



Obesity, Dietary Habits, and Body Image Perception in College Students at Sultan Ageng Tirtayasa University

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Abstract

Central obesity is a condition of excess fat accumulation in the abdomen. Lifestyle factors such as consuming high-fat foods, low fiber intake, and low physical activity can contribute to central obesity. The objective of this study is to investigate the prevalence of obesity, dietary habits, and body image perception in college students at Sultan Ageng Tirtayasa University. This quantitative study was conducted using a cross-sectional design in the Nutrition Study Program, Faculty of Medicine, UNTIRTA, in November 2022. The population of the study was students of the Nutrition Study Program, batch 2020-2022, with a total of 121 students. A sample of 80 students was selected using a total sampling method. The results of the study showed that central obesity in college students was mostly caused by unhealthy lifestyle factors, such as not following a healthy lifestyle, unhealthy eating patterns, and low physical activity. Of the respondents, 67 (80.72%) did not follow a healthy lifestyle, while 13 (15.66%) followed a healthy lifestyle with a balanced diet. Most respondents (66.27%) had the habit of consuming fast food, with a frequency of consumption of 3 times per week in 24.1% of cases. The majority of respondents (63.86%) did not have the habit of exercising. These findings suggest that unhealthy lifestyle factors are major contributors to central obesity in college students of nutrition at Sultan Ageng Tirtayasa University.

Keywords: Obesity, College Students, Dietary Habits, Body Image Perception

Key Messages:

- Central obesity in college students is prevalent and linked to unhealthy lifestyle factors, including poor dietary habits and low physical activity

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1. Introduction

Central obesity, also known as apple-shaped obesity, is a condition in which excess fat is stored around the waist and abdomen(1). This fat accumulation is caused by an excessive amount of fat in the subcutaneous fat tissue and visceral fat tissue of the abdomen. Visceral fat is formed when the subcutaneous fat tissue is unable to cope with excess energy intake, which is caused by excessive fat consumption (2). Central obesity is a risk factor for several chronic diseases, including type 2 diabetes mellitus, dyslipidemia, coronary heart disease,

hypertension, cancer, and metabolic syndrome. The prevalence of central obesity in Indonesia has been increasing in recent years. According to the National Basic Health Survey (Riskesdas) in 2007, 18.8% of the population aged 15 years and over had central obesity. This prevalence increased to 26.6% in 2013 and 31% in 2018 (3). Central obesity in adolescents is a concerning phenomenon (4). Adolescents are currently exposed to various risk factors, such as unhealthy eating habits, lack of physical activity, and social and cultural pressure related to body image (5,6).

Central obesity can be caused by a number of factors, including environmental factors, behavioral factors, and genetic factors. Environmental factors include factors such as diet, physical activity, and sleep (7). Behavioral factors include smoking and alcohol consumption (8). The objective of this study is to investigate the prevalence of obesity, dietary habits, and body image perception in college students at Sultan Ageng Tirtayasa University.

2. Methods

The study design is a quantitative cross-sectional study conducted in the Nutrition Study Program, Faculty of Medicine, UNTIRTA in November 2022. The population of the study was students of the Nutrition Study Program, batch 2020-2022, with a total of 121 students. A sample of 80 students was selected using a total sampling method. The total sample of 80 students was taken because there were constraints during data collection. Not all students were able to complete the questionnaire.

The study variables were: Respondent characteristics (age, gender, and year of entering college); Waist circumference; Eating habits (breakfast habit, frequency of eating in 1 day, consumption of vegetables every day, consumption of fruits every day, consumption of fast food, frequency of fast food consumption in 1 week); Dietary history (special diets and types of diets practiced); Exercise habits (exercise performed and duration in 1 sport); Physical activity level; and Body perception.

