

The Relationship Between Fast Food Consumption, Pocket Money, And Quality Of Sleep With Over Nutrition In Adolescents

Fachira Kasmarini ^{1*}, Eka Andriani ², and Sabrina ³

¹⁻³JNutrition Department, Singaperbangsa Karawang University
Jl. HS. Ronggo Waluyo, Telukjambe Timur Karawang, Indonesia
Telp./Fax. (0267) 641177

^{1*}Email : 1910631220020@student.unsika.ac.id

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ABSTRACT

Background: Adolescents with obese nutritional status are at risk of experiencing degenerative diseases, which can reduce the quality of life of adolescents. The healthy rate of overweight and obesity is closely related to food intake and lifestyle. Consuming fast food has become a lifestyle for teenagers. This is also influenced by the amount of pocket money, making it easy for teenagers to get fast food. Another lifestyle factor that is related to obesity in adolescents is the quality of sleep. This study aims to determine the relationship between fast food consumption, pocket money, and sleep quality with the incidence of overweight in adolescents at SMA Negeri 1 Telukjambe Timur Karawang.

Research Methods: This research was conducted at SMAN 1 Telukjambe Karawang. The respondents were grade 10 and 11 students aged 16-18 years. The sampling technique used purposive sampling with a total sample of 103 respondents. The method used is quantitative research with survey techniques utilizing a cross-sectional approach. Data analysis was performed with the chi-square test. The instruments used in this study were the Food Frequency Questionnaire (FFQ), the Pittsburgh Sleep Quality Index (PSQI) questionnaire, and the pocket money questionnaire.

Research Result: Analysis of statistical test data using spearman rank. The results of the study showed that the majority of respondents aged 16 years were 74 people (71.8%), non-overnutrition were 76 people (73.8%), rarely consumed fast food as many as 59 people (57.3%), sleep quality 76 people (73.8%) have insufficient income, and 74 people (71.8%) have low pocket money.

Conclusion: The conclusion in this study is that there is a relationship between the frequency of fast food consumption and the quality of sleep with the incidence of overweight, and there is no relationship between pocket money and the incidence of overweight and the fast food consumption habits of adolescents.

BACKGROUND

Overnutrition and obesity are chronic health problems prone to affect adolescents and trigger health problems with non-communicable diseases. Overnutrition among adolescents in Indonesia has rapidly increased due to changes in diet and physical activity in adolescents (Unicef, 2021). West Java is one of the provinces with a high prevalence of overnutrition of 15.4%. Data by Riskesdas West Java in 2018 stated that the City of Karawang had a prevalence of over-nutrition of 16.86%, where this figure placed Karawang in the order of 10 cities with the highest prevalence of over-nutrition in West Java Province. Research by Maharani (2022) shows that 29% of SMA Negeri 5 Karawang teenagers experience excess nutrition. Rahma (2021) reports that 14.4% of SMA Negeri 12 Bekasi young girls are overweight.

Adolescence is a vulnerable phase because adolescents are searching for identity, so they are easily influenced by various forms of behavior and lifestyles that are currently developing, such as the habit of consuming fast food. The emergence of fast food in Indonesia has influenced the eating patterns of teenagers in big cities (Hermita et al., 2018). Budiarti (2021) found that 84.3% of teenagers in Surabaya have a high frequency of fast food consumption because their homes are in urban areas, so they tend to choose practical and instant food. The habit of consuming fast food excessively can hurt adolescents' nutritional status if it becomes a daily diet.

The tendency of adolescents to choose and consume food is influenced by socio-economic conditions and the ease and practicality of obtaining it. One external factor affecting a person's nutritional status is pocket money. Pocket money influences consumption patterns of children's snacks. The higher the nominal allowance received, the individual will have the freedom to choose and consume the food he wants so that it can be at risk of causing an individual's excess nutrition (Rahma, 2022). Students with a high allowance category have a risk of experiencing nutrition that is 2x greater than students with a low allowance category (Telisa et al., 2020).

