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Original Research

The Relationship Between Pocket Money, Breakfast Habits and Nutritional Status Among Students at SDN Adiarsa Barat IV, Karawang Regency

Hubungan Uang Saku dan Kebiasaan Sarapan dengan Status Gizi Pada Siswa SDN Adiarsa Barat Iv Kabupaten Karawang

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Abstract: *Nutritional status among elementary school children is an important indicator of health, growth, and development, and may be influenced by dietary behaviors such as breakfast habits and pocket money. This study aimed to analyze the relationship between pocket money and breakfast habits with the nutritional status of students at SDN Adiarsa Barat IV, Karawang Regency. This study used a quantitative cross-sectional design involving 30 elementary school students selected as respondents. Data on pocket money and breakfast habits were collected using questionnaires, while nutritional status was determined based on body mass index (BMI) for age z-scores according to the Indonesian Ministry of Health 2020. Data analysis was performed using the Spearman correlation test. The results showed that there was no significant relationship between pocket money and nutritional status (p-value = 0.181; r = 0.338). However, breakfast habits were significantly associated with nutritional status (p-value = 0.003; r = -0.527). Students with poor breakfast habits were more likely to have overweight nutritional status, while students with good breakfast habits tended to have normal nutritional status. These findings indicate a potential association between breakfast habits and nutritional status among school-aged children. Therefore, schools and parents are recommended to support healthy breakfast habits and balanced eating patterns among elementary school children.*

Key word: breakfast habits, elementary school students, nutritional status, pocket money

1. INTRODUCTION

The nutritional status of elementary school children is one of the important indicators in determining children's health quality, growth, and development. During school age, children experience rapid physical growth and cognitive development, requiring balanced nutritional intake to optimally support learning activities and overall health. Imbalanced nutritional intake can lead to nutritional problems, including undernutrition and overnutrition, which may result in decreased immunity, impaired learning concentration, and an increased risk of diseases in the future (1). Data from the Indonesian Health Survey (2023) showed that among children aged 5–12 years, the prevalence of severe thinness was 3.5% and thinness was 7.5%. Meanwhile, the prevalence of overweight was 11.6% and obesity was 7.8% (2). These data indicate that nutritional problems among school-age children remain a public health issue requiring serious attention.

Breakfast habits are one of the key dietary behaviors associated with children's nutritional status. Breakfast provides an important source of energy that supports

physical activity, cognitive function, and learning performance in school-aged children. Children who frequently skip breakfast are more likely to experience low energy availability, which may negatively affect concentration and overall nutritional balance (3). A study conducted by Damian et al. (2025) found a significant relationship between breakfast habits and the nutritional status of elementary school children (4). Another study by Nuralisa et al. (2025) also reported that breakfast habits were associated with the nutritional status of elementary school children because breakfast helps fulfill children's daily energy requirements. These findings demonstrate that breakfast habits remain an important factor in preventing nutritional problems among school-age children (5).

In addition to breakfast habits, pocket money is also considered a factor that may influence children's nutritional status, as it determines their ability to purchase snacks in the school environment. Greater amounts of pocket money may increase access to energy-dense snacks, which can contribute to excess energy intake and the risk of overnutrition if not properly controlled (6). A study by Nasution et al. (2025) reported a significant association between pocket money and overweight status among elementary school children, explaining that pocket money may influence students' food choices and consumption patterns (7). However, other studies have reported no significant relationship between pocket money and nutritional status, suggesting that its effect may vary depending on contextual factors such as dietary habits at home, parental supervision, physical activity, and overall dietary quality. This inconsistency indicates that the role of pocket money in determining nutritional status is not yet fully understood and may be influenced by multiple interacting behavioral factors. Therefore, a clear research gap remains regarding how pocket money interacts with other behavioral factors, such as breakfast habits, in influencing nutritional status among school-aged children. Unlike previous studies that examined pocket money or breakfast habits separately, this study simultaneously analyzes both factors in relation to nutritional status among elementary school students.

The Indonesian government has implemented various efforts to improve the nutritional status of school children through balanced nutrition education programs, School Health Programs (UKS), and supplementary feeding programs for school children. Nevertheless, nutritional problems among school children continue to be found alongside changes in community consumption patterns, increased consumption of unhealthy snacks, and low breakfast habits among children. This condition indicates that children's eating behaviors in the school environment remain a challenge in efforts to improve nutritional status.

