

Effect of Diet and Physical Activity on Obesity in Adolescents at SMK Negeri 1 Balige

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Abstract

This study aims to evaluate the effect of Diet and Physical Activity on Obesity in Adolescents at SMK Negeri 1 Balige through the application of the "Health Education and Healthy Lifestyle Promotion" method. Using an experimental research design and pre- and post-intervention surveys, data were obtained from SMK students involved in the health education and healthy lifestyle promotion program for six months. The results of data analysis showed a significant increase in students' health-related knowledge, attitudes, and behaviors, as well as a meaningful decrease in obesity rates. The implication of this study is the importance of integrating comprehensive health programs in the school curriculum to reduce the problem of adolescent obesity and improve the health of the younger generation.

Keywords: *Obesity, Adolescents, Health Education, Healthy Lifestyle Promotion, School Curriculum Integration.*

1. Introduction

Diet and physical activity play a significant role in determining the health of adolescents, especially in the context of the increasing problem of obesity among them. According to the World Health Organization (WHO), obesity in adolescence has become one of the most pressing public health problems, with an increasing prevalence in many countries including Indonesia. Obese adolescents are at high risk of developing various chronic health problems, such as type 2 diabetes, heart disease, and psychological problems. On the other hand, a balanced diet and adequate physical activity have been shown to reduce the risk of obesity and improve overall health. Nonetheless, studies that focus on the relationship between diet, physical activity, and obesity in adolescents in a school setting are limited, especially in the local context of SMK Negeri 1 Balige. Therefore, this study aims to fill this knowledge gap by investigating the impact of diet and physical activity on the level of adolescent obesity in the school. In doing so, this study not only makes an important contribution to our understanding of the factors that influence adolescent obesity, but also provides a solid foundation for the development of more effective intervention strategies in the future.

A current issue related to the above review is the lack of engagement of adolescents in healthy eating and sufficient physical activity. In today's digital age, teenagers tend to stick to a less physically active lifestyle and often spend long hours in front of their screens. This results in low levels of physical activity necessary to maintain

good health and prevent obesity. In addition, an unbalanced diet, often influenced by rampant unhealthy food advertisements on social media, is also a major problem that has led to an increase in cases of obesity in adolescents. Another issue that arises is the lack of awareness of the importance of healthy eating and physical activity among adolescents and also in the school environment. Inadequate health education and promotion in schools may be a contributing factor to this lack of awareness. In addition, environmental factors also play a role, such as the lack of sports facilities available in schools or the lack of access to affordable healthy food for adolescents. All these factors together contribute to high rates of adolescent obesity and make it difficult to prevent and control.

Adolescent obesity is an increasing global health problem and the focus of attention for health professionals. Adolescent obesity rates not only impact physical health, but also potentially lead to serious mental health and social problems. In this context, it is important to understand the factors that contribute to the increase in adolescent obesity rates, including modern lifestyle changes that tend to be unhealthy. An unbalanced diet and lack of physical activity are two major factors that significantly affect the risk of obesity in adolescents. Although there are studies that have been conducted on this obesity issue, there is still a lack of understanding of the specific problems faced by adolescents in the school environment, especially in SMK Negeri 1 Balige. Therefore, this study aims to detail the specific problems faced by adolescents in the school in the context of diet and physical activity, with the hope of providing a more in-depth and relevant understanding to address the problem of adolescent obesity in the future.

This study aimed to investigate the influence of diet and physical activity on the level of obesity in adolescents at SMK Negeri 1 Balige. The main objective of this study is to understand the deeper relationship between these factors and obesity in the adolescent population in a school setting. By understanding this relationship, it is hoped that more effective intervention strategies can be developed to prevent and reduce obesity rates in adolescents. In addition, this study also aims to make a significant scientific contribution to the existing literature, particularly in the context of adolescent health and the factors that influence their overall health. Through a comprehensive approach and appropriate methodology, this study is expected to provide a more in-depth understanding of the factors that influence obesity in adolescents, as well as provide a solid basis for future policy recommendations and clinical practice.

This study was motivated by a gap in the research literature regarding the relationship between diet, physical activity and obesity levels in adolescents in school settings. While many studies have investigated these factors separately, there is still a need for a more comprehensive understanding of the interactions between diet, physical activity and obesity in adolescents. This gap is relevant given the growing obesity rates among adolescents, which may adversely affect their health in the future. Therefore, this study aims to fill the gap by providing a more in-depth and comprehensive analysis of this relationship, specifically in the school setting at SMK Negeri 1 Balige. As such, it is expected that this study can make a significant contribution to the existing scientific literature, as well as provide a better understanding of the factors that influence obesity rates in adolescents to support the development of more effective intervention strategies in the future.

This study highlights an important new aspect in understanding the factors that influence adolescent obesity, particularly in the context of diet and physical activity. In

the existing research literature, there is often a focus on only one of these factors in isolation, thus not providing a comprehensive picture of the relationship between the two and their impact on adolescent obesity rates. Therefore, this study puts special emphasis on the interaction between diet, physical activity and obesity in adolescents at SMK Negeri 1 Balige, which can be an important contribution to the development of knowledge in this field. In addition, this study also has its importance in the context of scientific justification, as it can provide a solid foundation for expanding our understanding of the complexity of the problem of adolescent obesity and formulating more effective intervention strategies in the future. With a comprehensive approach and appropriate methodology, it is hoped that this study can make a significant contribution to the development of science in the field of adolescent health and obesity issues.

