The Relationship Between Sedentary Lifestyle And Obesity In Elementary School-Age Children At Sdn 2 Terang-Terang, Bulukumba District

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ABSTRACT

Obesity has now become an epidemic health problem throughout the world. Its prevalence is increasing not only in Indonesia but in several other developing countries besides that, it is also increasing in several developed countries. An excessive sedentary lifestyle can cause health problems in the form of obesity. Determine the relationship between a sedentary lifestyle and the incidence of obesity in elementary school-aged children at SDN 2 Terang, Bulukumba Regency. This research is a type of analytic observational research with a cross-sectional approach, the total population is 103 students, with a total sample of 50 students consisting of class VI SD, with sampling using the probability sampling method using a sampling technique, namely random sampling. The results of this study indicate that the value of p = 0.485, so there is no significant relationship between the relationship between a sedentary lifestyle and the incidence of obesity in elementary school-age children at SDN 2 Terang-Terang, Bulukumba Regency. In this study, it can be concluded that sedentary life is high in respondents who are not obese and there is no significant relationship between sedentary lifestyle and the incidence of obesity in students of SDN 2 Terang-Terang, Bulukumba Regency, while the suggestion in this study is that elementary school-age children need awareness to better understand the things that can interfere with health problems.

Keywords: Sedentary Lifestyle; Obesity; School Age Children

INTRODUCTION

Obesity is a nutritional disease that occurs due to excessive accumulation of fat and calories throughout the body, where there is excessive accumulation of fat than what the body needs is a pathological condition.(Febry, Pujiastuti and Fajar, 2013). According to a survey conducted (WHO), there were 340 million adolescents and children who were overweight and obese in 2016 (WHO 2020). Approximately 30% of women and 10% of

men are at risk of obesity and overweight. Seen from 2000-2017, globally there were 38.3 million children who were overweight, which increased by 0.7% and 4.9% in 2000 to 5.6% in 2017 (Unicef 2018). Based on a survey conducted by the Indonesian Ministry of Health (2018), the incidence of obesity reached 9.2% at the age of 5-12 years. Where is Papua the highest province (15.3%), then DKI Jakarta (14.0%), the second highest is the Riau Islands (12.3%) and for areas that have the lowest number of obesity events, namely NTT (East Nusa Tenggara).) (2.4%) according to (Riskesdas, 2018).

South Sulawesi is one of the regions included in 1o provinces with the most obesity categories. From the results of the study (Syahrul, et, al, 2016) found the prevalence results for children who are obese and overweight in the city of Makassar include 20.4%. The prevalence of nutritional status at the age of 5-12 years based on the regency or city of South Sulawesi province based on the 2018 Riskesda data obtained in Bulukumba district was 3.20% belonging to the obese category. In the incidence of obesity there are 3 factors that greatly influence the incidence of obesity, the first is genetics or heredity, it is known that someone who has one or two parents who are obese, tends to be more at risk of developing obesity in contrast to people who do not have obese parents or families. The second is wrong eating habits, currently fast food which is high in sugar/carbohydrates and high in fat, is widely sold and has become a lifestyle for some people, especially those living in urban areas. The third is lifestyle changes, we currently live in the millennial era. The era that allows everything to be done easily, people will sit more in front of the computer or their cellphones so there is very little in activities that use physical activity or also known as a sedentary lifestyle. At present there are very few children who play outdoors, they only play with their play station or cellphone, so there is a lack of physical movement that can burn calories in the body.(Herman et al., 2020).

In addition, based on several studies that cause or influence obesity, including diet and physical activity, which is supported by the research conducted(Asnidar et al., 2022)in adolescents with the incidence of obesity at SMPN 1 Bulukumba it was found that there was a significant relationship between diet and physical activity on the incidence of obesity in adolescents at SMPN 1 Bulukumba, In addition, this research is also supported by research conducted by(Asnidar et al., 2017)conducted in one of the junior high schools in Bulukumba Regency, South Sulawesi Province where the research aims to determine the factors that influence the incidence of obesity in junior high school students in Bulukumba with the results of physical activity factors, energy intake,

carbohydrate intake, father's education , mother's education, and a history of obesity have a relationship to the factors that influence the incidence of obesity in children. Unlike the factors of gender, family structure and family health anamnesis which have no relationship with the incidence of obesity.

