concentration, it is mostly in the good category.

1. Analisis Bivariat

This analysis was carried out to determine the relationship between the independent variable (Nutritional Status) and the dependent variable (Learning Concentration) which carried out cross-tabulation statistical tests using the chi-square statistical test and a computerized system with a significant limit of p value <0.05 that there was a significant relationship and it was said There is no significant relationship if the p value is > 0.05 .

Tabel 6. Results of analysis of the relationship between nutritional status and learning concentration of FIKK UNM swimming athletes

Nutritional status	Study concentration				Total
	Very Good	Good	Enough	Not Enough	
Malnutrition	0	0	0	0	0

Malnutrition	0	2	1	0	3
Good nutrition	1	20	3	0	24
obesity	1	2	0	0	3
Total	2	24	4	0	30

Table 6. above illustrates the relationship between nutritional status variables and learning concentration, showing that respondents have nutritional status in the good nutrition category, namely. as many as 24 respondents. The test of the relationship between sleep patterns and study concentration which was carried out using the chi square test showed that the p-value = 0.025 (p-value < 0.05). Based on these values, it can be concluded that Ha is accepted, which means there is a significant relationship between sleep patterns and study concentration.

4 Discussion

The results of the univariate test in the table related to the characteristics of respondents show that in terms of age, there are several levels of FIKK UNM Swimming Athlete, namely aged 17 - 19 years, where this level is included in the teenage group. Apart from that, in terms of gender, it is known that the number of female respondents is greater than male respondents. According to Sulistyowati (2019) age influences a person's ability to understand and think. As you get older, your understanding and way of thinking will also develop. Age can influence a person's knowledge, the older they are, the higher their level of maturity in thinking and working capacity.

The results of the univariate test on the sleep pattern table show that the majority of respondents have sleep patterns that are categorized as poor, namely 2 respondents (06.7%). Respondents who had adequate sleep patterns were 10 respondents (30.3%), and respondents who had good sleep patterns were 12 respondents (40%). These results can be concluded that the sleep patterns of FIKK UNM swimming athletes are relatively good. When you are a teenager, sleep quality becomes important, this is because adolescence is a time when the body's growth and development will be very rapid so adequate sleep and rest are very necessary (Gunarsa & Wibowo, 2021).

The results of the univariate test in the table above regarding the level of nutritional status show that of the 30 respondents, the largest percentage had a level of knowledge of nutritional status that was categorized as very good, namely 1 respondent (3.3%). There were 18 respondents (60%) in the good category, 9 respondents in the fair category (30%), and 2 respondents in the poor category (6.7%). These results can be concluded that the nutritional status of FIKK UNM swimming athletes is relatively good. Nutritional status is an indicator of the need for nutrients needed to carry out activities. The need for nutrients such as carbohydrates, fats and proteins as energy-giving substances, especially carbohydrates, is really needed by the brain for thinking and the need for nutrients can support the learning process better (Welis & Afrinaldi, 2021).

The results of the univariate test in the table above regarding the level of learning concentration show that of the 30 respondents, the largest percentage of those completing the learning concentration questionnaire were those who had learning concentration in the very good category, namely 2 respondents (6.7%). Meanwhile, there were 24 respondents (80%)

with study concentration in the good category, in the fair category 4 respondents (13.3%) had these characteristics. So it can be concluded that the nutritional status of FIKK UNM swimming athletes is relatively good.

Based on the results of the bivariate test in this study, it shows that of the 30 respondents the nutritional status variable was good/normal. The test of the relationship between sleep patterns and study concentration which was carried out using the chi square test showed that the p -value = 0.025 (p -value < 0.05). Based on these values, it can be concluded that H_a is accepted, which means there is a significant relationship between sleep patterns and study concentration.

Nutritional status is a condition that explains or states a level or figure of a person's nutritional adequacy, which means it can be called normal nutrition or malnutrition (Antoni, R., & Bakhtiar, S, 2019). According to Kamal, et al (2018) Insufficient or poor nutrition in children can result in disruption of intelligence growth. The importance of good nutritional status for students for growth and concentration of thinking should be realized by teachers and parents so that they always control the nutritional status of athletes so that the goal of increasing athletes' learning concentration can be achieved.

5 Conclusion

Based on the results of the data and discussion from this research, it can be concluded that there is a relationship between nutritional status and learning concentration. Based on the results of the chi square statistical test, p -value (0.025) or $p > 0.05$ is obtained, which means there is a significant relationship between nutritional status and learning concentration.

Acknowledgments (if applicable). The heading should be treated as a 3rd level heading and should not be assigned a number.

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