

The Relationship Between The Frequency Of Fast Food Consumption And The Incidence Of Obesity In Class X Students Of SMA Negeri 4 Jayapura

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ABSTRAK

Obesitas adalah kondisi patologis yang disebabkan oleh penumpukan lemak berlebihan di dalam tubuh. Frekuensi konsumsi makanan cepat saji mengacu pada seberapa sering siswa Siwi mengonsumsi jenis makanan cepat saji dalam periode waktu tertentu. Dampak obesitas pada siswa perempuan meliputi penyakit jantung, diabetes tipe 2, gangguan pernapasan, gangguan metabolisme, penyakit hati dan ginjal. Pada tahun 2024, prevalensi obesitas di Papua diperkirakan mencapai 294 remaja berusia 15-17 tahun. Tujuan penelitian ini adalah untuk mengetahui hubungan antara frekuensi konsumsi makanan cepat saji dan kejadian obesitas pada siswa kelas X SMA Negeri 4 Jayapura. Penelitian ini merupakan penelitian kuantitatif analitis dengan desain cross-sectional. Populasi dalam penelitian ini adalah seluruh siswa kelas X SMA Negeri 4 Jayapura yang berjumlah 578 siswa. Sampel dalam penelitian ini adalah 236 sampel. Teknik pengambilan sampel yang digunakan adalah simple random sampling. Data diperoleh melalui kuesioner FFQ, pengukuran tinggi badan dan berat badan. Analisis data menggunakan uji chi-square dengan batas signifikansi (p) = 0,05. Hasil penelitian menunjukkan bahwa 155 responden sering mengonsumsi makanan cepat saji dan 81 responden (34,3%) tidak sering mengonsumsinya. Remaja yang mengalami obesitas berjumlah 42 responden (17,8%) dan 194 responden tidak mengalami obesitas (82,2%). Sebanyak 155 responden (65,7%) yang sering mengonsumsi makanan cepat saji mengalami obesitas, 42 responden (100,0%) dan 115 responden (58,7%) tidak mengalami obesitas, sedangkan 81 responden (34,3%) tidak mengalami obesitas. Sebanyak 81 responden (41,8%) tidak mengalami obesitas. Terdapat hubungan yang signifikan antara frekuensi konsumsi makanan cepat saji dan kejadian obesitas dengan nilai $p = 0,000 < 0,05$ pada siswa perempuan kelas X.

Kata kunci: makanan cepat saji, obesitas, remaja, siswa SMA, kelas X.

ABSTRACT

Obesity is a pathological condition caused by excessive fat accumulation in the body. The frequency of fast food refers to how often Siwi students consume types of fast food in a certain period of time. The impact of obesity on female students includes heart disease, type 2 diabetes, respiratory disorders, metabolic disorders, liver and kidney diseases. In 2024, the prevalence of obesity in Papua will be 294 adolescents aged 15-17 years. The purpose of this study is to determine the relationship between the frequency of fast food consumption and the incidence of obesity in class X students of SMA Negeri 4 Jayapura. This research study is quantitative analytical with a cross sectional design. The population in this study of all students in class X of SMA Negeri 4 Jayapura amounted to 578 students. The sample in this study is 236 samples. The sampling technique is simple random sampling. Data was obtained through FFQ questionnaires, height and weight measurements. Data analysis used the chi-square test with a significance limit (p) = 0.05. The results showed that 155 respondents often consumed fast food and 81 respondents (34.3%) did not eat often. Adolescents who were obese were 42 respondents (17.8%) and 194 respondents were not obese (82.2%). A total of 155 respondents (65.7%) who often consumed fast food were obese, 42 respondents (100.0%) and 115 respondents (58.7%) were not obese, while 81 respondents (34.3%) did not experience obesity as many as 81 respondents (41.8%), there was a significant relationship between the frequency of fast food consumption and the incidence of obesity p -value = 0.000 < 0.05 in class X female students.

Keywords: fast food, obesity, adolescents, high school students, class X.

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INTRODUCTION

Obesity is a condition in which there is excessive fat accumulation that can interfere with health. Obesity can be worrisome, especially among teenagers. The causative factor of obesity is due to an imbalance between incoming energy intake and outgoing energy. Obesity can also occur due to consuming too much fast food. (Widowati, A. S. et al. 2019).

