

"A Pre – Experimental Study to Assess the Effectiveness of Information Booklet On Knowledge Regarding Adolescent Health Among Students from Selected Secondary Schools of Pune City."

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ABSTRACT

Introduction

Adolescence is a critical developmental period characterized by rapid physical, psychological, emotional, and social changes. Despite being considered a generally healthy age group, adolescents are vulnerable to various health issues such as nutritional deficiencies, mental health problems, risky behavior, and lack of adequate health awareness. In India, adolescent health concerns remain under-addressed, highlighting the need for effective and accessible educational interventions to promote healthy behaviors and informed decision-making.

Methodology

A quantitative research approach was used Descriptive Research Design. Non – Probability purposive sampling technique.

Results

The mean pre-test knowledge score was 9.98 ± 3.28 , which increased significantly to 15.83 ± 2.56 in the post-test. The calculated paired t-value was 20.31 with a p-value of 0.0001, indicating a highly significant improvement in knowledge. Academic standard showed a significant association with post-test knowledge scores, while other demographic variables did not.

Conclusion

The study concluded that the information booklet was highly effective in enhancing knowledge regarding adolescent health among secondary school students. Such educational materials can be used as simple, cost-effective tools in school health programs to promote adolescent well-being.

Keywords: Assess, Information Booklet, Knowledge, Adolescent Health, Secondary Schools, and Effectiveness.

How to cite this article: Gadade M, Jaison J, Devi A, Singh S. A Pre – Experimental Study to Assess the Effectiveness of Information Booklet On Knowledge Regarding Adolescent Health Among Students from Selected Secondary Schools of Pune City. Int J Drug Deliv Technol. 2026;16(55s): 828-833. DOI: 10.25258/ijddt.16.55s.84

Source of support: Nil.

Conflict of interest: None

INTRODUCTION

Adolescence (10–19 years) is a transitional phase from childhood to adulthood marked by rapid physical, psychological, emotional, and social development ⁽¹⁾. This period strongly influences lifelong health, behavior, and well-being. Although adolescents are often considered healthy, many experience preventable illnesses, injuries, and premature deaths due to factors such as accidents, violence, self-harm, and pregnancy-related complications. During this stage, adolescents form long-term behaviors related to nutrition, physical activity, substance use, and sexual practices, which can either protect or harm their future health. Nutritional problems are common, with a dual burden of under nutrition, micro nutrient deficiencies, and increasing overweight and obesity. In India, anemia affects nearly 59% of adolescents, reflecting poor nutrition and limited healthcare

access ⁽²⁾. Mental health issues and risky behaviors, including substance use, unsafe sexual practices, excessive social media exposure, and cyberbully, are growing concerns ⁽⁴⁾. Adolescents, especially girls, are more vulnerable to early marriage, teenage pregnancy, and limited reproductive health services. Promoting adolescent health through accurate health education, adolescent-friendly services, supportive environments, and active youth participation is essential. Nutritional problems are particularly prominent among adolescents, with a dual burden of under nutrition and micro nutrient deficiencies coexisting alongside a rising prevalence of overweight and obesity. In the Indian context, anemia remains a major public health concern, affecting nearly 59% of adolescents, which reflects poor dietary intake, gender-based disparities, and limited access to quality healthcare services. Mental health challenges are increasingly recognized among adolescents and include stress, anxiety, depression, and emotional disturbances. These

issues are often compounded by engagement in risky behaviors such as tobacco, alcohol, and drug use; unsafe sexual practices; excessive exposure to social media; and experiences of cyberbully. Adolescents, particularly girls, face additional vulnerabilities, including early marriage, teenage pregnancy, school dropout, and inadequate access to adolescent-friendly reproductive and sexual health services, all of which can have serious health and social consequences. Therefore, promoting adolescent health is of paramount importance and requires a comprehensive and multispectral approach. This includes providing accurate and age-appropriate health education, ensuring access to adolescent-friendly health services, creating supportive and enabling environments at home, school, and in the community, and encouraging active participation of adolescents in decisions affecting their health and development.

