

The Relationship Between Breakfast Habits and Learning Achievement Among Students of Senior High School 1 Kertosono, Nganjuk Regency

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ABSTRACT

Breakfast is typically consumed between 6:00 and 9:00 in the morning and contributes providing 15 to 30 percent of daily energy intake. Breakfast in the morning is very important for school children because it will have an impact on their learning achievement. This study aimed to examine the correlation between breakfast habits and learning achievement in students of SMA Negeri 1 Kertosono Nganjuk Regency. This study uses a cross-sectional design and is an analytical observational study. Simple random sampling was employed, with a sample size of 58 students. Data collected by interviewing students about their breakfast habits and obtaining their 2nd Midterm Exam scores for the 2023/2024 academic year. The results of statistical tests using the Spearman Rank Correlation test show that there is no relationship between breakfast habits and learning achievement among students of SMA Negeri 1 Kertosono Nganjuk Regency. Nevertheless, students are encouraging to have breakfast every day with a diverse menu and portions in align with balanced nutrition guidelines before engaging in learning activities at school.

INTRODUCTION

Adolescence is a transitional period from childhood to adulthood, usually between the ages of 13 and 20. During this time, adolescents go through physical, psychological, and developmental patterns and identification from childhood to adulthood¹. The nutritional needs of adolescents increase significantly with age. Adolescents need energy, protein, calcium, iron, zinc, and vitamins to support daily physical activities such as school activities and other daily activities. If the body receives enough nutrients and utilizes them effectively, optimal nutrition is achieved. This supports physical growth, brain development, work ability, and overall health^{2,3}. If the food consumed does not contain enough nutrients for the brain's needs and this situation persists for a long time, it will cause changes in brain metabolism which results in the inability of the brain to function normally. Malnutrition can also cause structural and functional changes in the brain. A person's learning process can be disrupted if their health is compromised. Health can be affected if the nutritional intake received is not balanced with learning activities. A person's nutritional intake can affect their ability to learning⁴⁻⁶.

Breakfast is an activity of taking food and drinks in the morning from 6 to 9 am, helps the body meet some of its nutritional requirements for the day (15 to 30 percent of daily nutrient requirements). If not eaten in the morning, the body will feel weak during activities and thinking due to the lack of nutrients received⁷⁻¹⁰. Based on surveys in developed countries, the prevalence of school children skipping breakfast is between 12% and 34%. As for Indonesia, the prevalence of school children skipping breakfast is between 41.2% and 54.5%¹¹. Students who do not eat breakfast can feel hungry, causing a lack of concentration when learning, thus affecting their concentration ability. The impact of this lack of concentration can be reflected in learning outcomes, students who do not eat breakfast tend to get lower learning outcomes than students who regularly eat breakfast¹².

Based on the results of an initial survey of 35 students in class XI of SMA Negeri 1 Kertosono Nganjuk Regency, it is known that 18 students (51.42%) are used to having breakfast and the remaining 17 students (48.57%) are not used to having breakfast. This situation is caused by several factors, one of which is because the distance of their homes is quite far from school requiring them to leave early so they often skip breakfast at home and replace it at lunch time at school. Based on this research, the author is interested in whether there is a relationship between breakfast habits and learning achievement in students of SMA Negeri 1 Kertosono Nganjuk Regency.

MATERIALS AND METHODS

This study is an analytic observational study with a cross-sectional research design. This study was conducted at SMA Negeri 1 Kertosono, Nganjuk Regency in September 2023-April 2024. Sampling was conducted using simple random sampling technique with a sample size of 58, where this technique takes samples randomly from the entire population without regard to strata in the population^{13,14}. The sample used must comply with the inclusion and exclusion criteria. The inclusion criteria are 11th active students in SMA Negeri 1 Kertosono, agree to be respondents, have good communication skills, and are physically and mentally healthy. While those included in the exclusion criteria are students in poor health and students who do not sign informed consent. Data collection was carried out by collecting data on breakfast habits and learning achievement of class XI students at SMA Negeri 1 Kertosono Nganjuk Regency. Data on breakfast habits were obtained through interviews using the 7x breakfast food recall form. Meanwhile, data on learning achievement is visible through the Midterm Examination outcomes. This study used univariate and bivariate analysis. Univariate analysis was conducted to provide each variable's description

presented in the form of a frequency distribution table. While bivariate analysis uses Spearman's rho test which is used to test the relationship between breakfast habits and learning achievement.

RESULTS

Characteristics of Respondents

Table 1. Frequency Distribution of Characteristic Respondent

Variable	n	%
Age		
16 years old	12	20.7
17 years old	43	74.1
18 years old	3	5.2
Gender		
Female	36	62.1
Male	22	37.9
Nutritional Status		
Malnutrition	5	8.6
Normal	42	72.4
Overweight	8	13.8
Obesity	3	5.2
Total	58	100

Source: Primary Data, 2024

Based on table 1, the total number of panelists is 58 students, where the majority of respondents aged 17 years old are 43 panelists (74.1%) and most of them theme is female, which is 36 students as panelists with a percentage of 62.1%. Out of 58 students mostly had normal nutritional status, that is 42 respondents (72.4%).

Breakfast Habits and Breakfast Intake

Table 2. Frequency Distribution of Breakfast Habits and Breakfast Intake

Variable	n	%
Breakfast Habits		
Accustomed	36	62.1
Unaccustomed	22	37.9
Breakfast Intake		
Good (25-30%)	2	3.4
Bad (< 25% or > 30%)	56	96.6
Total	58	100

Source: Primary Data, 2024

Based on the table 2, it is known that most of students are accustomed to breakfast, as many as 36 students (62.1%). For breakfast intake, most of them that is 56 respondents with a percentage of 96.6% have a not good breakfast intake category.

