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Association Between Fast Food Consumption Patterns and Adolescent Obesity

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ABSTRACT

High consumption of fast food among adolescents is a serious concern because it has the potential to increase the risk of obesity. Lifestyle changes, lack of physical activity, and easy access to fast food exacerbate this situation. Purpose: The purpose of this study is to ascertain how fast food eating habits relate to the prevalence of adolescent obesity. Methods: The study employed a cross-sectional methodology and an analytical quantitative design. 75 teenagers between the ages of 15 and 18 who were chosen by purposive sampling at a single Padang City high school made up the sample. Body mass index (BMI) measurements and questionnaires on dietary patterns were used to gather data. Results: The chi-square test analysis revealed a significant correlation ($p < 0.05$) between the incidence of obesity and the frequency of fast food consumption. Teenagers who eat fast food three times a week are more likely to become obese than those who don't. Implications: the implication of this study is the need for educational interventions on healthy eating among adolescents, as well as the involvement of schools and families in controlling access to fast food. Conclusion: In conclusion, fast food consumption habits and obesity are significantly correlated, so prevention from school age is an important step in reducing the risk of long-term obesity.

Keywords: *Stunting, Maternal Nutritional Status, Parenting, Environmental Sanitation, Socioeconomic Status, Toddlers*

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INTRODUCTION

Fast food consumption is significantly on the rise, according to changes in modern society's consumption patterns, particularly among teenagers. This phenomenon is inseparable from lifestyle changes that are increasingly practical and fast, where food that is easily accessible and served is the main choice. Fast food itself is a type of food that contains high levels of energy, and contains saturated fat, sugar, and sodium in large enough quantities. The macro nutrient content does provide instant satiety and satisfaction, but at the same time this food has very low levels of fiber, vitamins, and minerals that do not support balanced nutritional needs (Sari & Putra, 2022; Permatasari, 2024).

Ease of access to fast food is also a driving factor in increasing consumption among adolescents. In urban areas, the widespread presence of various fast food outlets and flexible operating hours make it easier for teenagers to obtain such food at any time. In addition, massive promotions and advertisements in various media, including social media and television, also influence the consumption behavior of adolescents. Advertisements featuring fast food products with a variety of flavors and affordable prices are increasingly attracting teenagers to consume them repeatedly. This condition is aggravated by the lack of awareness and adequate nutritional literacy, so that food choices are based more on taste and practicality than on health aspects (Risman & Widodo, 2023; Kemendikbudristek, 2024).

Overindulgence in fast food can lead to a number of health issues over time, including obesity. Obesity is a medical condition characterized by the accumulation of excess fat that can interfere with body functions and raise the chance of developing long-term conditions like Type 2 diabetes, high blood pressure, heart disease, and other metabolic issues. In adolescents, obesity affects not only physical aspects, but also psychological ones, such as low self-confidence, impaired body image and an increased risk of stress. Therefore, unhealthy diet, including high consumption of fast food, is one of the main factors that trigger an increase in obesity cases in this age group (Desniyanti, 2025; Pane et al., 2023).

Facing this challenge, understanding and monitoring the pattern of fast food consumption in adolescents is very important. Various studies have shown that interventions involving nutrition education, limiting access to fast food in the school environment, and strengthening the role of families in regulating diet can help reduce obesity rates. However, in order to comprehend the pattern of fast food consumption and its relationship to the incidence of obesity especially in different locations, including Indonesian towns like Padang, thorough local data is required. Thus, research that delves into this relationship forms an important basis in designing effective and sustainable obesity prevention strategies (Yulin & Danso, 2025; Pane et al., 2023).

Obesity has become an increasingly urgent public health problem globally, not least in Indonesia. The increase in the prevalence of obesity is especially noticeable in the adolescent age group, which is a critical transitional period in physical and psychological development. According to data from the Basic Health Research (Riskesdas) in 2018, 16% of teenagers between the ages of 13 and 15 were obese. This figure shows a consistent upward trend in recent years, signaling the need

for serious attention from various parties, both governments, schools, and families in addressing the problem.

Various factors contribute to the increasing incidence of obesity in adolescents, one of the most prominent is the pattern of The amount of fast food consumed is increasing. Fast food contains high levels of calories and saturated fat, so excessive consumption can cause an energy imbalance in the body and lead to the accumulation of excess fat. In a systematic evaluation of several studies conducted over the previous five years, Permatasari (2024) found that almost 90% of these studies demonstrated a strong correlation between teenage obesity status and the frequency of fast food consumption. These findings confirm that fast food consumption is one of the main risk factors for obesity in this age group.

