Analysis of Physical Activity and Healthy Lifestyle with Physical Fitness Level of Female Students at Taruna Nusantara Senior High School in Magelang

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ABSTRACT

The problem in this study is that there are still female students who are overweight even though the school has implemented a physical activity programme and the implementation of a healthy lifestyle. This study aims to analyse physical activity and healthy lifestyle with physical fitness level of female students at Taruna Nusantara High School Magelang. This research used descriptive approach design with qualitative and quantitative design. The instruments in this study were interview techniques, literature study, questionnaires, nutritional intake, physical activity, physical fitness level, and calculating BMI. The results showed that the nutritional intake of female students at Taruna Nusantara High School Magelang was included in the category of more, physical activity of female students at Taruna Nusantara High School Magelang was included in physical activity at moderate intensity, the level of physical fitness of female students at Taruna Nusantara High School Magelang was included in the category of sufficient and good, factors that affect overweight in female students at Taruna Nusantara High School Magelang are eating patterns and habits, physical activity and lifestyle, parenting, other risk factors.

INTRODUCTION

The culture of healthy living is the most important thing for human life today and is a dream for every individual in every line. Without realising it, a person's daily habits can sometimes cause disease, leading to unexpected diseases, one of which is overweight.

Overweight or obesity is currently a major nutritional problem that continues to exist due to the development of technology. According to research by Zulfianto & Mochammad, (2017) stated that technological developments are related to changes in lifestyle that are not good so that the problem of excess nutrition will be a threat, especially for adolescents.

Currently, Indonesian adolescents make up 16% of the total population, which is 66,074,200 people (Central Bureau of Statistics, 2021). Generally, adolescents are included in a group that is very vulnerable to nutritional problems, both excess nutritional status (overweight and obesity) and lack of nutritional status (underweight) because the adolescent phase is a growth phase so that it requires high nutrition to support physical growth. There are several factors that cause weight gain in adolescents, namely increased consumption of fast food, one of which is low physical

activity which contributes to changes in energy balance and leads to the incidence of overweight. Physical activity is an action that is planned and carried out repeatedly by the body's muscles so that it affects energy use so that a healthy lifestyle is well formed, physical activity in addition to forming a healthy lifestyle can also prevent overweight (Noviasty, 2021).

Environmental factors regarding physical activity show that there is a relationship between low physical activity and the incidence of obesity. Individuals with low physical activity have a greater risk of increasing body weight than people who are active in regular exercise.

Based on this description, this study will focus on adolescent students of Taruna Nusantara Magelang High School, where Taruna Nusantara High School is a superior high school with a national character, to form quality national leaders and characters with insight into nationality, struggle, culture, and have national and international competitiveness.

Based on the results of preliminary studies on the measurement of height and weight of all students at the time of the health test, it shows that those who have nutritional status based on the calculation of the Body Mass Index (BMI) are 34.9% and excess nutritional status is 9.1%. In addition, the school also held a physical fitness test at the end of the semester. During the physical activity programme of running around campus which is carried out regularly every day, it was found that there were female students who were overweight.

In line with the literature that overweight or overweight can occur due to many factors. The main factor is the imbalance of energy intake with energy output. High energy intake occurs when food consumption is excessive, both in carbohydrate, fat and protein intake while energy output is low due to lack of activity (Almatsier, S. 2009).

This statement is not in line with the results of the initial observation of researchers who found problems in female students at Taruna Nusantara Magelang High School. This

school is often referred to as a semi-military school, where the school has special criteria for height and weight to become a student at Taruna Nusantara High School Magelang, physical activity implemented by the school is well programmed. Nutritional intake given to students according to nutritionists, for meals, namely 3 main meals, 1 snack, and 1 milk. student nutritional needs + 700kcal from the nutritional adequacy rate, because of student physical activity and student activities so calories ± 3000 - 3200. All student nutritional needs are met and all student activities are closely monitored.