The incidence of overnutrition and an increase in body mass index is closely related to poor sleep quality in adolescents. Sleep quality includes sleep duration, frequency of awakenings, and subjective assessment of one's sleep satisfaction (Pitoy et al., 2022). Woran et al. (2020) reported that 72.5% of high school youth in North Sulawesi had poor sleep quality due to activities at night, such as doing assignments and playing with gadgets. The same thing was reported by Keswara et al. (2019) regarding the sleep quality of adolescents at SMKN 1 Terbanggi Besar, Central Lampung. Namely, as many as 64.7% of adolescents had poor sleep quality, and one of them was caused by fatigue due to excessive activity at school.

For teenagers, eating fast food has become a lifestyle. Consuming fast food frequently can result in nutritional status or obesity, which can reduce the quality of life of adolescents. Economic factors, such as the amount of pocket money, drive the ease of getting fast food. Another factor that also causes the incidence of excess nutrition is the quality of sleep in adolescents. Telukjambe Timur Karawang 1 Public High School, as the research location, is in an urban area and has easy access to fast food restaurants. In addition, along the road around the research location, there are many fast food sellers because the research location is close to the campus area. The lack of data related to the description of fast food consumption and adolescent sleep quality in Karawang indicates that few studies related to the relationship between fast food consumption, pocket money, and sleep quality on the nutritional status of adolescents in this location. Based on this description, this study aims to determine the relationship between fast food consumption habits, pocket money, and sleep quality with the nutritional status of adolescents at SMA Negeri 1 Telukjambe Timur Karawang.

MATERIAL AND METHODS

This research was conducted using a quantitative method of observational type and a cross-sectional approach with the chi-square data analysis technique. The research was conducted at Telukjambe Timur Karawang 1 Public High School in February 2023. The number of samples in this study was 103, which were taken using a purposive sampling technique. This technique is carried out by determining inclusion and exclusion criteria to determine respondents. Inclusion criteria in this study were respondents who were students enrolled at SMA Negeri 1 Telukjambe Timur Karawang, aged 16-18 years, sitting in class X and XI, willing to be respondents, and filling out informed consent. The exclusion criteria were students who were taking drugs. Furthermore, researchers will collect data on respondents who meet the inclusion criteria.

Primary data was obtained through direct measurement, filling out questionnaires, and interviews. This study used tools in the form of digital scales and microtomes to measure anthropometry. Anthropometric data is used to determine the nutritional status of respondents based on BMI/U. The categorization of nutritional status is divided into overweight (> 1 SD) and not overweight (≤ 1 SD). The instruments used were the Food Frequency Questionnaire (FFQ), the Pittsburgh Sleep Quality Index (PSQI) questionnaire, and the pocket money questionnaire. Categorization of fast food consumption frequency data is divided into frequent (\geq median) and rarely ($<$ median), sleep quality data is divided into bad (total score > 5) and sound (total score < 5), and data on the amount of pocket money is divided into high (\geq median) and low ($<$ median).

RESULTS

Table 1. Respondent Characteristics

Characteristics	n = 103	%
Age		
16	74	71,8
17	26	25,2
18	3	2,9
Gender		
Male	48	46,6
Female	55	53,4
Status Gizi (IMT/U)		
Non-overnutrition (≤ 1 SD)	76	73,8
Overnutrition (> 1 SD)	27	26,2
Frequency of Consumption of Fast Food		
Infrequent	50	48,6
Frequent	53	51,4
Sleep Quality		
Poor	76	73,8
Good	27	26,2
Pocket Money		
Low	74	71,8
High	29	28,2

Based on Table 1, which shows the data on the characteristics of the respondents, it is known that the majority of respondents aged 16 were 74 people (71.8%) and were dominated by female respondents, 55 people (53.4%). Most respondents had a nutritional status of not more than 76 people (73.8%). The frequency of fast food consumption for respondents was in the frequent category, as many as 53 people (51.5%). Most respondents had poor sleep quality, 76 people (73.8%). Most respondents in the low category have pocket money, as many as 74 people (71.8%).