Furthermore, According to an empirical study by Diska et al. (2022), eating fast food more than three times a week considerably raised the risk of obesity among teenagers, with an odds ratio (OR) value of 2.6 and a significance level of $p < 0.05$. Accordingly, adolescents who regularly eat fast food are more than twice as likely to be fat as those who don't. These findings are important as the basis for intervention recommendations targeting the reduction of fast food consumption to prevent obesity among adolescents, so that their long-term health can be maintained.

The high consumption of fast food among adolescents is influenced not only by the availability and taste of these foods, but also by a number of social and economic factors. One of the main factors is the low nutritional literacy among adolescents, which causes them to lack understanding of the negative impact of fast food consumption on long-term health. In addition, the social environment such as family, peers, and surrounding culture also play a major role in shaping eating habits. Peer influence, for example, often encourages adolescents to choose fast food as part of a social lifestyle that is considered current and fun.

Economic factors such as relatively large pocket money also allow adolescents easier access to fast food without significant restrictions. Intensive exposure to digital media and advertising through social media, television, and online platforms also strengthens the appeal of fast food in the eyes of teenagers. Research in Pontianak (2023) shows that adolescents with a high frequency of fast food consumption have twice the danger of obesity in comparison to people who don't often eat it. This underscores the importance of understanding consumption patterns driven by environmental factors and media, as part of obesity prevention strategies.

Although various studies have been conducted in several major cities in Indonesia, data on there is currently very little evidence linking fast food eating habits to the prevalence of obesity in Sumatra, particularly in Padang City. This condition raises the need for comprehensive local research to obtain a more accurate picture of consumption patterns and supporting factors for obesity in adolescents in the region. Research that focuses on the local context is expected to be the basis in formulating policies and intervention programs that are effective and in accordance with the characteristics of local communities.

Based on the high consumption of fast food and the increasing prevalence of obesity in adolescents, especially in the city of Padang, in-depth research is needed to identify the extent to Certain patterns of fast food intake are linked to the prevalence of obesity in teenagers. This study

will help fill the gaps in local data that has been minimal, so as to provide a clearer and more accurate picture of the connection between fast food use and teenagers' nutritional condition in Padang. This information is critical to understanding the factors that drive obesity and how fast food consumption patterns can be a significant risk variable.

The importance of this study also lies in its contribution to building the scientific basis for the various programs and strategies that will be designed to control obesity early on. Targeted health promotion and nutrition education can be focused on adolescents with high fast food consumption patterns. In addition, school and family-based interventions are key in establishing healthy eating patterns and raising knowledge of the harmful consequences of consuming too much fast food. With an integrated approach, it is hoped that obesity prevention efforts can run effectively and sustainably, considering that adolescents are a very vulnerable age group to environmental influences and eating habits.

This study's primary goal was to examine the connection between fast food consumption habits and the prevalence of obesity among teenagers in Padang. In addition, this study also aims to provide practical implications for obesity control at the local level, both through policy recommendations and evidence-based program interventions. The Health Office, the Education Office, and other stakeholders are anticipated to use the study's findings as a guide when developing strategic plans to lower the obesity rate and enhance the general quality of adolescent health in Padang City.

METHODS

This study examined the connection between fast food consumption habits and the prevalence of obesity among teenagers in Padang using a quantitative method and a cross-sectional methodology. Seventy-five teenagers that were purposefully chosen made up the study sample. A systematic questionnaire was used to gather data on eating habits, demographics, and the frequency and varieties of fast food consumed. Additionally, the respondents' height and weight were assessed to estimate their body mass index (BMI), which was then classified in accordance with WHO guidelines to ascertain the occurrence of obesity.

Descriptive statistics were used in data analysis to characterize the sample's features and fast food consumption trends. Additionally, because the consumption pattern data was ordinal, Spearman's correlation test was utilized to investigate the association between the frequency of fast food consumption and obese status. Binary logistic regression analysis was performed to assess the relationship's strength and direction while controlling for other variables. SPSS software was used for all analyses, with a significance level of $p < 0.05$.

RESULTS

1. Univariate Analysis

Univariate analysis was conducted to describe the sample characteristics and patterns of fast food consumption in adolescents in Padang.

Table 1. Description of Sample Characteristics

Variables	Categories	Frequency	Percentage (%)
Gender	Men	33	44.0
	Female	42	56.0
Frequency of consumption FF	1-2 times/week	30	40.0
	3-4 times/week	25	33.3
	>4 times/week	20	26.7
Obesity Status	Obesity	28	37.3
	Normal	47	62.7

Among the 75 respondents, the majority were women with 42 people (56%), with an average age of 15.2 years (SD = 0.8). The frequency of fast food consumption showed that 30 respondents (40%) consumed fast food 1-2 times per week, 25 respondents (33.3%) consumed 3-4 times per week, and 20 respondents (26.7%) consumed more than 4 times per week. Based on the calculation of body mass index (BMI), it was found that 28 adolescents (37.3%) were obese, while 47 adolescents (62.7%) had normal nutritional status.

