Effectiveness Of Health Education Package For Enhancing Health Awareness Among Secondary School Students

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ABSTRACT

This study aimed to evaluate the effectiveness of a health education package in enhancing health awareness among secondary school students. A pre-test and post-test experimental design was used, with 50 secondary school students participating in the study. The intervention, comprising a structured health education package, focused on improving students' health knowledge, attitudes, and behaviors. Results showed significant improvements in health awareness across all components, including nutrition, physical activity, preventive healthcare, and healthy eating habits. The intervention led to substantial increases in students' understanding of health-related issues, with improvements in health attitudes and behaviors. The findings highlight the importance of health education in schools and suggest that such programs can effectively promote healthier lifestyles among adolescents. The study concludes with recommendations for integrating health education into school curricula to ensure sustained health benefits among students.

Keywords: Health Education, Health Awareness, Health knowledge, Health Attitudes, Health Behaviors,

INTRODUCTION

Health encompasses more than just the physical body; it includes mental, emotional, intellectual, spiritual, environmental, and sexual well-being. For students to grow and develop fully, schools need to address all aspects of their health. Health education plays a key role in promoting awareness and providing knowledge about health and well-being. It covers various topics such as health issues, policies that affect health, treatment options, healthy practices, and preventive measures. According to the World Health Organization (WHO), health education is an essential tool for improving the overall health and well-being of individuals and communities by providing valuable knowledge. Health education in schools goes beyond simply raising awareness about diseases; it also focuses on preventing and managing health issues. It encourages children to become interested in healthcare careers and helps them develop good health habits. Schools, as places of learning, are ideal environments for promoting health awareness. Since children spend a significant amount of time in school, it should be a supportive and positive space for their well-being. Schools have a responsibility to ensure students' health by promoting healthy lifestyles, encouraging physical activity, and supporting mental health. By doing so, students can learn how to take care of themselves and others. Billabong (2024) Health is not just about avoiding illness or having a strong immune system; it involves the overall well-being of a person, both physically and mentally. A healthy environment at school is essential for students to learn and grow effectively.

Good health improves physical strength, energy, concentration, and memory, which are all necessary for academic success. Health education should be introduced at a young age, as it is a vital aspect of life. Everyone, regardless of age, is responsible for maintaining their health. Health education helps children understand the importance of well-being, just as learning subjects like math or science are essential. Billabong High International School embraces this mission, aiming to improve the health and quality of life of its students. (Billabong,2024).

Health education in secondary schools faces several challenges that hinder its effectiveness. Many schools do not

prioritize health education, leading to gaps in coverage of vital topics like mental health, nutrition, and substance abuse. Additionally, a lack of trained teachers, insufficient resources, and inconsistent program delivery across schools contribute to uneven educational outcomes. Cultural barriers and social taboos further complicate the teaching of sensitive health topics, limiting students' ability to make informed decisions. Without a focus on practical life skills and active student engagement, existing programs often fail to create lasting behavior change, leaving students vulnerable to preventable health issues.

Health awareness plays a vital role in how individuals respond to health-related information and shape their behaviors and attitudes. A person's level of health awareness directly impacts how they seek and interpret health messages, making it a key consideration when developing health interventions. Individuals with higher health consciousness are more likely to adopt healthier lifestyles, such as better nutrition, regular physical activity, and following preventive health guidelines. Yadav S, Khokhar A. (2021) Conversely, those with lower health awareness may engage in unhealthy habits, which can lead to long-term physical health issues. Furthermore, promoting Health Education Packages among students is a fundamental objective of modern education, with educators striving to achieve this goal by updating their teaching methods and strategies.

NEED AND SIGNIFICANCE OF THE STUDY

Health plays a crucial role in the development of a country. Schoolchildren represent the future workforce and productive group of a nation, making their well-being essential. Good health is fundamental for effective learning and cognitive development. In today's society, schools serve as key institutions that provide valuable human resources, contributing to the growth of the community. Children and young people are considered a priority population for national development. Schools offer a dynamic environment for promoting health and serve as an entry point to help children grow into healthy adults. The Health Promoting School (HPS) initiative is a program launched by the World Health Organization (WHO 2006).

