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# RELATIONSHIP BETWEEN FAST FOOD CONSUMPTION, PHYSICAL ACTIVITY WITH THE INCIDENCE OF OVERWEIGHT AND OBESITY IN STAI LA TANSA MASHIRO STUDENTS

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## Abstract

**Objective:** This study aims to analyze the relationship between fast food consumption, physical activity, and the incidence of overweight and obesity among STAI La Tansa Mashiro students. Obesity is an increasing global health problem, especially among university students.

**Methods:** The research method used was a quantitative survey with random sampling. Data were collected through a questionnaire that measured the frequency of fast food consumption and physical activity levels.

**Results:** The results showed that there was no significant relationship between fast food consumption and the incidence of overweight and obesity, and low physical activity was at risk for this problem.

**Conclusion:** The findings are expected to form the basis for better health interventions among university students. .

**Keywords:** Fast Food, Physical Activity, Overweight, Obesity, College Students

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## Introduction

Obesity is a growing health problem worldwide, including among university students. According to the World Health Organization (WHO), obesity is a major risk factor for various chronic diseases, such as type 2 diabetes, hypertension, and heart disease[1]. In Indonesia, the prevalence of obesity in adults and adolescents is significant. Data from the 2018 Riskesdas showed that the prevalence of obesity in adolescents aged 16-18 years reached 8.8%[2]. This problem is also increasingly relevant among students, especially students living in campus environments who often face academic pressures, as well as unhealthy lifestyles.

Obesity and overweight have become serious health problems worldwide, including in Indonesia. According to data from the Ministry of Health of the Republic of Indonesia (2018), the prevalence of obesity in Indonesia is increasing from year to year, reaching 21.8% in 2018[1]. This phenomenon is particularly striking among university students, who often experience changes in diet and lifestyle due to academic and social pressures. High fast food consumption and low physical activity are two main factors that contribute to the incidence of overweight and obesity among university students[3].

College students often have an irregular diet, where fast food is a practical and easily accessible option. Fast food is known for its high calorie content, saturated fat, and sugar, all of which can contribute to weight gain[1]. In addition, many college students lack physical activity due to busy studying and academic demands, which exacerbates the risk of obesity[4]. These unhealthy diets are often influenced by social and psychological factors. Stress due to academic demands and hectic extracurricular activities cause students to look for fast food as a way to fulfill their food needs quickly and practically. On the other hand, a lack of understanding of the adverse effects of fast food consumption and a lack of awareness of the importance of a healthy diet

exacerbate the problem of obesity in college students[6]. In addition to an unhealthy diet, low physical activity is also an important factor in the increase of obesity among college students. Based on research, university students often spend more time in front of a screen (laptop, computer, or cellphone) for academic, entertainment, or social media purposes, which leads to a decrease in their physical activity levels[4]. This lack of physical activity contributes to a decrease in the body's metabolism, making it easier for the body to store fat and cause weight gain. Low physical activity, coupled with excessive consumption of fast food, has the potential to increase the accumulation of body fat, which is the main cause of obesity. According to research, students who do not regularly exercise have twice the risk of being obese compared to students who do regular physical activity[7]. Adequate physical activity, such as walking, cycling, or light exercise, can help burn calories and improve the body's energy balance, thereby reducing the risk of obesity.

At STAI La Tansa Mashiro, the problem of obesity among students is starting to become a concern, especially with the lifestyle of students who often consume fast food and rarely do physical activity. As an educational institution that focuses on moral development and health, it is important for STAI La Tansa Mashiro to understand more deeply the relationship between fast food consumption, physical activity, and obesity among students. This study aims to identify whether there is a significant relationship between fast food consumption habits, physical activity levels, and obesity among STAI La Tansa Mashiro students.

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## Methods

The population in this study were active students of STAI La Tansa Mashiro who were registered in the odd semester of the 2023/2024 academic year, totaling 359 students. The sample in this study was taken by simple randomization from students who met the inclusion criteria, with the sample size calculated using the Slovin formula to ensure adequate representativeness, with a 5% margin of error. The independent variables in this study were fast food consumption and physical activity. The dependent variable in this study was obesity, which was measured using the body mass index (BMI).Data processing and analysis used 2 processing times, namely univariate analysis and bivariate analysis. Data analysis was carried out using statistical software.