From the problems that have been described, the researcher is interested in raising the research title, namely "How is the Analysis of Physical Activity and Healthy Lifestyle with the Physical Fitness Level of Female Students at Sma Taruna Nusantara Magelang".

la healthy living, physical fitness level

MATERIALS & METHODS

This research approach uses a descriptive approach with qualitative and quantitative designs. In Sugiyono's opinion (2016) states that the combined research method (mixed methods) is a research method combining quantitative methods with qualitative methods to be used together in a research activity, so that more comprehensive, valid, reliable and objective data are obtained. According to Creswell, the sequential mixed methods strategy is a strategy for researchers to combine data found from one method with other methods. This strategy can be done with interviews first to get qualitative data, then followed by quantitative data in this case using surveys. Using the survey method, which is critical observation and investigation to obtain precise information on a particular issue and object in the area of a community group or location will be examined. This research will describe in the form of a description of something as clear as possible without any treatment of the object of research, namely how the implementation of a healthy lifestyle and physical activity related to

overweight female students at SMA Taruna Nusantara Magelang (Ruslan, 2012).

In the qualitative data collection of physical activity, physical activity data was measured using the Global Physical Activity Questionnaire (GPAQ) which was filled in by the respondent assisted by the researcher. While the knowledge questionnaire about obesity was filled in independently by the respondent in accordance with the instructions contained in the questionnaire. As for quantitative data, the data were analysed using the SPSS program and the independent T-test test, which is to test the differences in respondent characteristics (nutrient intake, nutritional status, physical activity, and knowledge about obesity,

BMI). The data is presented in the form of mean, standard deviation and standard error. Population is a generalisation area consisting of objects / subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions (Sugiyono, 2017). Meanwhile, according to Ferdinand (2012) population is a combination of all elements in the form of events, things or people who have similar characteristics that become the centre of attention of a researcher because it is seen as a research core. The population in this study were female students at Taruna Nusantara Magelang High School, totalling 312 people.

RESULT AND DISCUSSION

Tabel 1. Body Mass Index Gain

Respondent	Body Mass Index	Category
1	24,5	Overweight
2	23,3	Overweight
3	23,2	Overweight
4	23,5	Overweight
5	23,0	Overweight
6	23,4	Overweight
7	23,1	Overweight
8	23,5	Overweight
9	23,0	Overweight
10	24,2	Overweight
11	23,1	Overweight
12	23,6	Overweight
13	24,4	Overweight
14	23,4	Overweight
15	25,0	Overweight
16	24,4	Overweight
17	23,3	Overweight
18	23,4	Overweight
19	25,1	Overweight
20	24,3	Overweight
21	25,0	Overweight
22	23,9	Overweight
23	24,9	Overweight
24	23,4	Overweight
25	23,9	Overweight
26	21,8	Overweight
27	23,1	Overweight
28	23,7	Overweight
29	23,1	Overweight
30	24,7	Overweight
31	23,2	Overweight
32	23,7	Overweight
33	23,7	Overweight

34	23,7	Overweight
35	23,7	Overweight
36	23,1	Overweight
37	24,6	Overweight
38	23,8	Overweight
39	24,0	Overweight
40	24,2	Overweight
41	23,3	Overweight
42	23,4	Overweight
43	23,7	Overweight
44	23,1	Overweight
45	23,4	Overweight
46	23,9	Overweight
47	24,7	Overweight
48	23,2	Overweight
49	23,7	Overweight
50	23,3	Overweight

Based on the results of the analysis of body mass index (BMI) in female students of SMA Taruna Nusantara Magelang out of 50 respondents have a body mass index of more than 23 so in the category of overweight.