Data collection was conducted using a questionnaire developed using the KoboToolbox application and a measuring tape. The questionnaire was used to collect data on respondent characteristics, eating habits, dietary history, exercise habits, physical activity level, and body perception. The measuring tape was used to measure waist circumference. Waist circumference was categorized as obesity if the waist circumference of males was greater than 90 cm and the waist circumference of females was greater than 80 cm (9). Data analysis was conducted using descriptive analysis with the Excel application.

3. Results

Table 1 shows that the majority of respondents are 19 years old, accounting for 33.73%, followed by 20-year-olds at 32.53%. Furthermore, based on gender, female respondents constitute the largest portion at 89.16%. In terms of the year of entering college, the 2021 class dominates with 34.94%.

Table 1. Characteristics Respondents College Students at Sultan Ageng Tirtayasa University

Characteristics Respondents	n	%
Age (Years old)	17	1,2
	18	25,3
	19	33,73
	20	32,53
	21	3,61
Sex	Female	89,16
	Male	7,23
Year of entering college	2020	32,53
	2021	34,94
	2022	28,92
Total	80	100

Table 2. Distribution Central Obesity Based on Sex College Students at Sultan Ageng Tirtayasa University

Sex	Normal		Obesity		Total	Means	SD
	n	%	n	%			
Female	66	89,18	8	10.81	74	73,62	9.93
Male	5	83,33	1	16,66	6		

Table 2 shows the prevalence of central obesity based on gender characteristics. The majority of respondents, both women and men, have a normal stomach circumference. Among female respondents, 89.18% have a normal stomach circumference, while among male respondents, 83.33% have a normal stomach circumference.

Table 3. Respondent's Eating Habits College Students at Sultan Ageng Tirtayasa University

Respondent's Eating Habits		n	%
Breakfast practice	Yes	52	62.65
	No	28	33,73
	> 3 times	34	40.96
Daily meal frequency	3 times	14	16,87
	2 times	28	33,73
	1 time	4	4.82
Consumption of vegetables every day	No	50	60,24
	Yes	30	36,14
Consumption of fruit every day	No	62	74,7
	yes	18	21.69
Consumption according to Balanced Nutrition	No	67	80,72
	Yes	13	15,66
Consumption of fast food	Yes	55	66,27
	No	25	30,12
	>3 times	11	13,23
Frequency of fast food in 1 week	3 times	20	24,1
	2 times	17	20,48
	1 time	7	8,43

Table 3 reveals several key findings regarding respondents' dietary habits. Firstly, a substantial 62.65% of respondents have the habit of having breakfast in the morning. Secondly, a majority, accounting for 40.96%, consume food more than three times a day. However, concerning healthy choices, the data shows that 60.24% do not consume vegetables on a daily basis, while a significant 74.7% do not incorporate fruits into their daily diet. Alarmingly, a staggering 80.72% of respondents fail to adhere to a balanced nutritional intake. Lastly, when it comes to fast food consumption, approximately 66.27% of respondents have the habit, with 24.1% doing so three times a week.

Table 4. Habits Exercising College Students at Sultan Ageng Tirtayasa University

Habit Exercising		n	%
Exercise habit	Yes	27	32,53
	No	53	63,86
Type of exercise done	Bicycle	2	2,41
	Exercise	3	3,61
	jogging	10	12,05
	Other	12	14,46
Frequency of exercise in 1 week	>3 times	4	4,82
	3 times	2	2,41
	2 times	13	15,66
Duration of 1 exercise session	1 time	8	9,64
	5-15 minutes	12	14,46
	16-30 minutes	6	7,23
	46-60 minutes	3	3,61
	>60 minutes	6	7,23

Table 4 provides insights into the prevalence of exercise habits among respondents. Notably, the majority, constituting 63.86% of respondents, do not engage in regular exercise. Among the minority who do exercise (32.53%), the most common type of physical activity is jogging, with 12.05% participating, while others account for 14.46%. Additionally, these respondents typically engage in exercise twice a week, with 15.66% following this frequency. The duration of exercise for most respondents falls within the 5-15-minute range, specifically 14.46%.