Karawang Regency, as one of the regions experiencing rapid urbanization and economic activity, has the potential for changes in children's consumption patterns. The school environment, which provides various types of snacks, along with children's habits of bringing pocket money, may influence their daily consumption behaviors. On the other hand, there are still students who are not accustomed to having breakfast before going to school. However, studies regarding the relationship between pocket money, breakfast habits, and nutritional status among elementary school students in Karawang Regency, particularly at SDN Adiarsa Barat IV, remain limited. Therefore, this study was conducted to analyze the relationship between pocket money and breakfast habits with the nutritional status of students at SDN Adiarsa Barat IV, Karawang Regency. This study is important as an effort to identify behavioral factors related to the nutritional status of school children so that the findings can serve as a basis for schools, health professionals, and parents in developing strategies to promote

healthy breakfast habits and proper pocket money management in order to improve the nutritional status of elementary school children.

2. METHODS

This study employed an analytical observational design with a cross-sectional approach to determine the relationship between pocket money and breakfast habits with the nutritional status of students at SDN Adiarsa Barat IV, Karawang Regency. The study was conducted from Februari 21st to April 27th, 2024. The population in this study consisted of all students at SDN Adiarsa Barat IV, Karawang Regency. A total of 30 students participated in this study. The sample was selected using a purposive sampling technique based on predetermined inclusion criteria. Inclusion criteria included students who were present during data collection and willing to participate in the study with permission from their parents or guardians. Students who had incomplete data or were absent during anthropometric measurements were excluded from the study.

Before the study was conducted, the researchers first carried out an initial permission and audience process with the school authorities of SDN Adiarsa Barat IV, Karawang Regency, to explain the purpose and plan of the study. After obtaining approval from the school, the researchers conducted a preliminary observation to identify the school conditions, the number of students, and the suitability of the research location with the study objectives. Subsequently, the researchers obtained a research permit letter from the university as an administrative requirement for conducting the study. The research permit letter was then submitted to the school principal of SDN Adiarsa Barat IV, Karawang Regency, as official approval for data collection activities.

After approval was obtained from the school principal and coordination with classroom teachers was completed, the researchers explained the objectives, benefits, and procedures of the study to the school authorities, teachers, and students. Prior to data collection, the researchers distributed research information sheets to parents or guardians and students containing information regarding the implementation of the study, including anthropometric measurements and interviews/questionnaires that would be conducted with the students. The researchers also informed participants that their participation was voluntary and that all collected data would be kept confidential and used only for research purposes. Permission from parents or guardians was obtained through an informed consent process before data collection was carried out.

Data collection was conducted according to the schedule agreed upon with the school to avoid disrupting the teaching and learning process. Pocket money and breakfast habit data were collected using a structured questionnaire developed based on previous literature and adjusted to the characteristics of elementary school students. Prior to use, the questionnaire was reviewed to ensure clarity and readability. Pocket money was defined as the amount of money received by students daily for school-related expenses and was categorized into low, moderate, and high categories based on the respondents' daily allowance. Breakfast habits were defined as students' eating habits before going to school and were categorized into poor, moderate, and good categories based on the frequency and regularity of breakfast consumption per week. Students completed the questionnaires with assistance from the researchers and classroom teachers to ensure that all questions were properly understood.

Nutritional status was assessed using Body Mass Index-for-age (BMI-for-age) z-scores based on the anthropometric standards for children issued by the Indonesian Ministry of Health in 2020. Body weight was measured using a digital weighing scale, while height was measured using a microtoise with students wearing light clothing and no footwear. BMI was calculated by dividing body weight (kg) by height squared (m^2), and nutritional status categories were determined according to the BMI-for-age (BMI/U) classification criteria established by the Ministry of Health in 2020.

The validity and reliability of the questionnaire were tested prior to data collection. The validity test was conducted using product-moment correlation, while reliability was assessed using Cronbach's alpha coefficient. The questionnaire was considered reliable if the Cronbach's alpha value was greater than 0.70. After all data had been collected, the researchers checked the completeness of the data and maintained respondents' confidentiality by not including students' names in the data processing sheets. The findings of the study were presented objectively and used solely for academic and scientific purposes.

Data were analyzed using SPSS version 27. Univariate analysis was performed to describe the characteristics of respondents. Bivariate analysis was conducted using the Chi-square test to determine the relationship between pocket money and breakfast habits with nutritional status. A p-value of <0.05 was considered statistically significant.

3. RESULTS

Table 1. Respondent Characteristics by Gender and Age

Characteristics	Frequency	
	n	%
Gender		
Male	20	66.7
Female	10	33.3
Age (Years)		
10	7	23.3
11	18	60.0
12	5	16.7
Total	30	100

Source: Primary Data, 2024

Based on Table 1, it is known that out of 30 respondents, the majority were 11 years old, totaling 18 students (60.0%), followed by 10-year-old students with 7 students (23.3%), and the fewest were 12 years old with 5 students (16.7%). Based on gender, most respondents were male, totaling 20 students (66.7%), while female respondents accounted for 10 students (33.3%). These results indicate that the characteristics of respondents in this study were predominantly male students, with the largest age group being 11 years old.

