

Health Promotion Program on Students' Healthy Living Behavior

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ABSTRACT

Health promotion programs in higher education aim to increase awareness and shape healthy living behaviors among students. Measuring the effectiveness of these programs is important to determine the extent to which these programs are able to influence student behavior. Objectives: The aim of the study was to analyze the effectiveness of health promotion programs on students' healthy living behavior. Methods: This study used a descriptive design. The study population was students who were studying in the health sector in Surakarta City. The total sample in this study was 100 respondents, who were selected using purposive sampling technique. Inclusion criteria include active students of health study programs, willing to become respondents, and have participated in health promotion programs. The dependent variable in this study was students' healthy living behavior, while the independent variable was the health promotion program. Data was analyzed accordingly. Results: the data showed that majority of participants rarely ate healthy (80%), had sufficient exercise (71%), and lacked sleep (60%). The overall effectiveness of the program was rated as adequate by majority of respondents (66%). Conclusion: The health promotion program is quite effective in improving healthy sleep behavior, but needs to be improved on healthy food consumption and physical activity.

Keywords: Health Promotion, Healthy Living Behavior

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INTRODUCTION

Adolescence is an important stage in human life as it is a period of transition to adulthood, characterized by various biological, psychological, sexual and social changes. At this stage, habits and behaviors formed since childhood tend to strengthen, making adolescence a more difficult period to change lifestyles (Orcasita et al., 2018).

In the 21st century, young people face several health challenges (Pulimeno et al., 2020). While a lack of physical activity and a high intake of total fat, free sugars, and salt have contributed to the alarming rise in childhood obesity, adolescents' lives are also at risk from risky and addictive behaviors (such as alcohol, tobacco, and substance abuse, unprotected sex, interpersonal violence, intentional self-harm, and extreme "deadly selfies") (The United Nations Development Group, 2025). School-based interventions are being

studied, and many show a meaningful impact for adolescent health (Antwi et al., 2012; Barry et al., 2013; Demetriou et al., 2019; Hennessy et al., 2018; Polet et al., 2019; Valdebenito et al., 2018).

Several literature reviews studies have compared different in-school intervention methods and assessed their effectiveness. Evidence suggests that more intensive interventions, which simultaneously target multiple risk behaviors, tend to be more effective in achieving the expected outcomes (Hale et al., 2014; MacArthur et al., 2018; Racey et al., 2016). Schools are cost-effective venues for health education programs and are important areas for developing health-related knowledge in children and adolescents (Nagy-Pénzes et al., 2022). Schools give students the opportunity to develop healthy habits and abilities, learn the value of hygiene and WASH-related practices, and have positive medium- and long-term effects, especially in low- and middle-income nations: lowering illness-related absences from school, fostering social, mental, and physical well-being, and enhancing academic performance (Anthonj et al., 2021). School health promotion programs that are effective in changing health behaviors are more likely to be complex, multifactorial and innovative activities across many domains ((Silitonga et al., 2024).curriculum, school environment and community)

Research on the effectiveness of health promotion programs on students' healthy living behavior needs to be conducted because students are at an important phase in the formation of long-term living habits. Students' lifestyles, such as irregular diets, lack of physical activity, and high stress levels, are at risk of triggering health problems in the future. Health promotion programs in higher education aim to raise awareness and change behavior to a healthier lifestyle. By evaluating the effectiveness of these programs, scientific evidence can be obtained that helps improve health promotion strategies, so that programs become more targeted and have a positive impact on student health. Therefore, this study aims to analyze the effectiveness of health promotion programs on students' healthy living behavior.

METHODS

Research Design

This was a descriptive study. This study was conducted on health students in Surakarta City during December 2024.

Research Population and Sample

The total sample in this study was 100 health students. The selection of participants was done by random sampling method. Inclusion criteria included: (1) students who were actively enrolled in the health program, (2) willing to participate voluntarily, and (3) had participated in a health promotion program. Exclusion criteria included: (1) students with health conditions that limited participation, or (2) had other conflicting commitments during the study period.

Data Analysis

Data analysis was performed using Stata version 13 software. Data description was performed using descriptive statistics to present frequency distribution, percentage, and mean. Bivariate tests were conducted to test the relationship between the independent variable (health promotion program) and the dependent variable (healthy living behavior) using the Pearson Chi-square test for categorical data.

Research Ethics

All study participants were fully informed about the purpose, procedures, benefits, and potential risks of the study. Participants signed an informed consent form before participating, and the confidentiality of their data was guaranteed. Research procedures were conducted in accordance with the principles of the Declaration of Helsinki, including

maintaining anonymity, privacy, and the right to discontinue participation without negative consequences.