Table 5. Body Image Perception Respondents College Students at Sultan Ageng Tirtayasa University

Body Image Perception		n	%
In my opinion, my body size is considered to be?	Normal	44	53,01
	Thin	20	24,1
	Fat	16	19,28
In my opinion, my body size would be best if it were?	Normal	75	90,36
	Thin	5	6,02
I am concerned about becoming overweight	Yes	58	69,88
	No	22	26,51
I am satisfied with my body	Yes	28	33,73
	No	52	62,65

Table 5 reveals significant insights into respondents' perceptions of their body. A majority, comprising 53.01% of respondents, consider their current body size as normal. Furthermore, the desired body size among respondents is predominantly aimed at achieving a normal body, with 90.36% expressing this preference. However, it's concerning to note that 69.88% of respondents have concerns about becoming overweight, and a substantial 62.65% of them feel that their current body is not ideal.

4. Discussion

The results of the study showed that 67 (80.72%) respondents did not follow a healthy lifestyle, while 13 (15.66%) respondents followed a healthy lifestyle with a balanced diet. Most respondents (66.27%) had the habit of consuming fast food, with a frequency of consumption of 3 times per week in 24.1% of cases. The majority of respondents (63.86%) did not have the habit of exercising. This study provides a deeper understanding of the

extent to which central obesity and unhealthy eating habits are affecting students of the nutrition department at Sultan Ageng Tirtayasa University. The fact that most respondents did not follow a healthy lifestyle and had unhealthy eating habits suggests the need for efforts to improve their understanding of the risks of obesity and its negative health effects.

There are several possible reasons why nutrition students with adequate knowledge of the risk factors for central obesity still have unhealthy eating habits and low physical activity levels. One possibility is that nutrition students may be exposed to an environment that does not support healthy lifestyles, such as living near fast food restaurants. (10). 2) College students often experience high time pressure due to the need to balance studies, work, and social life, leading them to choose convenient fast food over cooking healthy meals. (11). 3) Multiple factors influence dietary habits and are reciprocally interacting, so they cannot be viewed separately. The family system that surrounds a child's domestic life will have an active role in establishing and promoting behaviours that will persist throughout his or her life(12). Other studies have shown that the abundance of street food vendors around campus contributes to students, especially female students, eating out more often. These snacks often include high-energy foods (baked meatballs, seblak, sausages, dumplings, etc.) (13).

Central obesity is a type of obesity characterized by the accumulation of fat in the abdominal area. This central obesity can increase the risk of various diseases, such as heart disease, stroke, diabetes, and cancer(14). The results of this study show that Sultan Ageng Tirtayasa University students need to increase their awareness of the importance of a healthy lifestyle to prevent central obesity. Students need to reduce their consumption of fast food and increase their physical activity.

Universities can provide campus canteens that sell healthy foods, such as fruits, vegetables, and processed foods that are low in calories and fat. This is supported by previous research that found that optimizing the nutritional profile of menus, labeling based on nutrient profiling, and promoting nutrition education can improve students' diets. (15). 2) Universities can provide free exercise programs for students, such as yoga, Pilates, or Zumba. School-based interventions can have important potential for obesity prevention and promotion of physical activity and fitness if they focus more on the content, quality, duration and priority of the physical activity (16). 3) Universities can provide incentives for students who are active in sports, such as discounts at the campus canteen or tuition discounts. This is supported by other research, namely: Adolescents, teachers, and activity providers supported the voucher scheme and felt that the vouchers enabled deprived adolescents to access more physical activity opportunities. Voucher usage was associated with improved attitudes towards physical activity, increased socialization with friends, and improved fitness and physical activity; presenting interesting avenues for further exploration in a larger intervention trial (17).

5. Conclusion

This conclusion underscores the importance of interventions aimed at increasing awareness of healthy eating habits, increasing physical activity, and addressing body image issues among university students.

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