Obesity is at an emergency level, which is a continuation of overnutrition which is getting worse because in the last 30 years overnutrition or overweight has increased (Alman, Lister and Garnet, 2020). Adolescents who are obese, 80% have a chance of becoming obese as adults. Adolescents who are obese will be at higher risk of developing several diseases such as stroke, asthma, diabetes, cardiovascular, and cancer that can cause death. (Suryaputra, Nadhiroh and Rahayu, 2012).

According to WHO, in 2022, there are 2.5 billion adults aged 18 years and older who are overweight, including more than 890 million adults who are obese. The prevalence of being overweight by region is 31% in Southeast Asia and Africa, while in the Americas it is 67%. Based on Riskesdas 2018 data, the prevalence of overweight in adolescents aged 16-18 years in Indonesia is 5.7%. This figure has increased compared to a report in 2013, which showed a prevalence of overweight by 4%, including those who are obese. In Papua, based on data from the Papua Provincial Health Office, there will be 294 adolescents aged 15-17 years who will be obese in 2024.

According to Haryono's (2015) research, it is stated that teenagers today tend to prefer to consume fast food which tastes better and is more practical than foods that are high in fiber, moreover, teenagers are more easily influenced by social trends that can indirectly affect the consumptive behavior of teenagers where this can arise from the surrounding social environment. This can have a big impact on the increase in obesity due to lack of physical activity and will have more impact if adolescents consume excessive and unhealthy foods (Arundhana, 2013).

Fast food is a type of food that is practical to serve, easy to package, simple processing process, and ready to eat in a relatively fast time. Fast food is produced with high technology that contains a lot of calories, fat, salt, and sugar but is low in vitamins, fiber, calcium and folate. Eating by consuming fast food can cause an imbalance in nutritional intake and be one of the risk factors for obesity. (Almarhoon, Z. et al. 2022).

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Based on the results of Yulianti, et al.'s research (2019), it is known that there is a significant influence between fast food consumption and the incidence of obesity in adolescents, this is because fast food has unbalanced nutritional content and has a high calorie content and low fiber. Adolescents are the group most easily influenced by foreign culture, both from physical appearance to changes in food consumption patterns. Adolescents are also more dominant in consuming excess food, eating at night, consuming snacks, and foods that are high in sugar so that they can cause obesity. Therefore, there needs to be a role for the family to change adolescents' behavior in consuming food so that it is more regular in every meal, both breakfast, lunch, and dinner.

The frequency of fast food consumption refers to how often students consume types of fast food in a certain period of time, such as daily, weekly, or monthly. Fast food that is low in nutrition has a very high calorie content. Therefore, if consuming fast food is done with a high frequency, it risks causing excess weight and ultimately leading to obesity. The frequency of fast food is very important to see the link between how often students consume fast food which has the potential to cause obesity. Students who consumed fast food more than three times a week were at higher risk of obesity compared to those who consumed fast food only occasionally. (Fitriani, et al. 2023).

The researcher conducted research at SMA Negeri 4 Jayapura located in Entrop, Jayapura. SMA Negeri 4 Jayapura is one of the schools in the area that has many fast food sellers around it. The results of the initial data collected by the researcher on September 2, 2024 as an effort to limit the presence of obesity, especially in students at SMA Negeri 4 Jayapura, obtained results from 8 out of 30 students who were measured to be included in the obesity category according to BMI values which showed a value of $>25\text{kg/m}^2$. Based on the background discussion, the researcher is interested in conducting a study entitled "The Relationship between the Frequency of Fast Food Consumption and the Incidence of Obesity in Students at SMA Negeri 4 Jayapura".

Class X students are in a relatively homogeneous age group, so the age factor is not a variable that significantly affects the results of the study. If it involves classes XI and XII, the researcher must consider other factors, such as final exam preparation and other activities. Class X students are less likely to be burdened by academic pressures, such as passing exams that can affect their eating habits. Thus, the results of the study more purely reflect the relationship between the frequency of fast food and obesity.

METHOD

This research is a research that uses a quantitative analytical method with a *cross sectional* design, namely a research design that examines independent and dependent variables simultaneously (Notoatmodjo, s. 2012). This research was conducted at SMA Negeri 4 Jayapura. With the research time

in March 2025. The population in this study is all students of class X of SMA Negeri 4 Jayapura which totals 578 people. The target population in this study was class X students of SMA Negeri 4 Jayapura who were randomly selected using the slovin formula. To determine the number of research samples as many as 236 people. The SPSS program was used to analyze the data, in this study the significance limit was 5% ($\alpha = 0.05$). After that, the data is then entered into the SPSS program, to be tested for univariate and bivariate analysis.

