

RELATIONSHIP BETWEEN LIFESTYLE AND OBESITY IN ADOLESCENTS

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ABSTRACT

Obesity is a condition in which body fat is in excessive amounts. Obesity is a risk factor for the 5th leading cause of death in the world. About 2.8 million people in the world die from complications of obesity, 23% suffer from ischemic heart disease, and 7% to 41% have a risk of developing cancer in certain organs. This study aims to determine the relationship between lifestyle and obesity in adolescents at SMPN 1 Bulukumba in 2021. The type of research used is an observational study with a cross sectional design. The sampling technique was purposive sampling. The population in the study was 352 people. The sample in this study were 47 people. Analysis of eating patterns with obesity using the square test obtained a value ($p = 0.000$) indicating that there is a significant relationship between diet and the incidence of obesity and on physical activity the value ($p = 0.049$) shows that there is a relationship between physical activity and the incidence of obesity in Junior High School 1 Bulukumba youth. The conclusion in this study is that there is a relationship between diet and physical activity with the incidence of obesity in adolescents at SMP Negeri 1 Bulukumba. It is recommended for adolescents to behave in a healthy life by maintaining a good diet and managing physical activity properly in order to avoid various degenerative diseases due to complications from obesity.

Keywords: diet; obesity; physical activity

INTRODUCTION

Obesity is a condition where body fat is in excessive amounts (Muriyati & Syamsuddin, 2018). Obesity is a risk factor for the 5th leading cause of death in the world. Around 2.8 million people in the world die from complications of obesity, 23% suffer from ischemic heart disease, and 7% to 41% have a risk of developing cancer in certain organs (Nugroho et al., 2016). One of the important problems that play a role in obesity is physical activity. Obesity is not only related to the problem of consuming a lot of food but also a lack of physical activity. Along with the times there have been various lifestyle changes, especially in physical activity, decreasing and low physical activity is believed to be one of the things that causes obesity in a person (Bantara, 2016). Obesity has become a global pandemic worldwide and is declared by WHO as the biggest chronic health problem in adults. Overweight and obesity are defined as abnormal or excessive fat accumulation that poses a risk to health. Obesity is a major factor in a number of chronic diseases, including diabetes, heart disease and cancer. The problem of obesity has been thought to only exist in high-income countries, but this is overweight and obesity is increasing in low- and middle-income countries, especially in urban areas (WHO, 2019).

The prevalence of obesity is increasing at an alarming rate for public health, including for developing countries. WHO estimates that 58% of the population will suffer from obesity in 2030. Global surveys of both overweight and obesity in both genders vary by region/country (Alam et al., 2019). Judging from basic health research data in Indonesia since 2007-2018 there has been an increase in body mass index according to age (BMI/U), namely the prevalence of obese adolescents

aged 13-15 years in Indonesia by 10.8% consisting of 8.3% obese and 2,5% very obese (Riskasdas, 2018). Based on data from the Bulukumba District Health Office in 2016 the number of obese people was 14.8% obese people then 2018 experienced an increase of 21.8% obese people (Bulukumba City Health Office, 2018).

Factors causing obesity in adolescents are multifactorial. Increased consumption of fast food (fast food), low activity, psychosocial and knowledge. However, the most dominant factors causing obesity are diet and physical activity (Weni & et al, 2015). As the results of research conducted by Nurazisa (2018) with the title of the relationship between diet and physical activity in housewives, it shows that there is a relationship between diet and activity with the incidence of obesity. Diet and physical activity play a very important role in the process of obesity. If a person eats excessively with foods that contain lots of calories but lacks activity, eating will cause a lot of energy to be stored as fat (lack of physical activity) will cause weight gain. Lifestyle changes result in changes in adolescent eating patterns which refer to obesity (Hidayati & et al, 2016). The purpose of this study was to determine the relationship between lifestyle and obesity in adolescents at SMPN 1 Bulukumba related to diet and activity patterns.

METHOD

This type of research is a quantitative research where this research uses a research design with a cross sectional study design. This research was conducted in September 2021 and its location is at SMPN 1 BULUKUMBA. The population in this study were students of SMPN 1 Bulukumba class VIII as many as 341 people. The sample in this study were students who were obese at SMPN 1 Bulukumba who met the criteria as many as 47 people. The sampling technique used is purposive sampling. The research instrument on the variables of diet and physical activity used a questionnaire, on the obesity variable a digital scale was used to determine the student's weight and a stature meter to determine the height of the students of SMPN 1 Bulukumba. The statistical test used is the chi-square test.