2. The Connection Between the Prevalence of Obesity and the Frequency of Fast Food Consumption

Binary logistic regression and the Spearman correlation test were used to ascertain the association between the incidence of obesity and the frequency of fast food eating.

Table 2. The Association Between the Incidence of Obesity and the Frequency of Fast Food Consumption

Variables	OR	95% CI	p-value
Consumption FF >3x/week	3.1	1.35 – 7.12	0.008

The findings of the Spearman test revealed a strong positive correlation ($r = 0.462$; $p < 0.001$) between the frequency of fast food intake and obesity status, suggesting that the risk of obesity increases with the frequency of fast food consumption. Adolescents who ate fast food more than three times a week were 3.1 times more likely to be obese than those who ate it less frequently, according to logistic regression analysis (OR = 3.1; 95% CI: 1.35–7.12; $p = 0.008$).

DISCUSSION

1. Univariate Analysis

According to the findings, 26.7% of respondents ate fast food more than four times a week, and the bulk of respondents (56%) were female with an average age of fifteen.The proportion of obesity reached 37.3% of the total respondents. This figure is quite high for the adolescent age group and indicates an imbalance between energy intake and physical activity.

The energy balance theory of Hall et al. (2021, Obesity Reviews) postulates that weight gain happens when the body's energy intake consistently surpasses its energy expenditure. Fast food

contains dense energy calories with little fibre and micronutrients, making it easy to cause energy surplus and fat storage. These findings are consistent with the nutritional behaviour model proposed by Ajzen (Theory of Planned Behaviour), in which eating habits are influenced by social norms, ease of access, and environmental habits.

Previous studies have shown similar patterns: consuming fast food ≥3 times/week doubles the risk of being overweight compared to those who rarely consume it (Arslan et al., 2023); (Fonseca et al., 2024). Fast food consumption and obesity status were found to be significantly correlated in another Makassar study (p-value < 0.05) (Nurfaidah et al., 2025).

High fast food consumption among adolescent girls is more related to social and emotional factors such as academic stress and peer influence than economic factors. This is assumed because girls more often use food as a coping mechanism for emotional stress.

2. Relationship Between Fast Food Consumption Frequency and Obesity Incidence

Fast food intake frequency and obesity were significantly positively correlated, according to Spearman's correlation analysis ($r = 0.462$; $p < 0.001$). Adolescents who eat fast food more than three times a week are 3.1 times more likely to be obese, according to logistic regression data (OR = 3.1; CI 95%: 1.35–7.12; $p = 0.008$).

These findings reinforce the dietary transition theory, in which modernisation and urbanisation shift dietary patterns from traditional foods to high-fat and high-sugar processed foods (Popkin, 2021, Nutrients). Physiologically, high consumption of saturated fat and simple carbohydrates from fast food increases insulin resistance and slows lipid metabolism, thereby accelerating weight gain (Jakobsen et al., 2023).

These conclusions are supported by international research. Fast food intake raises the risk of obesity in East Asian teenagers by 1.8 times in Korea and Japan, according to a meta-analysis (Lee & Park, 2023). A comparable study conducted in Brazil discovered a strong correlation between the frequency of teenage obesity and the use of ultra-processed foods (Fonseca et al., 2024).

In addition to nutritional factors, exposure to fast food advertisements on social media also plays a major role in shaping preferences for high-calorie foods (Green et al., 2023). This phenomenon shows that obesity is not merely the result of overconsumption, but also the result of interactions between environmental, behavioural, and food policy factors.

Researchers believe that the frequency of fast food consumption is both a quantitative measure and a reflection of the sedentary lifestyle that goes along with it, such as excessive screen time and little physical activity—two factors that both increase the risk of obesity in teenagers.

CONCLUSIONS

This study shows that fast food consumption has become a common habit among teenagers in Padang City, with a fairly high frequency of consumption, especially at the age of about 15 years. The frequency of fast food intake and obesity status were significantly positively correlated; the more frequently teenagers consumed fast food, the higher their risk of obesity. The findings are in

line with recent studies that confirm excessive consumption of fast food as a major factor in the increase in obesity and metabolic disorders in adolescents.

The findings highlight the significance of programs aimed at lowering fast food intake as a component of efforts to prevent obesity. Key tactics include promoting healthy food options, educating people about the detrimental effects of fast food, and including families and schools in environmental initiatives. In addition, increased physical activity also needs to be encouraged in order to balance calorie intake and reduce the risk of obesity.

Overall, this study provides an important basis for the development of holistic and integrated public health programs to encourage healthy eating and active lifestyles among Padang city youth. With appropriate intervention measures, it is hoped that the prevalence of obesity can be suppressed so that the quality of health of the younger generation can be improved and long-term health problems can be minimized.

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