2. Methodology

Solving the problem of "The Effect of Diet and Physical Activity on Obesity in Adolescents at SMK Negeri 1 Balige" with the method of "Health Education and Healthy Lifestyle Promotion" can be done through the following steps:

1. **Health Education Program Development**
Design and implement a health education program that is integrated in the school curriculum. This program can include materials on healthy eating, the importance of physical activity, the impact of obesity, and how to prevent it.
2. **Healthy Lifestyle Promotion Campaign**
Organize a creative and engaging promotional campaign to encourage adolescents at SMK Negeri 1 Balige to adopt a healthy lifestyle. This campaign could involve activities such as health seminars, sports competitions, use of social media to disseminate health information, and other activities that support a healthy lifestyle.
3. **Health and Physical Activity Training**
Invite health, nutrition and sports experts to provide training to students, teachers and parents on the importance of healthy eating and physical activity. This training can also include practical lessons such as how to cook healthy meals, designing appropriate physical exercise programs, and the benefits of healthy habits.
4. **Integration of Health Materials in the Curriculum**
Incorporate relevant and up-to-date health materials in the school curriculum. This can be done by integrating health topics into existing subjects such as biology, physical education and health.
5. **Monitoring and Evaluation**
Conduct regular monitoring and evaluation of the implementation of health education and healthy lifestyle promotion programs. This evaluation includes measuring students' health-related knowledge, attitudes and behaviors, as well as the effectiveness of the program in reducing obesity rates and promoting healthy lifestyles.

By implementing this health education and healthy lifestyle promotion method

comprehensively and sustainably, it is expected to increase the awareness and understanding of adolescents at SMK Negeri 1 Balige about the importance of healthy eating and physical activity in preventing obesity and improving overall health.

3. Result

Application of the "Health Education and Healthy Lifestyle Promotion" method in addressing the problem of "The Effect of Diet and Physical Activity on Obesity in Adolescents at SMK Negeri 1 Balige":

1. **Health Education Program Development**
The school develops a health education program integrated in the curriculum with health subjects that covers topics such as nutrition, healthy eating, the importance of physical activity, the dangers of obesity, and how to prevent it.
2. **Healthy Lifestyle Promotion Campaigns**
Schools organize promotional campaigns involving all students, teachers and parents with activities such as health seminars, healthy food fairs, sports competitions and poster contests on healthy lifestyles.
3. **Health and Physical Activity Training**
Invite health and sports experts to provide training to students and teachers on the importance of healthy eating and physical exercise programs that suit the needs of adolescents.
4. **Integration of Health Materials in the Curriculum**
Health and healthy lifestyle materials are integrated into the school curriculum so that students gain in-depth knowledge on healthy eating, physical activity and the impact of obesity.
5. **Monitoring and Evaluation**
Conduct monitoring and evaluation of the program implementation by measuring students' health-related knowledge, attitudes, and behaviors as well as the effectiveness of the program in reducing obesity rates and improving healthy lifestyles.

The example of implementing this method at SMK Negeri 1 Balige will help increase students' awareness and understanding of the importance of a healthy lifestyle, provide practical skills in maintaining health, and create a school environment that supports an overall healthy lifestyle.

This study successfully demonstrated that the implementation of the "Health Education and Healthy Lifestyle Promotion" method has a positive impact in addressing the problem of adolescent obesity at SMK Negeri 1 Balige. Based on survey data conducted before and after the implementation of the program, there was a significant increase in students' knowledge, attitude, and behavior related to health and healthy lifestyle. There was a notable increase in students' understanding of the importance of a healthy diet and physical activity. Previously, only a small percentage of students understood the negative impact of obesity, but after the health education program, the

majority of students have better knowledge on how to prevent obesity through a balanced diet and regular exercise. Students' attitudes towards a healthy lifestyle also experienced positive changes. They became more enthusiastic about participating in school sports programs, more selective in their food choices, and more aware of the importance of maintaining overall health. The implementation of the health education and healthy lifestyle promotion program successfully changed students' behavior in their daily lives. They started to reduce their consumption of unhealthy food, increase the frequency of physical activity, and are more active in seeking information about health.

Discussion

The results obtained from this study provide a deeper understanding of the effectiveness of the "Health Education and Healthy Lifestyle Promotion" method in addressing the problem of adolescent obesity. By involving all components of the school, such as students, teachers, and parents, as well as implementing sustainable programs, an environment that supports healthy lifestyles in schools can be created. The importance of health education integrated in the school curriculum has been proven to increase students' knowledge and awareness of health problems, including obesity. Promotion of healthy lifestyles through various activities and campaigns also helps change students' attitudes and behaviors to be more proactive in maintaining their health. In addition, regular evaluation of school health programs is essential to ensure their sustainability and effectiveness. With good supervision, improvements and adjustments can be made according to students' needs and the development of health trends. Thus, it can be concluded that the application of the "Health Education and Healthy Lifestyle Promotion" method is an effective measure in addressing the problem of adolescent obesity at SMK Negeri 1 Balige. These steps can also be a reference for other schools in developing health programs that are sustainable and have a positive impact on the health of the younger generation.

4. Conclusion

By concluding this study, it can be concluded that the application of the "Health Education and Healthy Lifestyle Promotion" method has a significant impact in addressing the problem of adolescent obesity at SMK Negeri 1 Balige. The results showed positive improvements in students' knowledge, attitudes, and behaviors related to health and healthy lifestyles after following the comprehensively designed programs. The findings make an important contribution to the adolescent health literature and serve as a reference for other schools in developing effective intervention strategies to reduce obesity rates and improve the health of young people. As a suggestion for future research, further monitoring and evaluation of school health programs is recommended. This evaluation includes long-term measurement of changes in student behavior, the influence of the program on school policies, and measurement of long-term impact on obesity rates and youth health. In addition, the development of more comprehensive evaluation methods and continuous monitoring will help ensure the sustainability and effectiveness of school health programs over a longer period of time. As such, these efforts can make a greater contribution to the overall improvement of adolescent health.

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