The impact of obesity consists of several risk factors which include skin disorders, impaired liver function, potential for psychiatric disorders, burden disorders, cardiovascular, and Obstructive Sleep Apnea (OSA). Cardiovascular risk factors include risks caused by genetics and heart disease, dyslipiemia, increased cholesterol >160mg/dL, decreased cholesterol <35mg/dL) and hypertension, diabetes mellitus, smoking, and sedentary activity. Children with overweight and obesity have a high risk of these three main factors.(Sjarif et al., 2014).

WHO predicts that 58% of the population will suffer from obesity in 2030. As well as the number of obesity incidents will continue to increase in Indonesia, especially in urban areas due to the large number of Indonesian people who continue to do sedentary activities, the habit of spending time watching TV and playing games is one of the causes of low physical activity. This theory is in line with the research of Dietz and Gortmarker (1985) and Vertical (2012) which showed a significant relationship between TV viewing habits and the incidence of obesity in children.

The results of research conducted by(Setyoadi, Rini and Novitasari, 2015). What was done at SDN Beji 02, Tulungagung Regency, showed that there was a relationship between the use of sedentary time and obesity in children aged 9-11 years at SDN Beji 02, Tulungagung Regency. The results of other studies conducted by(Fadhilatul, 2017)conducted at SDN Mangkura 1 Makassar showed that there was a significant positive relationship between sedentary lifestyle and obesity at SDN Mangkura 1 Makassar, and 39 respondents (19.9%) experienced high sedentary life.

The results of other studies conducted in Bulukumba Regency which were carried out in coastal and mountainous areas by(Rahman, Fitriani and Asnidar, 2020)shows that the average nutritional status in coastal areas is 23 (10.0%) obese and 10 (4.3%) obese, while the nutritional status in mountainous areas is 21 (10.0%) obese and 17 (8.1%) obese . The nutritional status of early adolescents in mountainous areas has a nutritional status of obesity, while the nutritional status of early adolescents in coastal areas has a nutritional status of obesity.

Preliminary data collection was carried out by researchers at SDN 2 Terang-bright Bulukumba Regency, obtained data for class 6 A totaling 26 students, 11 male students and 15 female students. Class B has 26 students, 12 boys and 14 girls. Class C has 25 students, 13 boys and 12 girls. There are 26 students in Class D, 13 boys and 13 girls. The total number of students in grade 6 of SDN 2 is open as many as 103 students and in the normal weight category there are 78 students and in the obesity category as many as 21 students. Observations made by researchers on students in the obesity category regarding lifestyle or habits at home and work parents and the complex where they live, where these are some of the things that increase the risk of a sedentary lifestyle where students say that their lifestyle while at home is just playing games or watching TV and social media and the parents of students are almost entirely businessmen and civil servants where they live in housing and urban district of Bulukumba. In addition, based on observations made by researchers during school hours, almost all of the students did not walk when they came home from school, they were usually picked up and when they left the school gate, they immediately held their cellphones.

Based on the description above, the researcher is interested in conducting research on "The relationship between sedentary lifestyle and the incidence of obesity in elementary school-age children at SDN 2 Terang-Terang, Bulukumba Regency."

MATERIAL AND METHODS

This research was conducted at SDN 2 Terang-Terang, Bulukumba Regency. The research design is analytic observational (cross sectional). The independent variable in this study is Sedentary Life Style and the dependent variable in this study is Obesity. The total population is 103 students and the number of respondents is 50 students using the sampling technique, namely the probability sampling method with the random sampling technique. As for the research instrument, namely the obesity variable used an observation sheet containing data on the results of weighing to determine the child's weight and a stature meter to determine the child's height, then determined in the BMI formula and on the sedentary lifestyle variable using a questionnaire with a Likert scale taken from The Physical Activity For Older Children (PAQ-C)(Kowalski, Crocker and Donen, 2004). In research(Addi, 2017).

Bivariate analysis was carried out by cross-tabulation between variables, namely between the dependent variable and the independent variable with the aim of knowing the relationship between these variables.