RESULTS AND DISCUSSION

Table 1.
Characteristics of Respondent (n=47)

characteristics	f	%
Gender		
Male	20	42,6
Female	27	57,4
Age		
13 years old	20	42,6
14 years old	27	57,4

Based on table 1 the frequency distribution of respondent characteristics shows that the male gender characteristics are 20 respondents or approximately (42.6), while for female respondents there are 27 respondents or approximately (57.4) and 47 respondents , for the age of 13 years amounted to 20 people (42.6) while the age of 14 years amounted to 27 people (57.4).

Table 2.
 Frequency distribution of Respondent's BMI

Respondent's BMI	f	%
Obesity	23	48,9
Non Obesity	24	51,1

Based on table 2, the distribution of obesity frequency in SMPN 1 Bulukumba is 23 respondents or around (48.9%), the criteria for obesity are 24 respondents or approximately (51.1).

Table 3.
 Frequency Distribution of Dietary

Dietary	f	%
Good	24	51,1
Not Good	23	48,9

Based on table 3, the distribution of the frequency of eating patterns in SMPN 1 Bulukumba on the good criteria is 24 respondents or approximately (51.1), while the poor criteria are 23 respondents or approximately (48.9).

Table 4.
 Frequency Distribution of Physical Activity

Physical Activity	f	%
Light	21	44,7
Currently	19	40,4
Heavy	7	14,9

Based on table 4, the distribution of the frequency of physical activity at SMPN 1 Bulukumba on mild criteria is 21 respondents or approximately (44.7), moderate criteria is 19 respondents or approximately (40.4) and severe criteria is 7 respondents or approximately (14.9).

Table 5.
 Relationship between Dietary and Obesity

Dietary	Obesity				Total	Value- <i>P</i>	
	Non obesity		obesity				
	f	%	f	%	f		%
Good	1	2,1	23	48,9	24	51,1	0,000
Not Good	21	44,7	2	4,3	23	48,9	

Based on table 5 above, the frequency distribution of the relationship between eating patterns and the incidence of obesity in students at SMPN 1 Bulukumba is from 47 respondents who belong to the category of good eating patterns as many as 24 respondents. Meanwhile, there are 23 respondents who have poor eating patterns, 22 respondents who are not obese and 25 respondents who are obese.

Based on the results of SPSS analysis using the chi square test, the value of $p = 0.000 < 0.05$ was obtained. So it can be concluded that there is a relationship between diet and the incidence of obesity in adolescents at SMPN 1 Bulukumba.

Table 6.
 Relationship between Physical Activity and Obesity

Physical Activity	Obesity				Total		Value- <i>P</i>
	Non obesity		obesity		f	%	
	f	%	f	%			
Light+Currently	19	40,4	7	14,9	26	53,3	0,049
Heavy	20	42,2	1	2,1	21	44,7	

Based on table 6, it is known that from the number of 47 respondents whose physical activity was in the light + moderate category as many as 26 respondents (53.3%), who were not obese were 19 respondents (40.4), and who were obese were 7 respondents (14, 9). Then physical activity in the heavy category was 21 respondents (42.2), 20 respondents were not obese (42.2), and 1 respondent was obese (2,1). Based on the results of SPSS analysis using the chi square test, the p value = 0.049 < 0.05. So it can be concluded that there is a relationship between physical activity and the incidence of obesity in adolescents at SMPN 1 Bulukumba. Based on the results of SPSS analysis using the chi square test, the p value = 0.000 < 0.05. So it can be concluded that there is a significant relationship between diet and the incidence of obesity in students at SMPN 1 Bulukumba. The results showed that from 47 respondents with a good diet, 24 respondents or approx. (51.1%), while those with a bad diet were 23 respondents or approx. (48.9%).