## Result

Table 1
Frequency distribution of Respondents based on Body Mass Index (BMI)

| Category | Frequency | Percentage |
|---|---|---|
| Overweight/Obesitas | 43 | 23,4 |
| Not-Overweight | 141 | 76,6 |
| **Total** | **184** | **100** |

Table 2
Frequency distribution of Respondents based on Frequency of fast food consumption

| Category | Frequency | Percentage |
|---|---|---|
| Often | 73 | 39,7 |
| Rarely | 111 | 60,3 |
| **Total** | **184** | **100** |

Table 3
Frequency distribution of Respondents based on Physical Activity.

| Category | Frequency | Percentage |
|---|---|---|
| Not-Routine | 113 | 61,4 |
| Routine | 71 | 38,6 |
| **Total** | **184** | **100** |

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Table 4.
Relationship between the frequency of fast food consumption and the incidence of obesity in adolescents.

| Independent Variable | Category | Obesity | | | | Total | | P Value |
|---|---|---|---|---|---|---|---|---|
| | | Overweight/ obesitas | | Not/Normal | | | | |
| | | n | % | n | % | n | % | |
| Fastfood | Often | 16 | 21,9 | 57 | 78,1 | 73 | 100 | 0,706 |
| | Rarely | 27 | 24,3 | 84 | 75,7 | 111 | 100 | |
| Total | | 43 | 23,4 | 141 | 76,6 | 184 | 100 | |

Table 5
Relationship between Physical Activity and the incidence of obesity in adolescents

| Independent Variable | Category | Obesity | | | | Total | | P-Value |
|---|---|---|---|---|---|---|---|---|
| | | Overweight/ obesitas | | Tidak | | | | |
| | | n | % | n | % | n | % | |
| Physical Activity | Not-Routine | 29 | 25,7 | 84 | 74,3 | 113 | 100 | 0,354 |
| | Routine | 14 | 19,7 | 57 | 80,3 | 71 | 100 | |
| Total | | 43 | 23,4 | 141 | 76,6 | 184 | 100 | |

## Discussion

The relationship between frequency of fast food consumption and the incidence of obesity in adolescents. According to the theory proposed by WHO, overweight and obesity in adolescents are influenced by various factors such as energy imbalance due to a high-calorie diet, low physical activity, genetic factors, and environmental conditions that support sedentary behavior[1]. However, in some studies, the relationship between fast food consumption and obesity is still debatable. Some studies show a significant relationship between the frequency of fast food consumption and weight gain, while other studies have found that fast food consumption is not the only factor causing obesity showed that in addition to fast food consumption, other factors such as total daily calorie intake, overall diet, and physical activity level have a greater influence on the incidence of obesity. This shows that obesity is a multifactorial problem that cannot

be explained by just one variable. Another study by Wijayanti et al, also mentioned that although fast food consumption is high, without an unbalanced diet and lack of physical activity, the impact on the incidence of overweight can be smaller compared to individuals who have a sedentary lifestyle[8].

The relationship between physical activity and the incidence of obesity in adolescents. According to the theory put forward[1], sufficient physical activity plays an important role in maintaining energy balance and preventing excessive weight gain. Low physical activity can cause an increase in body fat due to low energy expenditure compared to incoming calorie intake. A study conducted by showed that lack of physical activity correlates with an increased risk of obesity, especially in adolescents who have a high-calorie diet[5]. Research conducted by Sari et al. found that although physical activity has a role in reducing the risk of obesity, other factors such as diet, sedentary habits (high screen time), and genetic factors also have a significant influence on the incidence of overweight/obesity[3]. Therefore, although this study did not find a significant relationship between physical activity and overweight/obesity, the Odds Ratio results still indicate a higher risk for adolescents who are physically inactive.

The study by Wijayanti et al. also supports that low physical activity is often associated with unhealthy lifestyles, such as consumption of foods high in fat and sugar, as well as sleep deprivation habits that can affect the body's metabolism[8]. Therefore, although the statistical relationship in this study was not significant, it is still necessary to increase physical activity as part of a strategy to prevent overweight/obesity in adolescents.

Thus, the results of this study indicate that physical activity plays a role in reducing the risk of overweight/obesity, although no significant relationship was found in the

statistical test. Therefore, approaches to prevent overweight/obesity in adolescents should include the promotion of regular physical activity, education on healthy eating patterns, as well as the reduction of obesity.

The results of this study showed that neither the frequency of fast food consumption nor physical activity had a significant relationship with the incidence of overweight/obesity in adolescents. Statistical test results showed a p value of 0.706 for frequency of fast food consumption and p value of 0.354 for physical activity, both of which were greater than α=0.05. However, the Odds Ratio calculation (OR = 1.41) showed that adolescents who did not regularly engage in physical activity had a 1.4 times greater risk of being overweight/obese compared to adolescents who regularly exercised. Therefore, although no statistical association was found, physical activity remains an important factor in weight control and adolescent health.

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