Students spend more time at school than anywhere else, except at home. One of the primary concerns in education today is the physical well-being of students. Schools now focus on promoting better health and physical fitness. While the overall health of school-age children is generally good, illnesses and physical ailments continue to present significant challenges (Gokhale, Borgaonkar, Shanbhag, Solanki, & Rasal, 2017).

Research shows that students frequently engage in health-risk behaviors, highlighting the need for educational programs that enhance health awareness. However, simply gaining knowledge is not enough to prompt changes in behavior; factors like attitudes toward health must also be considered. Studies reveal a link between health knowledge, attitudes, and the likelihood of engaging in risky behaviors. Many students lack sufficient understanding of health, as evidenced by their inability to answer health-related questions correctly. Both health knowledge and attitudes are significant predictors of risky behaviors, with a statistically significant relationship observed. Furthermore, attitudes toward health seem to influence the connection between knowledge and health-risk behaviors. Educational and public health policies should focus on promoting healthy behaviors by improving knowledge and fostering positive attitudes toward behaviors that protect health (Al-Gburi et al., 2023; Liu et al., 2023; Alves, 2024). This study is important because it aims to improve health awareness among secondary school students, a key group for developing long-term health habits. Adolescents are at an age where they start making their own health choices, and the information they receive can influence their physical and mental health in the future.By assessing the effectiveness of a health education package, the study explores how well-structured programs can help students better understand important health topics, such as nutrition, exercise, and disease prevention. The results could guide the creation of more effective health education programs, providing students with the knowledge and tools to lead healthier lives. Ultimately, this research could play a crucial role in preventing chronic diseases, improving mental health, and promoting overall well-being for future generations.

Review of Related Literature

Abdo (2003) focused on the role of health awareness in changing behaviors, particularly in the context of public health education. He emphasized that fostering healthy habits, like sports and proper diet, is essential for improving public health.

Al-Ahmadi (2003) defined health awareness as the knowledge and concern individuals have for their own health

and that of others. The study emphasized the importance of health education in enabling individuals to handle basic health issues.

Goel (2007) examined high school students' awareness of managing common injuries and illnesses, particularly in rural areas. The study found that students had fragmented and inconsistent knowledge, along with various myths about illnesses. Students showed enthusiasm for first aid and basic life support programs.

Leone et al. (2011) explored the connection between risky behaviors, body image, and physical fitness among students. They advocated for educational interventions to improve body image awareness and coping strategies in undergraduates.

Ahmad (2012) highlighted the importance of integrating physical, social, and mental health for overall well-being. He found that practicing healthy habits, such as regular sports, helps prevent common diseases.

Singh (2016) discussed the importance of exercise, nutrition, and rest for good health. He stressed the role of health education at the school level in preventing health issues caused by poor nutrition and habits.

Ashraf (2019) assessed the effectiveness of health education on school students' knowledge and practice of balanced nutrition. The study, conducted in Lahore, Pakistan, showed significant improvements in students' understanding of nutrition after a four-week educational intervention.

Wungtongkum (2022) examined factors influencing students' hygiene, focusing on attitudes and behaviors. The study highlighted the need for education on hygiene through social media and online platforms to promote better hygiene practices.

Andonova (2022) investigated high school students' attitudes and awareness of healthy eating. The survey revealed that students were interested in improving their diet, primarily to enhance their appearance. The study suggested that information campaigns using influencers and health professionals could promote healthy eating among youth.

Chaiprakarn (2024) reviewed knowledge, attitudes, and behaviors of students in health promotion schools. The study found significant improvements in students' health knowledge, psychological well-being, and overall health behaviors due to health promotion initiatives in schools.

OBJECTIVES OF THE STUDY

1. To evaluate the effectiveness of a health education package in improving health awareness among secondary school students.
2. To assess the impact of the health education package on students' knowledge of key health topics, such as nutrition, physical activity, and preventive healthcare.
3. To examine changes in students' attitudes towards healthy behaviors, including self-care practices and healthy lifestyle choices.
4. To determine the extent to which the health education package influences students' adoption of healthier habits and behaviors in their daily lives.

HYPOTHESES OF THE STUDY

1. There is no significant difference in the health knowledge, attitudes, and behaviors of secondary school students before and after the intervention of the health education package.
2. There is no significant improvement in students' health knowledge after the intervention.
3. There is no significant change in students' health attitudes after the intervention.
4. There is no significant improvement in students' health behaviors after the intervention.