RESULTS AND DISCUSION

Univariate Analysis

Table 1. Frequency distribution based on gender, age, ethnicity, father's job, mother's job, father's education, mother's education in students of SMA Negeri 4 Jayapura

Yes	Groups	n	%
1.	Gender		
	Male	101	42,8
	Women	135	57,2
2.	Age		
	15	99	41,9
	16	131	55,5
	17	6	2,5
3.	Tribe		
	OAP (Orang Asli Papua)	51	21,6
	Non-OAP	185	78,4
4.	Father's Education		
	SD	4	1,7
	Junior High School	7	3,0
	High School	113	47,9
	College	112	47,5
5.	Mother's Education		
	SD	5	2,1
	Junior High School	16	6,8
	High School	123	52,1
	College	92	39,0
6.	Father's Work		
	PNS/ASN/TNI-POLRI	109	46,2
	Private	97	41,1
	Entrepreneurship	7	3,0
	etc.	23	9,7
7.	Mother's Work		
	IRT	130	55,1
	PNS/ASN/TNI-POLRI	75	31,8
	Private	24	10,2
	Entrepreneurship	4	1,7
	etc.	3	1,3

Total	236	100
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Source: Primary Data, 2025

Table 2. Distribution of the frequency of fast food consumption based on the FFQ category in class X students of SMA Negeri 4 Jayapura.

Frequency of Fast Food Consumption	n	%
Frequent	155	65,7
Not Frequent	81	34,3
Total	236	100

Source: Primary Data, 2025

Based on table 4.2, it shows that the distribution of FFQ frequency among female students who often consume fast food is 155 respondents (65.7%), and female students who do not often consume fast food as many as 81 respondents (34.3%).

Table 3. Distribution of obesity frequency based on BMI in class X students of SMA Negeri 4 Jayapura.

IMT	n	%
Obesity	42	17,8
Not Obese	194	82,2
Total	236	100

Source: Primary Data, 2025

Based on table 4.3, BMI in female students showed that 42 respondents (17.8%) were obese, and 194 respondents (82.2%) were non-obese.

1. Bivariate Analysis

The relationship between the frequency of fast food consumption and the incidence of obesity in SMA Negeri 4 Jayapura students.

Table 4. The relationship between the frequency of fast food consumption and the incidence of obesity in grade X students of SMA Negeri 4 Jayapura.

Incidence of Obesity	Fast Food Consumption				Total		p-value	RP	
	Frequent		Not Frequent						1,524
	n	%	n	%	n	%			
Obesity	42	100,0	0	0,0	42	100	0,000		
Not Obese	115	58,7	81	41,8	194	100			
Total	155		81		236				

Source: Primary Data, 2025

Based on table 4.4, it shows that the relationship between the frequency of fast food consumption and the incidence of obesity in class X students of SMA Negeri 4 Jayapura is 155 respondents who often

consume fast food, there are 42 respondents (100.0%) who are obese, and those who are not obese as many as 115 respondents (58.7%). There were also 81 respondents who did not often consume fast food, and those who were not obese as many as 81 respondents (41.8%). The results of *the chi-square* test showed $p\text{-value} = 0.000 < 0.05$, $RP = 1.524$. This shows that the frequency of consumption of less risky fast food is greater 1,524. Therefore, it can be concluded that there is a significant relationship between the relationship between the frequency of fast food consumption and the incidence of obesity in class X students of SMA Negeri 4 Jayapura.

Discussion

Fast food is food that is processed quickly, easily, and practically so that it does not take a long time to serve. The habit of consuming excessive fast food will result in obesity because fast food contains high amounts of calories, fat, cholesterol, salt and fiber (Nanda et al., 2023).

In this study, generally class X students are 16 years old. The age of the respondents ranged from 15-17 years old. Based on the results of the study conducted on 236 respondents in class X students of SMA Negeri 4 Jayapura, 155 respondents who often consumed fast food and 81 respondents who did not often consume fast food. In class X students who were affected by obesity as many as 42 respondents and those who were not obese as many as 194 respondents.