Table 2. The Relationship Between Pocket Money, Breakfast Habits, and Nutritional Status Among Students at SDN Adiarsa Barat IV, Karawang Regency

Variables	Underweight n (%)	Normal n (%)	Overweight n (%)	p-value	Correlation Coefficient
Pocket Money				0.181	0.338
Low	5 (22.7%)	11 (50.0%)	6 (27.3%)		
Moderate	0 (0.0%)	3 (50.0%)	3 (50.0%)		
High	0 (0.0%)	2 (100.0%)	0 (0.0%)		
Breakfast Habits				0.003	-0.527
Poor	0 (0.0%)	4 (40.0%)	6 (60.0%)		
Moderate	3 (21.4%)	8 (57.1%)	3 (21.4%)		
Good	2 (33.3%)	4 (66.7%)	0 (0.0%)		

Based on Table 2, it was found that for the pocket money variable, respondents with low pocket money mostly had normal nutritional status, totaling 11 students, and overweight nutritional status, totaling 6 students, while 5 students were underweight. Among respondents with moderate pocket money, there were 3 students each with normal and overweight nutritional status, and no respondents with underweight nutritional status. Meanwhile, respondents with high pocket money mostly had normal nutritional status, totaling 2 students, and there were no respondents with underweight or overweight nutritional status. Pocket money was categorized into low (<Rp10,000/day), moderate (Rp10,000–15,000/day), and high (>Rp15,000/day) based on the distribution of respondents' daily allowance. The results of the bivariate analysis using the Spearman Test showed a p-value of 0.181 ($p > 0.05$), therefore H0 was accepted, and it can be concluded that there was no significant relationship between pocket money and nutritional status among students at SDN Adiarsa Barat IV, Karawang Regency. The correlation coefficient value of 0.338 indicates a positive relationship with weak strength.

Based on the cross-tabulation between breakfast habits and nutritional status, it was found that respondents with poor breakfast habits mostly had overweight nutritional status, totaling 6 students, and normal nutritional status, totaling 4 students, while there were no respondents with underweight nutritional status. Among respondents with moderate breakfast habits, most had normal nutritional status, totaling 8 students, followed by underweight and overweight nutritional status with 3 students each. Meanwhile, respondents with good breakfast habits mostly had normal nutritional status, totaling 4 students, and underweight nutritional status, totaling 2 students, while there were no respondents with overweight nutritional status.

Breakfast habits were assessed using a structured questionnaire consisting of 10 items related to breakfast practices and eating behavior before school. Each item was scored using a Likert scale ranging from 1 to 5, namely never (1 point), rarely (2 points), sometimes (3 points), often (4 points), and always (5 points). The total score ranged from 10 to 50 and was categorized into poor (9–20 points), moderate (21–32 points), and good (33–45 points) breakfast habits. For statistical analysis, ordinal scores were assigned as poor = 1, moderate = 2, and good = 3. The results of the bivariate analysis using the Spearman Test showed a p-value of 0.003 ($p < 0.05$), therefore H0 was

rejected, and it can be concluded that there was a significant relationship between breakfast habits and nutritional status among students at SDN Adiarsa Barat IV, Karawang Regency. The correlation coefficient value of -0.527 indicates a negative relationship with moderate strength.

4. DISCUSSION

The results of this study showed that pocket money was not significantly associated with the nutritional status of students at SDN Adiarsa Barat IV, West Karawang Regency. The pocket money variable had a p-value of 0.181 ($p > 0.05$) with a correlation coefficient of 0.338. Nevertheless, the correlation coefficient indicates a positive direction with weak to moderate relationship strength. This suggests that higher pocket money tends to be associated with an increase in nutritional status; however, the relationship was not statistically strong enough.

The non-significant relationship between pocket money and nutritional status may be caused by several other factors that more dominantly influence children's nutritional status, such as eating patterns at home, parental supervision, physical activity, and the quality of foods consumed by the children. The amount of pocket money is not always used to purchase high-energy or low-nutrient foods, as some children may bring meals from home or receive parental supervision in choosing snacks. In addition, nutritional status is a multifactorial condition influenced not only by simple economic factors such as pocket money, but also by eating habits, daily nutrient intake, and the family environment.