RESULT

Based on table 1, the results of the analysis of respondents were based on the characteristics of the respondents, in the gender category, there were 27 male respondents (54%) while 23 female respondents (46%). Meanwhile, in the age category, there were 47 respondents (94%) aged 10-11 years and 3 respondents (6%) aged >12 years. Furthermore, in the class category, there were 8 respondents (16%) in class VI.A, class VI.B 22 respondents (44%), class VI.C 10 respondents (20%), and class VI. D as many as 10 respondents (20%). While in the category of parents' work, it was found that respondents who had parents' jobs as entrepreneurs were 11 respondents (22%), civil servants 35 respondents (70%), and others 4 respondents (8%). it was found that the number of respondents with a sedentary lifestyle was in the high category, namely 12 respondents (24%) while respondents with a low category of sedentary lifestyle were 38 respondents (76%).

Table 1. Characteristics of respondents based on sedentary lifestyle, incidence of obesity of children at SDN 2 Terang-Terang, Bulukumba Regency

Characteristics	Frequency	Percentage (%)
Tall	12	24
Low	38	76
Obesity	21	42
Not Obese	29	58
TOTAL	**50**	**100**

Based on the results of the analysis in table 5.3, it was found that the number of respondents with obesity was 21 respondents (42%) while respondents in the non-obese category were 29 respondents (58%).

Table 2. The relationship between sedentary lifestyle and the incidence of obesity in elementary school-age children at SDN 2 Terang, Bulukumba Regency

Sedentary Lifestyle	Obesity Incidence				Total		Statistical Test*(p)
	Obesity		Not Obese				
	N	%	N	%	N	%	
Low	17	44	21	56	38	100	
Tall	4	33	8	67	12	100	*0.485**
Total	**21**	**42**	**29**	**58**	**50**	**100**	

Based on table 2, regarding the relationship between sedentary lifestyle and the incidence of obesity in elementary school-age children in SD 2 Terang, Bulukumba district, it can be seen that there were 17 respondents (44%) with a low sedentary lifestyle category and 4 respondents (33%) with sedentary lifestyle. high lifestyle with obesity. Furthermore, there were 21 respondents (56%) with a low sedentary lifestyle

and 8 respondents (67%) with a high sedentary lifestyle who did not experience obesity.

DISCUSSION

Based on the results of the analysis in table 1, it was found that the number of respondents with sedentary lifestyle events in the high category was 12 respondents (24%), while the respondents with low category sedentary lifestyle were 38 respondents (76%). With these results it is stated that the most sedentary lifestyle is in the low category or good physical activity with a total of 38 respondents out of 50 respondents, which is influenced by male sex with the highest number of respondents, namely 27 respondents as it is known that boys are more active in doing physical activities at school than girls.

Based on the results of the analysis in table 2, it was found that the number of respondents with the incidence of obesity was 21 respondents (42%) while respondents in the non-obese or normal category were 29 respondents (58%). In this case, the number of respondents who were not obese was found to be greater because based on the characteristics of sex, it affects the risk of obesity in a person, while the highest number of respondents were men with a total of 27 respondents and women with a total of 23 respondents. The number of respondents who are not obese is highest in women because girls are more concerned with physical problems by limiting the amount of food that can increase the risk of obesity in order to maintain their appearance, this is stated in a study conducted by(Sarti, 2011)with the title "Risk Factors of Obesity in Children Aged 5-15 Years in Indonesia".

Based on table 2, the research results obtained with a total of 50 elementary school student respondents at SDN 2 Terang-Terang, Bulukumba Regency. Based on the results of the Chi-Square test that has been carried out, the result is a p value = 0.485, because the p value > 0.05, it can be said that there is no significant relationship between sedentary lifestyle and the incidence of obesity. In this study, the highest number of sedentary lifestyle categories was found in those who did not experience obesity with a total of 8.