Table 2. Relationship between Fast Food Consumption with Overnutrition

Consumption of <i>Fast Food</i>	Nutritional Status				Total		<i>P-value</i>
	Non-Overnutrition		Overnutrition				
	n	%	n	%	n	%	
Infrequent	42	40,8	8	7,8	50	48,6	0,02
Frequent	34	33	19	18,4	53	51,4	
Total	76	73.8	27	26.2	103	100	

Based on Table 2, it is known that most of the respondents consume fast food frequently (51.4%). The results found that most respondents who rarely consumed fast food did not experience excess nutrition (40.8%), while respondents who frequently consumed fast food experienced excess nutrition (18.4%). Statistical test results found a relationship between the frequency of fast food consumption and the incidence of overweight in adolescents at SMA Negeri 1 Telukjambe Timur Karawang ($p = 0.02$ or $p < 0.05$).

Table 3. The Relationship of Pocket Money with Overnutrition

Pocket Money	Nutritional Status				Total		<i>P-value</i>
	Non-Overnutrition		Overnutrition				
	n	%	n	%	n	%	
Low	54	52,4	20	19,4	74	71,8	0,767
High	22	21,4	7	6,8	29	28,2	
Total	76	73,8	27	26,2	103	100	

Based on Table 3, it is known that most of the respondents have low-category pocket money (71.8%). The results found that most of the respondents who were not experiencing more nutrition received an allowance categorized as low (52.4%), while most of the respondents who were experiencing more nutrition received a low allowance (19.4%). Statistical test results found no relationship between pocket money and the incidence of overweight in adolescents at SMA Negeri 1 Telukjambe Timur Karawang ($p = 0.767$ or $p > 0.05$).

Table 4. Relationship between Sleep Quality and Nutrition

Sleep Quality	Nutritional Status				Total		<i>P-value</i>
	Non-Overnutrition		Overnutrition				
	n	%	n	%	n	%	
Poor	52	50,5	24	23,3	76	73,8	0,04
Good	24	23,3	3	2,9	27	26,2	
Total	76	73.8	27	26.2	103	100	

Based on Table 4, it is known that the majority of respondents have poor sleep quality (73.8%). It was found that most of the respondents who were not overweight had poor sleep quality (50.5%), while most of the respondents who were overweight had poor sleep quality (23.3%). Statistical test results found a relationship between quality and the incidence of excess nutrition in adolescents at SMA Negeri 1 Telukjambe Timur Karawang ($p = 0.04$ or $p < 0.05$).

Table 5. The Relationship between Pocket Money and Fast Food Consumption Frequency

Pocket Money	Fast Food Consumption Frequency				Total		P-value
	Infrequent		Frequent				
	n	%	n	%	n	%	
Low	38	36,9	12	11,6	50	48,5	0,367
High	36	35	17	16,5	53	51,5	
Total	74	71.9	29	28.1	103	100	

Based on Table 5, it is known that most of the respondents have high pocket money (51.5%). The results found that most respondents with low allowances rarely ate fast food (36.9%), while respondents with high allowances often consumed fast food (16.5%). Statistical test results found no relationship between pocket money and fast food consumption in adolescents at SMA Negeri 1 Telukjambe Timur Karawang ($p = 0.367$ or $p > 0.05$).

DISCUSSION

Based on the results of this study, it is known that the proportion of adolescents with overweight and obesity status is higher in adolescents who consume fast food frequently. This result is in line with previous research, which suggested that students with obese nutritional status consume fast food frequently because the content of the fast food menu is high in calories, sodium, and fat (Sugiatmi & Handayani, 2018). The study explains that the habit of consuming fast food is the dominant factor causing obesity in high school students in South Tangerang.

The fast food most frequently consumed by respondents was sachet drinks, fried chicken, and instant noodles. The average respondent consumes sachet drinks 5x per week, fried chicken 3x per week, and instant noodles 2x weekly. Sachet drinks, fried chicken, and instant noodles are fast food items that are easy to find in school canteens. The ease of getting these types of food and affordable prices make the intensity of the frequency of consumption of this type of fast food high. Aprilia (2022) found that 53.8% of teenagers in Yogyakarta often consume sachet drinks due to easy access and affordable prices. Eka (2020), in his research, found that fried chicken (81%) and instant noodles (77.5%) were the types of fast food most often consumed by teenagers at SMA Negeri 4 Samarinda.