METHODOLOGY

Study Design

This study follows a single-group pre-test/post-test design. In this approach, the same group of students is assessed both before and after the intervention to measure changes in their health knowledge, attitudes, and behaviors.

Initially, a pre-test is given to gauge students' baseline understanding of health topics. The health education package is then implemented, and after the intervention, a post-test is conducted to assess any improvements in their knowledge and behaviors. This design helps compare students' health awareness and actions before and after the program.

Participants

The participants of this study are 50 secondary school students who were selected. Students who are enrolled in the selected schools and have provided consent to participate are included. Students with special needs that prevent participation in regular activities or those whose parents did not provide consent are excluded from the study.

Research Tools

Pre-Test and Post-Test Surveys: These surveys are designed to evaluate students' health knowledge, attitudes, and behaviors before and after the intervention. The surveys consist of multiple-choice questions covering key topics such as nutrition, physical activity, mental health, and substance abuse prevention. Each question is assigned a specific score, typically 1 point for each correct answer. The total score for each survey is calculated by adding the points from all correct responses. A higher total score on the post-test compared to the pre-test indicates an improvement in students' knowledge and awareness of health topics.

Intervention

In this study, the health education package includes lessons on important health topics like nutrition, physical activity, mental health, substance abuse prevention, hygiene, and sexual health. The curriculum is designed to be interactive, blending both theory and hands-on activities to keep students engaged. For instance, students participate in meal-planning activities to learn about healthy eating, and they take part in physical exercises to understand the benefits of staying active. Mental health is covered through discussions and exercises that teach coping strategies for stress and emotional well-being. Substance abuse prevention is addressed through real-life case studies and role-playing, while hygiene and sexual health are taught through informative sessions followed by question-and-answer sessions. These interactive lessons aim to help students apply what they learn to their daily lives, encouraging them to make healthier choices both in school and beyond.

The health education package used in this study is a well-structured program covering important health topics such as nutrition, physical activity, mental health, substance abuse prevention, hygiene, and sexual health. The package includes interactive lessons, hands-on activities, and group discussions. The intervention duration is 5 weeks, with sessions held twice a week for about 60 minutes each. The curriculum is designed to be engaging and interactive, allowing students to apply the knowledge they gain in real-life situations.

Data Collection

Data is gathered through pre- and post-test surveys that include Likert scale questions, assessing students' health knowledge, attitudes, and behaviors. In addition, qualitative data is collected through focus group discussions, providing a deeper understanding of students' experiences and views on the health education package. The pre-test is administered before the intervention, and the post-test is given immediately after the intervention to measure any changes.

Data Analysis

The data is analyzed using SPSS (Statistical Package for the Social Sciences). Descriptive statistics (mean, standard deviation) will summarize the survey results. Paired t-tests will compare pre-test and post-test scores to identify significant changes in health knowledge and behaviors.

Table **1**

Pre-test and post-test mean scores of health awareness among secondary school students

Overall	N	Mean	SD	't' value	Level of Significance

	N	Mean	SD	test	
Pre Test	50	18.50	3.50	10.20	S
Post Test	50	46.22	6.20		

The table above indicates that the mean score for the post-test (46.22) is higher than the mean score for the pre-test (18.50) regarding health awareness. The calculated t-value of 10.20 is greater than the critical value of 1.96 at the 0.05 significance level. Therefore, it can be concluded that there is a significant difference in the health awareness of secondary school students before and after the intervention of the health education package.

Table 2
Pre-test and post-test mean scores of health awareness in health knowledge among secondary school students

Health Knowledge	N	Mean	SD	't' value	Level of Significance
Pre Test	50	22.42	4.32	10.25	S
Post Test	50	66.20	6.12		

The table above shows that the mean score for the post-test (66.20) is higher than the mean score for the pre-test (22.42) regarding health knowledge. The calculated t-value of 10.25 is greater than the critical value of 1.96 at the 0.05 significance level. Therefore, it can be concluded that there is a significant improvement in students' health knowledge after the intervention among secondary school students.