RESULTS

Characteristics

Table 1 displays the characteristics of the research subjects. Based on the data, the average age of the respondents is 19.78 years with a standard deviation of 1.74, which indicates that the majority of respondents are in the early college age range. Based on gender, most of the subjects were female as many as 80 people or 80%, while men amounted to 20 people, equivalent to 20% of the total respondents. This proportion reflects the dominance of female participation in the study, which may affect the results related to healthy living behavior in the student group.

Table 1. Subject Characteristics Research Effectiveness of Health Promotion Programs on Students' Healthy Living Behavior

Variables		N or mean±Standard Deviation	Percentage (%)
Age		19.78±1.74	-
Gender	Female	80	80.00
	Male	20	20.00

Health Promotion Programs on Healthy Living Behavior

Table 2 shows the results of descriptive analysis of health promotion programs and students' healthy living behaviors, which include healthy food consumption, exercise time, and sleep duration.

A total of 80% of respondents were classified as not often consuming healthy foods, while 20% consumed healthy foods frequently. In the exercise time variable, 29% of respondents had insufficient exercise time, while 71% had sufficient exercise time. In contrast, in the sleep duration variable, 60% of respondents had insufficient sleep time, and 40% had sufficient sleep time.

The overall effectiveness of the program was rated as adequate by 66% of respondents, while 34% rated it as insufficient. These results suggest that health promotion programs have a more influence on sleep behavior than healthy food consumption and exercise time.

Table 2. Pearson Chi-Square Test Research Respondents Effectiveness of Health Promotion Programs on Students' Healthy Living Behavior

Variables		N (100)	Percentage (%)
Consume Healthy Food	Not often	80	80.00
	Often	20	20.00
Exercise Time	Less	29	29.00
	Simply	71	71.00
Sleep	Less	60	60.00
	Simply	40	40.00
Program Effectiveness	Less	34	34.00
	Simply	66	66.00

DISCUSSION

The results of the analysis showed that the health promotion program had a significant effect on students' sleep duration, but not on healthy food consumption and exercise time.

Health promotion programs that include sleep hygiene practices, physical activity, and cognitive-behavioral therapy for insomnia can improve sleep duration and daytime performance (Robbins et al., 2019). Sleep education programs in college students show insufficient evidence to determine their effectiveness in improving sleep hygiene knowledge, behavior, or sleep quality (Dietrich et al., 2016).

Health promotion programs targeting adolescents have shown limited effectiveness. While there is awareness about healthy lifestyles, the impact on health-related behaviors, such as exercise and healthy eating, is minimal among high school students (Skerlecz et al., 2019). Studies show that workplace health promotion programs often do not lead to significant changes in dietary habits or physical activity among employees. For example, a study in workers with physical occupations found no significant changes in fruit and vegetable consumption or physical activity following a health promotion program, which may be due to the low intensity of the program. Similarly, a systematic review found modest improvements in food consumption, but highlighted the risk of bias due to self-reported data and the need for more robust studies (Ni Mhurchu et al., 2010; van der Feltz et al., 2022).

The analysis showed that the health promotion program had a significant effect on students' sleep duration, but did not have a significant effect on healthy food consumption and exercise time. Several factors may explain this result. First, it is likely that the health promotion program focused more on aspects of sleep, such as the importance of adequate sleep and healthy sleep habits. This may have led to students being more easily influenced to increase their sleep duration compared to changes in other habits, such as diet or exercise routines.

In addition, healthy food consumption and exercise time are often influenced by more complex external factors, such as academic busyness or availability of free time. Students may find it difficult to find time to exercise or make healthy food choices in the midst of a busy class schedule. Health promotion programs that do not address or introduce interventions that are strong enough to change these habits could be a contributing factor.

Behavioral changes in sleep may also be easier to achieve than changes in eating or exercise habits. Sleep duration can be more influenced by simple timing, such as reducing evening activities or establishing a consistent bedtime routine (Baron et al., 2011, 2017; McHill et al., 2017). In contrast, healthy eating and exercise habits require more profound and gradual changes, as well as support from other factors such as self-motivation and social environment (Teixeira et al., 2012).

There are several limitations that need to be considered in this study. Behavioral measures such as healthy food consumption and exercise time may be less accurate or affected by respondent bias. In addition, the limited duration of the intervention could also be the reason why significant changes in eating and exercise habits have not been seen. Other uncontrollable factors, such as stress levels, emotional state, or environmental factors, could also affect students' food and exercise habits, ultimately affecting the outcome of this health promotion program.

CONCLUSION

The results showed that the impact of the health promotion program on students' healthy living behavior varied. The program had a significant effect on students' sleep duration, but not on healthy food consumption and exercise time. Most students rated the program as moderately effective (66%), although healthy living behaviors were not yet fully optimal.

It is recommended that health promotion programs in higher education be improved by focusing on more interactive and intensive strategies, especially related to healthy food consumption and exercise. Community-based programs or personalized mentoring can increase student participation and improve overall health behavior outcomes.

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