Table 2. Analysis of Nutritional Intake

Respondent	Average Percentage Nutrient Intake	Category
1	136%	More
2	138%	More
3	138%	More
4	136%	More
5	135%	More
6	136%	More
7	138%	More
8	136%	More
9	134%	More
10	136%	More
11	135%	More
12	136%	More
13	135%	More
14	135%	More
15	137%	More
16	135%	More
17	134%	More
18	136%	More
19	138%	More
20	136%	More
21	136%	More
22	137%	More
23	134%	More
24	135%	More
25	136%	More
26	134%	More
27	136%	More
28	133%	More
29	137%	More
30	135%	More
31	134%	More
32	137%	More
33	135%	More

34	135%	More
35	135%	More
36	134%	More
37	137%	More
38	136%	More
39	134%	More
40	134%	More
41	136%	More
42	135%	More
43	135%	More
44	135%	More
45	136%	More
46	137%	More
47	137%	More
48	133%	More
49	135%	More
50	136%	More

Based on the results of the analysis of nutritional intake in female students of SMA Taruna Nusantara Magelang, it was found that out of 50 respondents had a percentage of nutritional intake of more than 130% or in the more category.

Nutritional intake or food consumption is the type and amount of food consumed by individuals or groups of people at certain times and purposes (Hardinsyah, Riyadi and Napitupulu, 2013). Good energy intake is obtained from food consumption in accordance with daily needs where the food contains a source of power or energy needed by the body. Categories for nutritional intake are divided into 4 namely very less (<70%), less (70%≥100%), normal (100%-130%) and more (≥130%). The results of research on nutritional intake of female students of SMA Taruna Nusantara Magelang showed that respondents received more nutritional intake.

Based on the results of the study, students get food intake from the school that has been adjusted to the daily intake needs. However, apart from the food intake received, students also consume snacks that they buy outside the school, causing overweight students. This is due to irregular food consumption so that the source of power or energy needed by the body does not match the needs. The results of this study are in line with Evan's research, Wiyono and Candrawati, (2017) which says that the body requires calorie intake for survival, the energy balance that occurs can lead to overweight and obesity.

Table 3. Results of Physical Activity Analysis

Respondent	Physical Activity Intensity (minutes/week)	Category
1	2520	Medium
2	2160	Medium
3	2160	Medium
4	2160	Medium
5	2160	Medium
6	2160	Medium
7	2160	Medium
8	2160	Medium
9	2160	Medium
10	2160	Medium
11	2520	Medium
12	2520	Medium
13	2160	Medium
14	2160	Medium

15	2160	Medium
16	2520	Medium
17	2520	Medium
18	2520	Medium
19	2520	Medium
20	2160	Medium
21	2160	Medium
22	2520	Medium
23	2520	Medium
24	2520	Medium
25	2520	Medium
26	2160	Medium
27	2160	Medium
28	2160	Medium
29	2160	Medium
30	2160	Medium
31	2520	Medium
32	2520	Medium
33	2520	Medium
34	2520	Medium
35	2160	Medium
36	2160	Medium
37	2160	Medium
38	2520	Medium
39	2520	Medium
40	2520	Medium
41	2520	Medium
42	2160	Medium
43	2160	Medium
44	2520	Medium
45	2520	Medium
46	2520	Medium
47	2520	Medium
48	2160	Medium
49	2160	Medium
50	2160	Medium

Based on the results of the analysis of physical activity in female students of Taruna Nusantara Magelang High School, it was found that out of 50 respondents did the intensity of physical activity in the range of 600 - 3000 minutes / week or were in the intensity of moderate physical activity.

Physical activity is a body movement performed by skeletal muscles consciously that requires energy expenditure (Lengkana and Muhtar, 2021). Categories of physical activity levels are divided into 3, namely light (<600 MET minutes / week), moderate (600-3000 MET minutes / week), heavy (>3000 MET minutes / week). The results of the study of physical activity of female students of SMA Taruna Nusantara Magelang showed that respondents did physical activity with moderate intensity.

This can be said to be good because there are no students who have low levels of physical activity. The results of this study were also supported by previous research by Sudibjo, Arovah and Ambardini (2015), which showed that the physical activity obtained was included in a fairly good level due to an understanding of good physical activity as well.

Based on the explanation above, it can be concluded that the activities carried out by female students of SMA Taruna Nusantara Magelang have a good level of physical activity. This is one of the factors that can control and prevent the risk of overweight. This is in line with research conducted by

(Oktavani et al., 2022) which says that physical activity encourages the balance of energy changes through calories consumed and expended so as to reduce the storage and accumulation of fat in the body and reduce the risk of obesity.