Diet or food intake is the amount of food consumed by a person. Excessive energy intake with high fat and carbohydrate content continuously can cause obesity (Muchlisin Riadi, 2016). Diet plays an important role in the process of obesity. Poor diet is a trigger for obesity. Obesity is related to diet, especially when eating foods that are high in calories and low in fiber. The results showed that there was a relationship between diet and obesity in the police (Yulia Kurniawati, Rudi fakhriadi, 2016). Mokolensang et al (2016) in their research also showed that there was a relationship between diet and obesity in adolescents with p value = 0.001 < 0.05. Poor diet causes obesity because the intake of nutrients consumed is not balanced between fat, carbohydrates and fiber. When there is too much fat in the body, it cannot be fully functioned by the body so that fat can accumulate in body tissues. When this condition is allowed to continue, obesity occurs.

According to Proverawati (2010), behavior or lifestyle patterns, such as what one eats and how many times a person eats can cause obesity. It was proven by (Evan & Erlisa, 2017) with the title of the relationship between diet and the incidence of obesity in students at Tribhuwana Tungadewi University Malang using the Spearman Rank test, the p value = 0.004 < 0.05. Which means there is a relationship between diet and the incidence of obesity. The research that has been done (Yulia Kurniawati, Rudi fakhriadi, 2016) with the title of the relationship between diet, energy intake, physical activity and sleep duration with the incidence of obesity in police using the chi square test obtained p value = 0.047 < 0.05. The results of his research also show that there is a relationship between diet and the incidence of obesity.

Diet is closely related to the incidence of obesity because most obese people have a poor diet in the obesity category, such as consuming a lot of oily food every day but consuming less fruit. When a person consumes fatty foods in excess, it will accumulate in the body due to lack of fat burning and then obesity occurs. The analysis of the pattern of physical activity with the incidence of obesity also shows that there is a relationship between activity patterns and the incidence of obesity. According to (Proverawati A, 2010), someone with less activity can increase the prevalence of obesity. People who are less active need fewer calories than people who are strenuous. A person whose life is less active or does not do a balanced physical activity and then consumes foods high in fat, will tend to be obese. Individuals spend more time sitting (watching television, working with computers) than moving (exercise, walking) so they are at risk of gaining weight due to a lack of fat burning in the body (M.Black, J., & Hawks, 2014).

Evidenced by the research of Candra, Wahyuni & Sutriningsi (2016) with the title of the relationship between physical activity and diet with the incidence of obesity shows that there is a relationship between diet and the incidence of obesity in adolescents using the spearman rank statistical test with $p \text{ value} = 0.001 < 0.05$. Physical activity has an important role in the risk of obesity. With a balanced activity, you can burn calories and maintain an ideal body weight. However, if you do less activity or only do light activities, a person will easily become obese because of the lack of fat burning in the body. Physical activity is one of the factors that can increase energy needs, so that if the physical activity is light, the possibility of obesity will increase. Various studies have shown that the length of the habit of watching television is associated with an increase in the prevalence of obesity. Meanwhile, moderate to heavy activity will reduce the possibility of obesity (Nugroho et al., 2016).

According to (Proverawati A, 2010), what affects the occurrence of obesity in a person is physical activity. Research in developed countries has found a relationship between light physical activity and the incidence of obesity. Individuals with light physical activity have a risk of increasing body weight by 5 kg. This is proven by research conducted by (Danari et al., 2013) with the title the relationship between physical activity and the incidence of obesity in elementary school children in Manado City using the chi square test with $p \text{ value} = 0.004 < 0.05$. The results show that there is a relationship between physical activity and the incidence of obesity. (Nurul et al., 2018) in his research entitled physical activity and central events in women in Tanah Patah Village, Bangkulu City also showed that there was a relationship between physical activity and the incidence of obesity. Physical activity is closely related to the incidence of obesity, especially light physical activity. Physical activity of junior high school adolescents who are obese do more light physical activity in the obesity category such as playing games, sitting a lot with friends, and sleeping. So they are at risk of developing degenerative diseases due to obesity because they do not keep up with exercise. It is known that exercise can provide benefits such as increasing the body's metabolism to prevent obesity and maintaining an ideal body weight, reducing the risk of various diseases such as high blood pressure, coronary heart disease, diabetes, improving the hormonal system, and increasing the body's immune system against disease.

CONCLUSION

From the results of research on the relationship between lifestyle and obesity in adolescents at SMPN 1 Bulukumba in 2020 with 47 respondents, it can be concluded that there is a relationship between diet and physical activity with the incidence of obesity in students of SMPN 1 Bulukumba

in 2021. So that students are expected to behave a good healthy life, especially for those who are obese in order to avoid various degenerative diseases due to complications from obesity.

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