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The Relationship Between Fast Food Consumption Behavior and the Incidence of Overweight Among Adolescents at SMPN 1 Baitussalam Aceh Besar

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ABSTRACT

Overweight among adolescents is a condition in which body weight exceeds the normal range for age, height, and sex, as measured by Body Mass Index (BMI). One of the contributing factors is the frequent consumption of fast food, which is typically high in calories, fat, and sugar but low in fiber and essential nutrients. This study aimed to examine the relationship between fast-food consumption behavior and the incidence of overweight among adolescents at SMPN 1 Baitussalam, Aceh Besar. This study employed a quantitative research design with a cross-sectional approach. The study population consisted of 223 students in grades VII and VIII, and a sample of 69 respondents was selected using simple random sampling based on the Slovin formula. Data were collected using a Food Frequency Questionnaire (FFQ), while body weight and height were measured directly to calculate BMI. Data were analyzed using univariate and bivariate analyses with the Chi-square test. The results showed that 58.0% of the students frequently consumed fast food, while 39.1% were classified as overweight. The Chi-square test yielded a p-value of 0.000 (<0.05), indicating a statistically significant relationship between fast-food consumption behavior and the incidence of overweight among adolescents at SMPN 1 Baitussalam, Aceh Besar. The findings suggest that adolescents who frequently consume fast food are at a higher risk of being overweight than those who consume it less frequently. Therefore, schools and parents are encouraged to improve adolescents' knowledge of healthy eating habits and reduce the frequency of fast-food consumption as a strategy to prevent overweight.

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INTRODUCTION

Adolescence is a transitional stage from childhood to adulthood, generally ranging from 10 to 18 years of age. During this period, adolescents undergo significant physical, psychological, and social changes, making them more susceptible to influences from their surroundings, including peers and the existing social culture. Students at SMPN 1 Baitussalam are individuals who are in the process of developing their identity and tend to be more exploratory in trying new things, including dietary patterns and food consumption habits (UU Nomor 25 Tahun 2009).

Overweight among adolescents is a condition in which an adolescent has a body weight exceeding the normal range for age, height, and sex, as measured by Body Mass Index (BMI). Adolescents are classified as overweight when their BMI falls between the 85th and 95th percentiles for their age and sex. Factors contributing to overweight among adolescents include unhealthy eating patterns, such as the consumption of fast food that is high in calories, fat, and sugar, as well as inadequate intake of nutritious foods such as fruits and vegetables (Dinda Qatrunnada, 2022). This condition may have negative impacts on both physical and mental health; therefore, preventing and managing overweight through the promotion of healthy lifestyles is essential.

Food is one of the basic human needs that must be fulfilled to maintain survival and health (FAO, 2020). Food consumption behavior refers to dietary habits that are developed through repeated eating practices (Mardatila, 2019). Human behavior consists of three components: knowledge, attitudes, and practices. These components form an individual's food consumption behavior, which greatly influences optimal growth and development (Supariasa, 2019). Along with the advancement of modern society, the variety and availability of food have increased, leading to the emergence of innovations such as fast food (Dewi Kordia Triana, 2020).

Fast food refers to food that is prepared and served quickly and is ready to eat, such as fried chicken, pizza, hamburgers, French fries, and similar foods. Fast food has become a popular choice because it is easily available, convenient, affordable, and offers a wide variety of flavors. However, excessive consumption of fast food may negatively affect health because these foods are generally high in calories, sugar, and fat while being low in fiber and other essential nutrients (Kementerian Kesehatan RI, 2022; WHO, 2020).

Adolescents are particularly vulnerable to lifestyle changes, including dietary habits. Fast food has become an integral part of the modern lifestyle, especially among adolescents. Several studies have reported that the most frequently consumed fast foods among adolescents include hamburgers, pizza, French fries, and fried snacks. These foods are typically high in calories, fat, and sugar but low in fiber and essential nutrients. Excessive consumption of fast food has become a serious health concern because it increases the risk of obesity, diabetes mellitus, and cardiovascular diseases (Larson et al., 2022; Dinda Qatrunnada, 2022).

Based on a preliminary observation conducted at SMPN 1 Baitussalam, the school is located near a shopping area, making access to fast food relatively easy. A survey of the school environment found several food vendors selling fried snacks, meatballs, instant noodles, siomay, batagor, and various packaged foods. During school breaks, students commonly purchased food from the school cafeteria and nearby vendors. Several students with overweight body proportions were also observed consuming fast food. These findings indicate a potential association between fast-food consumption behavior and overweight among adolescents. Therefore, further scientific investigation is needed to objectively examine this relationship.