NEED OF STUDY

Adolescence is a critical stage of life characterized by rapid physical, psychological, emotional, and social changes. Neglecting health needs during this period can lead to long-term health consequences ⁽⁵⁾. Adolescents constitute more than 20% of the population and represent the future workforce of the nation; therefore, promoting adolescent health through proper education and awareness is essential. Several studies have highlighted the increasing burden of mental and physical health problems among adolescents. Research conducted among higher secondary school students revealed that academic stress significantly increases the risk of depression, making adolescents 2.4 times more likely to develop depressive symptoms ⁽⁷⁾. In India, intense academic competition, physiological hyper arousal, and social acceptance issues further contribute to anxiety and emotional disturbances among adolescents. Childhood maltreatment is also highly prevalent and has been strongly associated with psychiatric disorders, emphasizing the importance of early mental health screening and intervention ⁽⁹⁾.

Physical health problems among adolescents are equally concerning. Excessive use of digital devices and prolonged screen time have been associated with visual health issues, especially myopia, which is more prevalent among urban adolescents ⁽¹⁰⁾. Nutritional problems such as under nutrition and anemia continue to affect a large proportion of Indian adolescents due to inadequate dietary intake, poor nutritional awareness, and suboptimal hygiene practices. These conditions negatively influence physical growth, cognitive development, academic performance, and overall quality of life.

A research study conducted by K. Park emphasized that health education programs among school adolescents significantly improve knowledge and healthy practices related to nutrition, hygiene, and mental well-being. The study recommended school-

based educational interventions as an effective strategy for promoting adolescent health awareness. Overall, these findings highlight the urgent need for comprehensive school- and community-based adolescent health programs focusing on mental health promotion, nutritional education, visual health care, and early identification of risk factors to ensure the holistic development and well-being of adolescents.

AIM OF THE STUDY

The aim of the study was to assess the effectiveness of information booklet on knowledge regarding adolescent health among students from selected secondary schools of Pune city

RESEARCH METHODOLOGY

A quantitative research approach with a pre-experimental one-group pre-test post-test design was adopted. The objectives are 1) To assess the level of knowledge regarding adolescent health among secondary school students before and after the intervention. 2) To evaluate the effectiveness of the information booklet on knowledge regarding adolescent health among secondary school students. 3) To determine the association between the post-intervention knowledge scores and selected demographic variables of secondary school students. The study was conducted among 60 secondary school students aged 13–19 years from selected schools in Pune city, selected using non-probability purposive sampling. Data were collected using a validated and reliable self-structured questionnaire. An information booklet on adolescent health was administered after the pre-test, and the post-test was conducted after seven days. Data were analyze using descriptive and inferential statistics.

RESULT

SECTION I: - Frequency and Percentage of demographic data

Table 1: Shows frequency and percentage of demographic data.

n=60

DEMOGRAPHIC VARIABLES	F	%
1. Age of Child		
a. 13 to 15years	26	43.33
b. 15.1 to 17 years	30	50.00
c. 17.1 to 19 years	4	6.67
2. Gender		
a. Male	33	55.00
b. Female	27	45.00
c. Transgender	0	0.00
3. Standard (Specific)		

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a. 8th Standard	10	16.67
b. 9th Standard	24	40.00
10 th standard	26	43.33
4. Food Preference		
a. Non vegetarian	12	20.00
b. Vegetarian	9	15.00
c. Mixed	39	65.00
5. Father educational qualification (Specific)		
a. 8th to 10th Standard	15	25.00
b. 10th to 12th Standard	28	46.67
c. Graduate	17	28.33
6. Mother educational qualification (Specific)		
a. 8th to 10th Standard	26	43.33
b. 10th to 12th Standard	24	40.00
c. Graduate	10	16.67
7. Occupation		
a. Service	17	28.33
b. Business	20	33.33
c. Any Other	23	38.33