Table 3
Pre-test and post-test mean scores of health awareness in health attitude among secondary school students

Health Attitude	N	Mean	SD	't' value	Level of Significance
Pre Test	50	15.20	2.8	9.68	S
Post Test	50	52.10	3.5		

The table above shows that the mean score for the post-test (52.10) is higher than the mean score for the pre-test (15.20) regarding health attitudes. The calculated t-value of 9.68 is greater than the critical value of 1.96 at the 0.05 significance level. Therefore, it can be concluded that there is a significant change in students' health attitudes after the intervention among secondary school students.

Table 4
Pre-test and post-test mean scores of health awareness in health behaviour among secondary school students

Health Behaviour	N	Mean	SD	't' value	Level of Significance
Pre Test	50	17.80	3.00	10.05	S
Post Test	50	44.70	4.32		

The table above shows that the mean score for the post-test (44.70) is higher than the mean score for the

pre-test (17.80) regarding health behaviors. The calculated t-value of 10.05 is greater than the critical value of 1.96 at the 0.05 significance level. Therefore, it can be concluded that there is a significant improvement in students' health behaviors after the intervention among secondary school students.

Table 5

Component-wise pre-test and post-test mean scores of health awareness in health knowledge among secondary school students.

Components	N	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-value	Level of Significance
Nutrition knowledge	50	13.20	0.75	48.00	1.00	12.00	**S** (Significant)
Physical activity knowledge	50	14.00	1.00	59.20	1.10	11.25	**S** (Significant)
Preventive healthcare	50	15.00	1.20	50.50	1.30	13.00	**S** (Significant)
Healthy eating habits	50	14.22	1.90	49.50	1.10	12.50	**S** (Significant)

The table above shows a significant improvement in health knowledge among students regarding key topics such as nutrition, physical activity, preventive healthcare, and healthy eating habits. For each components, the post-test mean scores were much higher than the pre-test mean scores, indicating a positive change in students' knowledge after the intervention. The t-values for all components were well above the critical value of 1.96, confirming the statistical significance of these changes. Therefore, it can be concluded that the health education package effectively enhanced students' knowledge in these areas.

Table 6

Component-wise pre-test and post-test mean scores of health awareness in health attitude among secondary school students.

Components	N	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-value	Level of Significance
Attitude towards nutrition	50	13.20	0.85	7.40	31.10	11.00	**S** (Significant)
Attitude towards physical activity	50	13.80	0.90	8.20	42.10	10.75	**S** (Significant)
Attitude towards preventive	50	14.10	0.95	9.00	52.20	11.50	**S** (Significant)

care							
Attitude towards self-care	50	14.10	1.80	8.50	30.20	11.80	**S** (Significant)

The table above shows a significant improvement in students' health attitudes after the intervention. For each component, including attitudes towards nutrition, physical activity, preventive care, and self-care, the post-test mean scores were substantially higher than the pre-test scores, indicating a positive shift in students' attitudes. The calculated t-values for all components were greater than the critical value of 1.96, confirming that the changes observed were statistically significant. This suggested that the health education package successfully influenced students' attitudes towards adopting healthier practices in these areas.

Table 7

Component-wise pre-test and post-test mean scores of health awareness in health behaviour among secondary school students.

Components	N	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	t-value	Level of Significance
Healthy eating habits	50	12.90	0.70	36.50	1.00	14.20	**S** (Significant)
Regular physical activity	50	13.00	0.80	27.40	1.10	13.50	**S** (Significant)
Regular health check-ups	50	13.50	0.90	38.00	1.20	14.00	**S** (Significant)
Personal hygiene practices	50	14.00	1.00	48.30	1.30	13.10	**S** (Significant)

The table above demonstrates a significant improvement in students' health behaviors after the intervention. For each component, including healthy eating habits, regular physical activity, regular health check-ups, and personal hygiene practices, the post-test mean scores were notably higher than the pre-test scores, indicating positive changes in students' behaviors. The calculated t-values for all components were well above the critical value of 1.96, confirming that these improvements were statistically significant. This suggested that the health education package effectively encouraged students to adopt healthier behaviors in their daily lives.

Table 8

Effect size of the pre-test and post-test health awareness scores among secondary school students.

Overall	N	Mean	SD	Delta	Effect Size (d)
Pre Test	50	18.50	3.50	7.92	5.50
Post Test	50	46.22	6.20		

The calculated effect size is **5.50**, which indicates **a large effect** of the intervention on students' health awareness. Generally, an effect size of **0.8 or higher** is considered large, meaning that the intervention had a strong and substantial impact on the students' health awareness scores.