Good taste, affordable prices, and ease of obtaining it have made consuming fast food a trend for urban youth (Sugiatmi & Handayani, 2018). In the school canteen and along the rows of SMA Negeri 1 Telukjambe Timur Karawang, you can find various kinds of fast food that meet these requirements: good

taste, affordable prices, and easy to find. This supports the high frequency of fast food consumption among adolescents at SMA Negeri 1 Telukjambe Timur Karawang (51.4%). In addition, schools that are located in urban areas make it easy for teenagers to get fast food because many fast food outlets are found in urban areas. (Salsabila, 2022) his research stated that fast-food restaurants scattered in big cities affected adolescent eating patterns.

This study found no relationship between pocket money and the incidence of overweight in adolescents. Judging from the allocation of pocket money, student pocket money at SMA Negeri 1 Telukjambe Timur Karawang is not entirely used to buy food or drinks. Few students bring provisions from home to use their pocket money for other purposes, such as travel expenses, gasoline, cash, internet quota, and savings. This result is reinforced by research conducted by Cahyaning et al. (2019) that found no relationship between pocket money and the incidence of overnutrition in adolescents related to using pocket money not only to buy snacks but also for other needs, such as buying credit, stationery, and travel expenses. Putri et al. (2020), in their research, explained that teenagers do not use their pocket money to buy snacks but for transportation and other costs.

This study found a relationship between sleep quality and the incidence of overweight in adolescents. This study's results align with previous research by Agita et al. (2018), which found that poor sleep quality was more common in adolescents who were overweight and obese. The study explained that poor sleep quality impacts the feeling of fatigue experienced when waking up from sleep, so physical activity decreases. The energy stored in the body due to lack of physical activity increases a person's body mass index, so obesity occurs (Yanti et al., 2021).

Sleep quality is defined as an individual's ability to sleep and have adequate sleep duration, as indicated by waking up in the morning feeling refreshed (Putra, 2017). The poor quality of adolescent sleep is influenced by several factors, namely lifestyle, emotional stress, the environment, and drugs. Based on interviews conducted, several reasons why respondents often sleep late at night are due to doing schoolwork, using gadgets, and accessing the internet and social media, thus delaying their bedtime. These results are reinforced by Firmawati et al. (2023), who, in their research, suggested that the use of gadgets and activities at school are factors that cause adolescents to have poor sleep quality.

This study found no relationship between pocket money and fast food consumption habits in adolescents. This study's results align with research conducted by Munasiroh et al. (2019), which stated that there is no relationship between pocket money income and the choice of fast food consumption in adolescents. This is because compared to the pocket money factor, other factors are more dominant in influencing individuals in choosing fast food, namely health status. Researchers analyzed that there is no relationship between pocket money and fast food consumption in adolescents because adolescents do not depend on the amount of pocket money to be able to eat fast food. Parents often provide fast food at home for consumption so that children do not need to use pocket money to be able to eat fast food. The theory reinforces this assumption, which states that the family environment is an extrinsic factor influencing a person's fast food consumption habits (Mulyani et al., 2020). In their research, Octaviani & Safitriani (2022) found that 66.4% of teenagers at SMA Negeri 64 Jakarta who had bad fast food consumption habits had support from their parents to eat fast food. In addition, Romadloniyah & Setiaji (2020), in their research at SMA Negeri 1 Bae Kudus, explained that the use of pocket money is not always related to consumption; teenagers often use their pocket money for things related to hobbies and prestige, such as playing games, fulfilling animal needs—pets, and hanging out with friends.

CONCLUSIONS

Based on research conducted on adolescents at SMA Negeri 1 Telukjambe Timur Karawang, it can be concluded that there is a relationship between the habit of consuming fast food and sleep quality with the incidence of overweight, and there is no relationship between pocket money and the habit of consuming fast food and the incidence of excess nutrition.

RECOMMENDATION

Researchers hope that the results of this study provide an overview and be used as a data source for further studies. Suggestions for further research should add data in the form of parents' salaries to the characteristics of the respondents to review the relationship of economic factors as a whole. Data related to

extracurricular and organizational activities undertaken by students can be added as supporting data that can be used to review the relationship with students' sleep quality.

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