Based on this background, the research question of this study is whether there is an association between fast-food consumption behavior and overweight among adolescents at SMPN 1 Baitussalam. The general objective of this study is to determine the association between fast-food consumption behavior and overweight among adolescents at SMPN 1 Baitussalam. Specifically, this study aims to identify fast-food consumption behavior and the incidence of overweight among adolescents at SMPN 1 Baitussalam and to analyze the association between these two variables.

METHOD

This study employed a quantitative research design using a cross-sectional approach. A cross-sectional design is a study in which observations or measurements of variables are conducted only once at a single point in time, with each subject being observed only once and all research variables measured simultaneously (Aziza, 2017).

The study was conducted at SMPN 1 Baitussalam, Kajhu, Baitussalam District, Aceh Besar Regency, from December 2024 to September 2025. The study population consisted of 223 seventh- and eighth-grade students at SMPN 1 Baitussalam. The sample was selected using a simple random sampling technique. The sample size was calculated using the Slovin formula with a 10% margin of error, resulting in a total sample of 69 respondents.

The inclusion criteria were seventh- and eighth-grade students who had basic knowledge regarding fast-food consumption and overweight. The exclusion criteria were students who were ill during the data collection period and those who were unwilling to participate in the study.

The independent variable was fast-food consumption behavior, while the dependent variable was the incidence of overweight among adolescents. Fast-food consumption behavior was assessed using the Food Frequency Questionnaire (FFQ) adopted from Padondan & Sumarni (2020), consisting of 13 items measured on a four-point Likert scale. The total score ranged from 1 to 52 and was categorized as Frequent (26–52) and Infrequent (1–25). Overweight was determined by calculating Body Mass Index (BMI) using the formula: BMI = body weight (kg) / height (m)^2. The BMI values were subsequently classified according to the WHO 2007 growth reference for children and adolescents aged 5–19 years as Normal (−2 SD to +1 SD) and Overweight (> +1 SD).

Data were analyzed using univariate analysis to describe the frequency distribution of each variable and bivariate analysis using the Chi-square test to determine the association between fast-food consumption behavior and overweight, with a significance level of $p < 0.05$.

RESULT AND DISCUSSION

This study was conducted at SMP Negeri 1 Baitussalam, Aceh Besar, located in Kajhu, Baitussalam District, Aceh Besar Regency. The school is approximately 15 minutes from the city center and is strategically located near numerous fast-food vendors. Consequently, students at the school frequently consume fast food sold around the school environment.

Table 1. Frequency Distribution of Respondents' Characteristics

Characteristics	Frequency (n)	Percentage (%)
Sex		
Male	35	50.7
Female	34	49.3
Grade		
Grade VII	34	49.3
Grade VIII	35	50.7
Age		
12 years	15	21.7
13 years	35	50.7
14 years	19	27.5
Total	**69**	**100**

Based on Table 1, of the 69 respondents, 35 (50.7%) were male and 34 (49.3%) were female. Based on grade level, 34 (49.3%) respondents were in Grade VII and 35 (50.7%) were in Grade VIII. Based on age, 15 (21.7%) respondents were 12 years old, 35 (50.7%) were 13 years old, and 19 (27.5%) were 14 years old.

Table 2. Frequency Distribution of Fast-Food Consumption Behavior

Fast-Food Consumption Behavior	Frequency (n)	Percentage (%)
Frequent	40	58.0
Infrequent	29	42.0
Total	**69**	**100**

Based on Table 2, among the 69 respondents, 40 (58.0%) were categorized as frequently consuming fast food, while 29 (42.0%) were categorized as infrequently consuming fast food.

Table 3. Frequency Distribution of Overweight

Overweight Status	Frequency (n)	Percentage (%)
Normal	42	60.9
Overweight	27	39.1
Total	**69**	**100**

Based on Table 3, of the 69 respondents, 42 (60.9%) had normal body weight, whereas 27 (39.1%) were classified as overweight.

Table 4. Association Between Fast-Food Consumption Behavior and Overweight

Fast-Food Consumption Behavior	Normal		Overweight		Total		α	*p*-value
	n	%	n	%	n	%		
Frequent	14	35.0	26	65.0	40	100	0.05	0.000
Infrequent	27	93.1	2	6.9	29	100		
Total	**41**	**59.4**	**28**	**40.6**	**69**	**100**		

Based on Table 4, among the 40 respondents who frequently consumed fast food, 14 (35.0%) had normal body weight and 26 (65.0%) were overweight. Meanwhile, among the 29 respondents who infrequently consumed fast food, 27 (93.1%) had normal body weight and only 2 (6.9%) were overweight. The Chi-square test showed a p-value of 0.000 (< 0.05), indicating a statistically significant association between fast-food consumption behavior and overweight among adolescents at SMP Negeri 1 Baitussalam, Aceh Besar.