Learning Achievement

Table 3. Frequency Distribution of Learning Achievement

Learning Achievement	n	%
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Excellent	4	6.9
Good	52	89.7
Sufficient	2	3.4
Total	58	100

Source: Secondary Data, 2024

Based on the results in table 3, it is known that respondents with good learning achievement were 52 respondents with a percentage of 89.7%

The Correlation Between Breakfast Habits and Learning Achievement

Table 4. Cross-tabulation of Breakfast Habits with Learning Achievement

Breakfast Habits	Learning Achievement								Total		P Value
	Excellent		Good		Sufficient		Less		n	%	
	n	%	n	%	n	%	n	%			
Accustomed	3	8.3	33	91.7	0	0	0	0	36	100	0.147
Unaccustomed	1	4.5	19	86.4	2	9.1	0	0	22	100	
Total	4	6.9	52	89.7	2	3.4	0	0	58	100	

Source: Primary Data, 2024

Based on cross-tabulation analysis in table 4, the results of processing research results accompanied by applying the Spearman's rho test capable of nominal Sig. (2-tailed) p value > 0.05, with a value of 0.147. It means there's no relationship between breakfast habits and learning achievement.

DISCUSSION

Breakfast Habits

From the research interviews, it was found that most of the respondents (62.1%) were accustomed to having breakfast, which means that during the seven days of the interview, the respondents had had breakfast ≥ 4 times. Respondents stated that it had been a habit to have breakfast for a long time, because they felt that skipping breakfast could interfere with activities in the morning. Not a few of the respondents experienced discomfort when doing activities without breakfast, such as feeling hungry and dizzy.

Respondents who were not accustomed to having breakfast accounted for 37.9% of the total respondents. Of the 37.9% of respondents who did not habitually eat breakfast, some had normal, overweight and obese nutritional status. This can be caused by a lack of understanding about breakfast and the importance of breakfast before doing activities. Respondents stated that the distance from home was one of the reasons why they often skipped breakfast for fear of being late for school.

According to the results obtained regarding breakfast intake, it shows that most respondents (96.6%) have an inadequate breakfast intake category, which means that respondents have an

average breakfast intake that does not reach 25% of the total daily energy intake. Most of the respondents only consumed carbohydrates and animal side dishes in small portions. Some of the respondents prefer to eat fast food such as bread, sachet energy drinks, milk, and instant noodles for breakfast¹⁵⁻¹⁷. This condition is influenced by parents who have not completed the preparation of food for breakfast in the morning, so respondents tend to consume practical and fast food so as not to be late to go to school¹⁸.

Learning Achievement

From the data collection on learning achievement, it was found that the majority of respondents (89.7%) had good learning achievement. Most of the respondents stated that apart from attending lessons at school, they also attended outside tutoring. By attending tutoring outside school, respondents have the opportunity to explore concepts that are difficult to understand at school and can overcome learning difficulties more intensively.

Learning achievement serves a number of purposes as a gauge for the quality and amount of knowledge that students have acquired. Therefore, it is very important to know and understand the learning achievement of a child, especially for high school / vocational school students who want to continue their education to a higher level¹⁹⁻²². Many universities, especially reputable ones, require a good academic record as one of the entry requirements. Good learning achievement during high school/vocational school can open up opportunities to be accepted at the desired college.

The Relationship Between Breakfast Habits and Learning Achievement

Based on the cross tabulation statistical test between breakfast habits and learning achievement, the p value = 0.147 (> 0.05), which means that there's no relationship between breakfast habits and learning achievement in students of SMA Negeri 1 Kertosono Nganjuk Regency. The majority of respondents (91.7%) who were accustomed to breakfast had good learning achievement. The unrelated relationship between breakfast habit and learning achievement may be due to several other factors that can affect a child's learning achievement, namely psychological, psychoemotional factors, school physical environment, classroom social environment, and family environment²³. In addition, SMA Negeri 1 Kertosono is known as one of the top high schools where students are known to have excellent intelligence academically.

Respondents stated that apart from studying at school they also attended outside tutoring. Tutoring has several benefits for students. Tutoring provided significant additional support in understanding materials and effective learning techniques for respondents^{24,25}. With this tutoring, respondents felt more confident to achieve good learning performance at school. So it can be said that out-of-school tutoring has an important contribution in improving their learning achievement²⁶⁻²⁸.

CONCLUSION

Based on the results of the research, it can be concluded that most of the respondents of SMA Negeri 1 Kertosono Nganjuk Regency students are 17 years old as many as 43 respondents (74.1%), female as many as 43 respondents (62.1%), and have normal nutritional status as many as 42 respondents (72.4%). Most of the respondents were accustomed to having breakfast, as many as 36 people (62.1%). Most respondents also have good learning achievement, as many as 52 people (89.7%). The results of the Spearman Rank Correlation test show that there is no relationship between breakfast habits and learning achievement in students of SMA Negeri 1 Kertosono Nganjuk Regency, with the results of p value = 0.147 (> 0.05). The absence of a relationship between these variables is because breakfast is not the main factor that can affect student learning achievement. There are other factors that can also affect learning achievement, namely the existence of tutoring outside of school which is followed by most respondents. However, students are encouraged to continue to make breakfast a habit with appropriate portions and a balanced menu to support their activities at school. Hopefully, there will be other studies with similar topics to find out other factors that can affect learning achievement.

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