Table 4. Acquisition of Physical Fitness Level

Respondent	Total Score	Category
1	20	Good
2	18	Good
3	21	Good
4	19	Good
5	17	Medium
6	20	Good
7	21	Good
8	21	Good
9	21	Good
10	20	Good
11	19	Good
12	19	Good
13	21	Good
14	21	Good
15	20	Good
16	21	Good
17	17	Medium
18	21	Good
19	21	Good
20	21	Good
21	20	Good
22	19	Good
23	19	Good
24	21	Good
25	20	Good
26	20	Good
27	20	Good
28	17	Medium
29	20	Good
30	21	Good
31	18	Good
32	17	Medium
33	17	Medium
34	21	Good
35	20	Good
36	20	Good
37	19	Good
38	20	Good
39	22	Good
40	19	Good
41	19	Good
42	21	Good
43	21	Good
44	20	Good
45	20	Good
46	22	Good
47	20	Good
48	21	Good
49	21	Good
50	20	Good

Based on the results of the analysis of the level of physical fitness fitness in female students of Taruna Nusantara Magelang High School, out of 50 respondents there were 5 respondents who obtained the number of scores in the range of 14-17 or were in the moderate level category, and 45 respondents obtained a range of scores 18-21 or were in the good category level.

Physical fitness is the ability and ability of the body to adjust to the physical load given without causing excessive fatigue (Welis and Rifqi, 2013). The category of physical fitness level is divided into 5, namely very less (5-9), less (10-13), moderate (14-17), good (18-21), very good (22-25). From the results of the research on the level of physical fitness of female students of Taruna Nusantara Magelang High School, there were 5 respondents in the moderate category and 45 students in the good category. The achievement is obtained from the scheduled physical activities from school so that students have a good level of physical activity. The higher the physical activity performed, it will affect the improvement of one's physical fitness. Ridwan, Lisnawati and Enginelina (2017), explained that there are several factors that affect the level of physical fitness, namely food intake, nutritional status, physical activity, age, gender and genetics, so that students who are still in the category of moderate physical fitness level should pay attention to some of these things by increasing food intake, nutritional status and physical activity properly. A person can be said to have a good physical fitness status, if that person fulfils a good degree of fitness according to certain parameters Suharjana (2008).

Overweight is a medical condition characterised by excessive accumulation of fat tissue in the body. Overweight occurs when energy consumed through food exceeds energy burned through physical activity and basal metabolism. This results in the accumulation of fat in the body, which in turn can lead to various health problems.

Based on the results of the study, one of the factors that influence the occurrence of overweight in Taruna Nusantara Magelang high school students is excessive nutritional intake. More nutritional intake is obtained from food consumed outside of the dose that has been determined from the school. Students consume snacks, fast food, food and drinks that contain a lot of sugar content so as to accelerate weight gain if not balanced with physical activity. According to Oktavani et al., (2022) factors that can cause overweight are eating patterns and habits, physical activity and lifestyles that lack physical activity can cause overweight, parenting, and other risk factors.

Based on the explanation above, it can be concluded that there are many other factors that cause overweight in Taruna Nusantara Magelang high school students. Based on this, although students of Taruna Nusantara Magelang High School have adequate nutritional intake and regular physical activity but have excess weight, it turns out to be caused by other factors mentioned above.

CONCLUSION
Based on the results of the research that has been discussed above, several conclusions can be drawn as follows nutritional intake of female students at Taruna Nusantara Magelang High School is included in the category of more, physical activity of female students at Taruna Nusantara Magelang High School is included in physical activity at moderate intensity, the level of physical fitness of female students at Taruna Nusantara Magelang High School is included in the category of sufficient and good, which affects overweight in female students at Taruna Nusantara Magelang High School, namely eating patterns and habits, physical activity and lifestyle, parenting, other risk factors.

ATTACHMENT

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

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