Respondents because in the non-obese category there are more girls where they relax more and even though they do less physical activity they adopt more sedentary behavior which also makes them more lazy to eat so even though they don't do much physical activity they don't do much consumption of foods that increase the risk of

obesity. This is also in line with research conducted by(Bastiyan Muhammad and Nurhayati, 2019)with the title "Relationship Between Sedentary Activities and Overweight Incidence in Class VII and VIII Students of As Sakinah Sidoardjo Islamic Middle School" which also in his research found that the highest sedentary lifestyle category was found in respondents who were not obese because they were more likely to play games or social media so they ignored their food so even though they have less physical activity they are still not at risk of obesity because they are not concerned with food.

According to the RI Ministry of Health (2005) Various activities with a certain level, such as exercising, watching television, playing games, and sleeping also affect energy expenditure in the body so that if there is no good energy expenditure, the body weight will be abnormal or overweight and obesity will occur. To maintain the body to be ideal, it should not only pay attention to physical activity or sedentary lifestyle, where if the intake is greater than the energy expended, a positive balance occurs which can cause overweight to obesity, and vice versa if the calorie intake is less than the energy expended, then there is a negative balance that causes a person from underweight to malnutrition, depending on the severity(Ulilalbab, Anggraeni and Lestari, 2017).

This is not in line with the theory put forward by(Diary, 2007)According to researchers, sedentary lifestyle has a relationship with the incidence of obesity due to efforts to regulate body weight to achieve an ideal body weight which is not only on a regular diet but also pays attention to physical activity. A diet without an increase in physical activity is of no use, because the body's muscles will shrink and this will result in a decrease in metabolism, which will make it more difficult to lose weight.

The results of this study are in line with research conducted by(Bastiyan Muhammad and Nurhayati, 2019)entitled "Relationship Between Sedentary Activities and Overweight Incidence in Class VII and VIII Students of As Sakinah Sidoardjo Islamic Middle School" which found $p = 0.329$, ($p > 0.05$) so that there was no significant relationship between sedentary activity and overweight incidents. However, different studies were found in studies conducted by(Saputri et al., 2019)with the title "Analysis of the Relationship Between Sedentary Lifestyle and the Occurrence of Obesity in Elementary School Age Grades 4-6" which found the results of $p = 0.022$, ($p < 0.05$) so that there was a significant relationship between sedentary lifestyle and the incidence of obesity in elementary school age grade 4 -6.

The results of other studies that are in line with this research are studies conducted by(Rahmiwati et al., 2019)with the title "Determinants of Obesity in Elementary School-aged Children" which found $p = 0.909$, ($p > 0.05$) so that there was no significant relationship between sedentary lifestyle and the incidence of obesity. This is in line with research conducted by(Pertiwi, Purwaningtyas and Putri, 2022)with the title "Relationship of Physical Activity, Knowledge, Mental Health, and Energy Intake with the Incidence of Central Obesity" which found the result $p = 0.643$, ($p > 0.05$) so that there was no significant relationship between physical activity and the incidence of central obesity.

The results of other studies that are in line with this research are studies conducted by(Pramita and Geiadhi, 2016)with the title "Relationship Between Sedentary Behavior and Body Mass Index in Fifth Grade Students at SD Cipta Dharma in Denpasar" which found $p = 0.100$, ($p > 0.05$) so that there was no significant relationship between sedentary behavior and body mass index.

The researcher assumes that in this study there were no results regarding a relationship between sedentary lifestyle and the incidence of obesity in elementary school-aged children at SDN 2, Brightly, Bulukumba Regency, because the assessment of physical activity at school has a short span of time where during recess the children remain active. doing physical activities such as running, walking, or other activities that expend energy but the calorie intake as a result of snacks containing calories done at school is not proportional to the energy expended so that even though children have done physical activity they are still at a low body weight normal because the intake is not proportional to the energy expended.

CONCLUSIONS

Based on the results of the research discussion it can be concluded that: It was found that most of the respondents' sedentary lifestyles were in the low category at SDN 2 Terang, Bulukumba Regency**,** It was found that most of the respondents were not obese at SDN 2 Terang, Bulukumba Regency**,** There is no significant relationship between sedentary lifestyle and the incidence of obesity in elementary school-age children at SDN 2 Terang-Terang, Bulukumba Regency. Parents are expected to be a role model or a good example for their children in carrying out daily activities that can support them in maintaining and improving their health.

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