The results showed that, among the 69 respondents, 58.0% frequently consumed fast food, while 42.0% consumed fast food infrequently. These findings are consistent with the study conducted by Padondan & Restiana (2020), which reported a significant association between fast-food consumption and obesity among adolescents (p-value = 0.000 < 0.05). Similarly, Permatasari et al. (2024) found that a considerable proportion of adolescents still frequently consume fast food, contributing to unhealthy lifestyle patterns.

Fast food refers to food that can be prepared and served instantly within a short period. It generally contains excessive amounts of energy, carbohydrates, and fat, resulting in an imbalanced nutritional composition. Continuous and habitual consumption of fast food during adolescence increases the risk of developing non-communicable diseases (Nurazizah, 2018; Samingan & Octaviani, 2021). Based on these findings, the researchers assume that students at SMPN 1 Baitussalam frequently consume fast food both within and outside the school environment. Such dietary behavior may increase the risk of developing non-communicable diseases, including overweight.

The present study also found that 60.9% of respondents had normal body weight, whereas 39.1% were overweight. These findings are in line with the study conducted by Juhaini & Saputra (2025), which reported that obesity among adolescents is not solely influenced by dietary patterns but is also closely related to lifestyle, social environment, and educational level. Likewise, Maranressy et al. (2023) found a significant association between fast-food consumption and central obesity, with a p-value of 0.000 (<0.05).

Obesity is one of the major public health problems requiring special attention because it ranks as the fifth leading cause of death worldwide, contributing to approximately 2.8 million deaths annually (Sari & Nugroho, 2021). Adolescent obesity is also associated with elevated blood pressure and an increased risk of cardiovascular diseases later in adulthood (Fatmawati,

2019). Based on the researchers' assumption, adolescents who consume fast food more frequently are at greater risk of becoming overweight.

The Chi-square analysis demonstrated a p-value of 0.000 (<0.05), indicating a statistically significant association between fast-food consumption behavior and overweight among adolescents at SMP Negeri 1 Baitussalam, Aceh Besar. This finding is consistent with the study by Sumiati et al. (2022), which reported a p-value of 0.000, indicating a significant relationship between fast-food consumption and obesity among adolescents. Similarly, Fajri et al. (2025) reported a p-value of 0.001 (<0.05), confirming a significant association between fast-food consumption and obesity among adolescents.

In general, fast food contains high amounts of fat, calories, sugar, and sodium but is low in dietary fiber, vitamin A, calcium, ascorbic acid, and folate. Such an imbalanced nutritional composition may adversely affect adolescents' nutritional status when consumed frequently (Mardiana et al., 2020). Increased intake of foods rich in saturated fat reduces the utilization of fat as metabolic fuel. Furthermore, consuming more energy than is expended promotes fat storage, thereby increasing the risk of obesity (Chairil et al., 2024). Based on these findings, the researchers assume that fast-food consumption behavior is associated with overweight among adolescents at SMP Negeri 1 Baitussalam, with those who frequently consume fast food being more likely to experience overweight than those who consume it infrequently.

This study has several limitations. First, it assessed only the frequency of fast-food consumption without evaluating portion sizes or detailed nutrient intake. Second, the cross-sectional design does not allow causal relationships to be established. Finally, this study did not control for potential confounding variables such as physical activity, genetic factors, and socioeconomic status, all of which may also influence the occurrence of overweight.

CONCLUSION

Based on the findings of this study on the association between fast-food consumption behavior and overweight among adolescents at SMPN 1 Baitussalam, Aceh Besar, it can be concluded that 40 (58.0%) respondents were categorized as frequently consuming fast food. Regarding nutritional status, 42 (60.9%) respondents had normal body weight. The Chi-square analysis revealed a statistically significant association between fast-food consumption behavior and overweight among adolescents at SMPN 1 Baitussalam, Aceh Besar (p-value = 0.000 < 0.05). Adolescents who frequently consumed fast food were more likely to be overweight than those who consumed it infrequently.

Schools are encouraged to improve students' knowledge regarding healthy eating habits in order to reduce fast-food consumption and to strengthen parental involvement in promoting healthy dietary practices at home to prevent overweight among adolescents. Educational institutions are expected to use the findings of this study as input for improving the quality of health education. Adolescents are encouraged to reduce fast-food consumption at school, at home, and in other environments. Future

researchers are recommended to include additional variables or larger sample sizes to obtain more comprehensive findings.

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