The findings of this study are consistent with the study conducted by Putri et al. (2025), which reported that there was no relationship between pocket money and nutritional status, with a p-value = 0.460 (8). The nutritional status of school-aged children is more influenced by consumption patterns and snacking habits than by the amount of money they possess. Children with good nutritional knowledge tend to choose healthier foods even when they have limited pocket money (9). Furthermore, a study by Rosyidah & Andrias (2015) stated that pocket money may increase children's opportunities to buy high-energy foods; however, its effect on nutritional status is also influenced by breakfast habits and physical activity (6).

Theoretically, pocket money can affect nutritional status because children with greater pocket money have broader access to food and snacks at school. This finding is supported by evidence showing that children's dietary behaviors are more strongly influenced by home food environment and parental control than by individual financial resources such as pocket money (10). However, if the food choices consumed remain balanced in quantity and quality, increased pocket money does not always lead to changes in nutritional status. In this study, it was found that most respondents with low pocket money actually had normal nutritional status. This indicates that the children's nutritional needs were likely still fulfilled through main meals at home, so pocket money was not the primary determining factor of nutritional status.

Meanwhile, for the breakfast habits variable, a p-value of 0.003 ($p < 0.05$) was obtained, with a correlation coefficient of -0.527. These results indicate a significant relationship between breakfast habits and students' nutritional status, with a moderate relationship strength and a negative correlation direction. The negative correlation indicates that the better the students' breakfast habits, the lower the tendency for overweight

nutritional status, whereas students with poor breakfast habits were more frequently found in the overweight category.

These findings indicate that breakfast plays an important role in maintaining the balance of daily energy intake among school-aged children. Children with irregular breakfast habits tended to have a higher proportion of overweight nutritional status compared to those with better breakfast habits. Skipping breakfast may lead to increased hunger later in the day, which can trigger higher intake of energy-dense foods and unhealthy snacking behaviors, thereby contributing to excessive energy intake. This mechanism is supported by recent evidence showing that breakfast skipping is consistently associated with poorer dietary quality and an increased risk of overweight and obesity in children and adolescents across multiple populations (11). A large meta-analysis involving more than 300,000 participants further demonstrated that breakfast skipping significantly increases the risk of overweight and obesity, with pooled estimates indicating a consistent positive association between breakfast omission and excess body weight (12). In addition, observational evidence shows that breakfast skipping is associated with higher body mass index (BMI), increased waist circumference, and less favorable metabolic profiles in pediatric populations (13).

Beyond energy intake regulation, breakfast consumption has also been linked to improved overall dietary quality and better nutrient adequacy throughout the day (14). This suggests that breakfast habits may function as a behavioral marker of a healthier overall lifestyle, including more structured eating patterns and improved diet quality. Therefore, children who regularly consume breakfast are more likely to maintain balanced nutritional status compared to those who frequently skip breakfast.

The findings of this study are consistent with the study conducted by Nuralisa et al. (2025), which showed a significant relationship between breakfast habits and the nutritional status of elementary school children, with a p-value of 0.001 (5). Children who did not regularly eat breakfast had a higher risk of experiencing nutritional problems compared to children who regularly ate breakfast. Another study by Hanim et al. (2022) also stated that breakfast plays an important role in fulfilling the energy needs of school-aged children and helps maintain normal nutritional status (1). Good breakfast habits are associated with more optimal nutritional status among elementary school students because breakfast helps fulfill approximately 15–25% of children's daily energy requirements (15). This is in accordance with the balanced nutrition concept, which states that breakfast is one of the important mealtimes for providing energy before children engage in learning and playing activities at school.

Overall, the results of this study suggest that regular breakfast consumption is associated with more favorable nutritional status among elementary school children. However, given the cross-sectional design, causality cannot be inferred. Breakfast habits may also reflect broader dietary behaviors and lifestyle patterns that collectively influence nutritional outcomes. This study has several limitations. The relatively small sample size (n = 30) from a single elementary school limits generalizability. In addition, the cross-sectional design prevents causal inference between breakfast habits and nutritional status. Potential confounding factors such as total dietary intake, physical activity, parental nutritional knowledge, and snack consumption were not assessed. Future studies with larger samples and more comprehensive variables are recommended to better clarify these relationships.

5. CONCLUSION

This study showed that there was no significant relationship between pocket money and nutritional status among students at SDN Adiarsa Barat IV, Karawang Regency. However, breakfast habits were significantly associated with students' nutritional status, where students with poorer breakfast habits tended to have a higher risk of overweight nutritional status. These findings highlight the importance of promoting regular and healthy breakfast habits among elementary school children to support better nutritional status. Further studies with larger sample sizes and additional variables are recommended to provide a more comprehensive understanding of factors influencing children's nutritional status.

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