Table No: 01 Interprets that, Among the 60 adolescents, Majority was 50% belonged to the 15.1–17 years age group, 43.33% were aged 13–15 years, and the least (6.67%) were in the 17.1–19 years group. With regard to gender, the majority were males (55%), followed by females (45%), while 0% were transgender. In terms of educational

standard, the majority were studying in 10th standard (43.33%), followed by 9th standard (40%), and the lowest proportion were in 8th standard (16.67%). Concerning food preference, a mixed diet was preferred by the majority (65%), followed by non-vegetarian (20%), and the least were vegetarians (15%). Regarding father’s educational qualification, the majority had education between 10th–12th standard (46.67%), followed by graduates (28.33%), and the least had education between 8th–10th standard (25%). With respect to mother’s educational qualification, the majority had education between 8th–10th standard (43.33%), followed by 10th–12th standard (40%), while the lowest proportion were graduates (16.67%). Regarding occupation, the majority were engaged in other

occupations (38.33%), followed by business (33.33%), and the least were in service (28.33%)

SECTION II: - Findings of Pre and Posttest knowledge regarding adolescent health among secondary school students

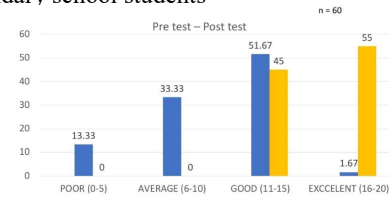


Figure 01: shows the findings of pre and post-test knowledge regarding adolescent health among secondary students. The pre-test results showed that 13.33% of students had poor knowledge, 33.33% had average knowledge, 51.67% had good knowledge, and only 1.67% had excellent knowledge. In the post-test, 0% of students were in the poor and average categories, while 45% had good knowledge and the majority (55%) achieved an excellent level, indicating a significant improvement in knowledge after the intervention.

SECTION III: - Comparison of Pre and Post intervention on knowledge regarding adolescent health among students.

Table 02: Shows the comparison of pre and post intervention on knowledge regarding adolescent

EFFECTIVENESS OF INFORMATION BOOKLET ON KNOWLEDGE REGARDING ADOLESCENT HEALTH	Mean	SD	DF	t test calculated value	P value	Remark
Post test	15.83	2.56	59			

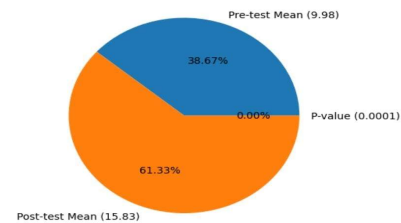


Figure 02: - Shows the effectiveness of information booklet on knowledge regarding adolescent health. The comparison of pre-test and post-test knowledge scores clearly demonstrates a substantial improvement in students’ knowledge following the implementation of the information booklet. The mean pre-test score of the participants was 9.98 ± 3.28 , indicating a moderate level of baseline knowledge regarding adolescent health. After the intervention, the mean post-test score increased markedly to 15.83 ± 2.56 , reflecting a considerable

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enhancement in the level of knowledge among the students. The difference between the pre-test and post-test mean scores was statistically analyzed using a paired t-test, which yielded a calculated t-value of 20.31 with 59 degrees of freedom. The obtained p-value of 0.0001 was far below the accepted level of significance, indicating a highly significant difference between the pre-test and post-test scores.

SECTION IV: - To find association between knowledge score with selected demographic variables

Table 03: - shows the association between knowledge score with selected demographic variables

Demographic Variables	A V E R A G E	E X C E L L E N T	G O O D	P O O R	D F	C h i T a b l e v a l u e	C h i c a l c u l a t e d v a l u e	P v a l u e	R e m a r k	
1. Age of Child										
a. 13 to 15 years	7	1	1	6	2	12 .5 92	5.1 39	0 .5 2	N o t S i g n i f i c a n t	
b. 15.1 to 17 years	1	1	0	1	3					6
c. 17.1 to 19 years	2	0	2	2	0					
2. Gender										
a. Male	1	4	1	1	4	12 .5 92	3.4 8	0 .7 4 7	N o t S i g n i f i c a n t	
b. Female	6	0	1	1	4					6
c. Transgender	0	0	0	0	0					
3. Standard (Specific)										
a. 8 th Standard	2	0	5	3	3	12 .5 92	13. 25 7	0 .0 2 0	S i g n i f i c a n t	
b. 9 th Standard	9	1	2	1	3					6