Based on the gender of class X students who were obese, 101 male students who were obese were 35 respondents and 66 respondents who were not obese. There were 135 female students who were obese as many as 32 respondents and those who were not obese as many as 103 respondents.

Female students who suffer from obesity occur because the body uses carbohydrates and fats as the main source of energy. High intake of fats and carbohydrates can indirectly increase the body's energy intake, while the body still has more capacity to store fat infinitely which causes the body to store a larger fat intake. Excessive fat storage can cause fat accumulation so that weight can increase and lead to obesity.

The consumption pattern of fast food in female students can be due to the influence of the environment and a more active lifestyle. The consumption of fast food in class X students of SMA Negeri 4 Jayapura can be caused by the influence of the school environment, such as canteens that sell fast food. In addition, outside the school environment there are fast food sellers. Some female students even consume fast food every day, especially during breaks or after school.

In addition to the frequency factor of fast food consumption, the incidence of obesity in female students can also be influenced by various other interrelated variables. Factors that can affect diet include nutritional knowledge, pocket money, and environmental influences.

1. Nutritional Knowledge

Nutrition knowledge affects the diet of female students. College students with low nutritional understanding are less likely to consider nutritional content when choosing food. Fast food was chosen because it was considered tasty and practical without paying attention to its impact on health. This lack of understanding can lead to excessive consumption of high-calorie foods and increase the risk of obesity.

2. Pocket Money

The size of pocket money can affect fast food consumption patterns. Students with larger pocket money are more free to buy the fast food they want, including those available in the school cafeteria.

3. Social Environment

Peers have a big influence on the eating habits of female students. Female students tend to follow the diet carried out by their friends. In addition, the lack of supervision from parents is an additional factor. The habit of consuming fast food can develop into a social habit accepted by female students.

The Relationship between Fast Food Consumption Frequency and Obesity Incidence

Based on the results of the analysis of the relationship between the frequency of fast food and the incidence of obesity in students of SMA Negeri 4 Jayapura, it can be seen that of the 155 respondents (65.7%) who often consume fast food, there are 64 respondents (46.0%) who are obese, and 75 respondents (54.0%) who are not obese. There were also 97 respondents (41.1%) who did not often consume fast food, 3 respondents (3.1%) were obese, and 94 respondents (96.9%) were not obese. The results of the *chi-square* test showed $p\text{-value} = 0.000 < 0.05$, $RP = 1.524$. This shows that the frequency of consumption of less risky fast food is greater 1,524. So it can be concluded that there is a significant relationship between the frequency of fast food consumption and the incidence of obesity in female students.

Based on the research conducted, it is known that the excessive frequency of fast food causes students to have an unbalanced diet that contains nutrients that are not in accordance with the body's needs because it contains high calories and low fiber, fast food also has a high content of fat, sugar, and salt which makes female students consume fast food more often than balanced nutritious foods. Therefore, knowledge in students at SMA Negeri 4 Jayapura plays an important role in changing their consumption behavior so that they can choose foods that suit their nutritional needs.

This shows that the more often a person consumes fast food can lead to obesity, it can be seen from the results of statistical tests showing that this relationship is statistically significant. The more often a person consumes fast food, the greater the risk of obesity, this is in line with research conducted by (Nur Annisa Resky, 2019) where there is a relationship between the frequency of fast food consumption and the incidence of obesity in college students ($p\text{-value} = 0.000$). Specifically, the high frequency of fast food consumption is related to obesity.

CONCLUSION

It is known that the characteristics of class X students of SMA Negeri 4 Jayapura based on male gender as many as 101 respondents (42.8%), female as many as 135 respondents (57.2%), 16 years old as many as 131 respondents (55.5%), non-OAP tribe as many as 185 respondents (78.4%), high school father's education as many as 113 respondents (47.9%), high school mother's education as many as 123 respondents (52.1%), father's work PNS/ASN/TNI-POLRI as many as 109 respondents (46.2%), 130 respondents (55.1%) worked for IRT mothers.

It is known that of the 236 respondents studied, there were 155 respondents (65.7%) with the frequency of fast food consumption in the frequent category and 81 respondents (34.3%) with the frequency of fast food in the infrequent category. It is known that there were 42 respondents (17.8%) with the obesity category and 194 respondents (82.2%) with the non-obesity category. There was a significant relationship between the frequency of fast food and the incidence of obesity in female students at SMA Negeri 4 Jayapura, with $p\text{-value} = 0.000 < 0.05$.

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