RESULTS

1. The post-test mean score for health awareness (46.22) was significantly higher than the pre-test mean score (18.50), with a t-value of 10.20, indicating a significant improvement after the intervention.

2. There was a significant improvement in health knowledge, with the post-test mean score (66.20) surpassing the pre-test mean score (22.42), and a t-value of 10.25 confirming the significance.

3. Health attitudes showed a significant change, with the post-test mean score (52.10) higher than the pre-test mean score (15.20), and a t-value of 9.68 indicating statistical significance.

4. Health behaviors improved significantly, as evidenced by the post-test mean score (44.70) compared to the pre-test mean score (17.80), with a t-value of 10.05 showing statistical significance.

5. Component-wise analysis of health knowledge showed significant improvements across nutrition, physical activity, preventive healthcare, and healthy eating habits, with all t-values exceeding the critical value of 1.96.

6. Component-wise analysis of health attitude revealed significant positive changes in attitudes towards nutrition, physical activity, preventive care, and self-care, with all t-values above 1.96.

7. Health behaviors related to healthy eating, physical activity, health check-ups, and hygiene improved significantly, with t-values for each component exceeding the critical value of 1.96.

8. The calculated effect size of 5.50 indicates a large and substantial impact of the intervention on students' health awareness.

DISCUSSION

The results of the current study align with previous research emphasizing the importance of health education in improving students' awareness and behaviors related to health. Abdo (2003) and Al-Ahmadi (2003) both stressed that health awareness plays a crucial role in changing behaviors, which was confirmed by the significant improvements in health knowledge, attitudes, and behaviors observed in the post-test results. The findings from Goel (2007) also support these results, as they highlighted students' initial lack of comprehensive health knowledge, which was addressed through structured health education interventions in this study. The improvement in health knowledge regarding key components such as nutrition, physical activity, and preventive healthcare echoes Ashraf's (2019) findings, where health education led to a marked improvement in students' understanding of balanced nutrition. Similarly, Singh (2016) and Ahmad (2012) emphasized the critical role of exercise, nutrition, and mental health in overall well-being, which was evident in the significant changes in students' attitudes and behaviors toward these factors. Moreover, Leone et al. (2011) and Chaiprakarn (2024) highlighted the connection between positive health behaviors and enhanced body image and psychological well-being, which was reflected in the present study's improvements in students' health attitudes and behaviors. The study by Wungtongkum (2022) also underscores the importance of promoting good hygiene practices, which was effectively addressed in the current research, where hygiene-related behaviors showed significant improvement. Finally, Andonova (2022) pointed out that students are motivated to improve their health, especially for personal appearance, and this was mirrored in the students' increased interest in adopting healthier eating habits following the intervention. Overall, the findings of this study

corroborate the essential role of health education in enhancing health knowledge, attitudes, and behaviors among secondary school students.

CONCLUSION

The effectiveness of the health education package for enhancing health awareness among secondary school students was clearly demonstrated in this study. The results revealed significant improvements in students' health knowledge, attitudes, and behaviors across various components such as nutrition, physical activity, preventive healthcare, healthy eating habits, and personal hygiene. Pre-test and post-test comparisons indicated substantial increases in mean scores, with t-values exceeding the critical value, signifying the effectiveness of the intervention. The study's findings align with previous research, confirming that structured health education can positively influence students' awareness and practices related to their overall health and well-being. The health education package was particularly successful in addressing gaps in students' initial knowledge and fostering positive behavioral changes, underscoring the importance of integrating health education into school curricula. Based on the results, it can be concluded that health education interventions are a powerful tool for promoting better health outcomes among secondary school students.

RESEARCH IMPLICATION AND RECOMMENDATION

The findings of this study underscore the significant impact of health education interventions in improving health awareness among secondary school students. These results suggest that incorporating health education packages into school curricula can lead to substantial improvements in students' knowledge, attitudes, and behaviors related to health. Based on these findings, it is recommended that schools adopt regular health education programs to address key areas such as nutrition, physical activity, preventive healthcare, and personal hygiene. Future research could explore the long-term effects of such interventions and the role of digital platforms in enhancing health education. Additionally, further studies should examine how tailored programs can be developed to meet the diverse needs of students in different regions, including rural and urban areas.

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