c. 10 th standard	9	0	2	1	4					
4. Food Preference										
a. Non vegetarian	3	0	8	1	1	12 .5 92	5.7 03	0 .4 5 7	N o t S i g n i f i c a n t	
b. Vegetarian	6	0	3	0	0					6
c. Mixed	1	1	2	0	7					
6. Mother educational qualification (Specific)										
a. 8th to 10th Standard	5	0	8	2	2	12 .5 92	3.3 04	0 .7 7 0	N o t S i g n i f i c a n t	
b. 10th to 12th Standard	9	1	1	6	2					6
c. Graduate	6	0	7	4	4					
7. Occupation										
a. Service	4	0	1	2	1	12 .5 92	8.3 85	0 .2 1 1	N o t S i g n i f i c a n t	
b. Business	8	1	8	3	3					6
c. Any Other	8	0	1	1	4					

Table No: 03 Interprets that, the association between post-test knowledge scores and selected demographic variables was analyzed using the chi-square test. The findings revealed that age ($\chi^2 = 5.139$, $p = 0.52$), gender ($\chi^2 = 3.48$, $p = 0.747$), food preference ($\chi^2 = 5.703$, $p = 0.457$), father's educational qualification ($\chi^2 = 3.304$, $p = 0.770$), mother's educational qualification ($\chi^2 = 8.385$, $p = 0.211$), and occupation ($\chi^2 = 4.909$, $p = 0.556$) showed no statistically significant association with knowledge scores. However, a significant association was found with the standard of study ($\chi^2 = 13.257$, $p = 0.020$), indicating that the level of education influenced the knowledge regarding adolescent health among students.

DISCUSSION

The findings of the present study demonstrated a significant improvement in knowledge following exposure to the information booklet, emphasizing the effectiveness of educational interventions in adolescent health education. Before the intervention, many students had inadequate to average knowledge regarding nutrition, personal hygiene, mental health, reproductive health, and prevention of risk behaviors. Similar findings were reported by Supriya Sushant Chakre in 2018, who found low pre-test knowledge among adolescent girls and a significant increase in knowledge after planned teaching regarding reproductive health.

Comparable improvements were also observed in studies on menstrual hygiene education, where information booklets and structured teaching programs enhanced awareness among school-going girls.

In the present study, post-test knowledge scores increased markedly, confirming that simple, structured educational materials can effectively improve adolescent health knowledge. These findings are consistent with previous studies in which structured teaching programmes, self-instructional modules, and pamphlets resulted in statistically significant gains in knowledge. One study among 120 early adolescents reported a highly significant improvement in post-test scores ($p < 0.001$), further supporting the effectiveness of educational interventions. Additionally, no statistically significant association was found between post-test knowledge scores and selected demographic variables, suggesting that the information booklet was equally effective irrespective of age, gender, academic level, or parental background.

CONCLUSION

A pre-experimental one-group research design was adopted for the study. Sixty students were selected using a non-probability purposive sampling technique. The data collection tool was content-validated, and its reliability was established to ensure accuracy and consistency of measurement. A pilot study was conducted on six samples to assess

feasibility, after which the main study was carried out. Following the pre-test, an information booklet was administered, and its effectiveness was evaluated through a post-test. The mean pre-test score was 9.98 (SD = 3.28), indicating a moderate level of knowledge before the intervention. After exposure to the booklet, the mean post-test score increased to 15.83 (SD = 2.56), showing a significant improvement in knowledge. The findings confirm that the information booklet was effective in enhancing adolescent health knowledge. Improvement was observed across most demographic variables, except academic standard, which showed a significant association with knowledge scores. Overall, the study highlights information booklet as simple, cost-effective, and accessible educational tools for promoting health awareness and healthy behaviors among adolescents, thereby supporting their overall development and well-being.

CONFLICT OF INTEREST

We, the researchers, acknowledge that a conflict of interest refers to situations in which financial or personal considerations may influence or compromise professional judgment in the design, conduct, evaluation, or reporting of research. We hereby declare that there are no personal, or professional conflicts of interest associated with the application, conduct, or submission of this research proposal.

FUNDING SOURCE

"There is no funding source for this study."

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