Research paper

Effectiveness of Educational Intervention on Physical Health Status and Their Health-Seeking Behavior among Adolescent Girls

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ABSTRACT

Background: Adolescence involves major developmental changes, and educational interventions improve adolescents' healthcare service utilization. The present study assessed the effectiveness of an educational intervention on physical health status and health-seeking behavior among adolescent girls in rural areas.

Materials and Methods: A quasi-experimental one-group pre-test and post-test design was adopted for the study, and 124 adolescent girls were selected from schools in rural Maharashtra. Data were collected on socio-demographic profile, physical health status, anatomy and physiology of the reproductive system, menstruation, and menstrual hygiene, and statistical analysis was performed; p-values > 0.05 were considered statistically significant.

Results: The pretest mean knowledge score was 20.75±5.133, which increased to 25.71±4.799 in the post-test. The t-values were 45.01 and 59.67 for the pretest and post-test, respectively, with a statistically significant p-value < 0.0001.

Conclusion: The educational intervention significantly enhanced adolescent girls' knowledge about physical health and health-seeking behavior.

Keywords: Adolescent girls, Educational intervention, Health-seeking behavior, Physical health status.

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Introduction

Adolescence represents a crucial stage of growth and development in an individual's life. Adolescent girls, in particular, represent a vulnerable population due to their unique biological needs, gender-based social roles, and limited access to healthcare resources.[1] Physical health problems such as menstrual and reproductive health concerns, poor nutritional status, and inadequate personal hygiene practices are prevalent, especially in low and middle-income countries. In various reports from rural areas of Karnataka and Maharashtra, it is observed that adolescent girls are more prone to health problems, as cultural taboos surrounding discussions on adolescent issues restrict open communication, limiting their access to correct information about health and hygiene.[2] Many adolescent girls tend to rely on informal sources of information and avoid seeking professional healthcare. This pattern contributes to the persistence of preventable and manageable health conditions, leading to avoidable complications and compromised quality of life.[4] Therefore, strengthening health-based knowledge and promoting healthcare services among adolescent girls is vital for achieving better health outcomes.[5]

Educational interventions were widely acknowledged as effective approaches for enhancing knowledge and encouraging healthy behaviors among adolescents. Research evidence indicates that well-planned health education programs deliver evidence-based information, increase awareness, and thereby empower girls.[6,7] Accordingly, the present study aims to evaluate the effectiveness of educational intervention on the physical health status and health seeking behavior by adolescent girls.

Materials and Methods

An evaluative research approach was employed, utilizing a quasi-experimental one-group pre-test and post-test design. The study was conducted in 3 Marathi-medium schools located in the rural area of Maharashtra. A non-probability purposive sampling technique was used to select the study participants. The sample size was calculated using the formula: $n= Z^2S^2d$. Where, Z = 1.96 (Type I error at 5% level of significance). A total of 124 adolescent girls were selected.[8]

Research was conducted after seeking approval from Institutional Ethics Committee (KVV/IEC/07/2024, Protocol number 671/2023-24, dated 13.06.2024). Written informed consent was obtained from all individual participants included in the study.

Eligibility criteria

Adolescent girls aged 10–19 years were selected. Girls who were present during data collection and willing to provide consent were selected. Those absent during the data collection were excluded. Additionally, girls aged 10-19 years were not selected. Those unwilling to participate were also excluded.

Intervention implementation

The intervention on physical health status and health-seeking behavior among adolescent girls was implemented using a structured, multi-component educational module designed in accordance with the WHO Adolescent Health Guidelines and national adolescent program frameworks. A structured teaching programme was designed around adolescent health, reproductive health, menstrual hygiene, nutrition, and lifestyle practices. The duration of the intervention was four weeks. Reinforcement sessions lasted 30- 45 minutes, while the major sessions lasted for 45- 60 minutes. Pre-test and post-test assessments were included along with one main session and two reinforcement sessions spaced one to two weeks apart.

Description of the tool

Data was collected using a structured questionnaire divided into four sections, which include the socio-demographic profile, the knowledge related to physical health status, anatomy and physiology of the reproductive system, menstruation, and menstrual hygiene, awareness related to bio-behavioral health, and the association between socio-demographic variables and health knowledge and health-seeking behavior, respectively.

Data analysis

Statistical analysis was carried out using descriptive and inferential statistics. Descriptive statistics such as mean, median, and standard deviation were used to summarize demographic variables and knowledge scores. Inferential statistics were used to determine the effectiveness of the educational intervention. Paired t-test was used to compare pre-test and post-test scores, while chi-square was used to examine the association between socio-demographic variables and physical health status and health-seeking behavior.

Results

Demographic analysis- The study included a total of 124 participants, out of whom the majority were 15 years old (36%) and studying in 10th standard (58%). Most of the adolescent girls had attained menarche between 13 and 14 years of age. A huge population was from nuclear families where parents were the primary source of knowledge regarding health information. The parental history revealed that the majority of fathers worked in service occupations, whereas mothers were homemakers and had completed their secondary school.

Pre-test knowledge- Before the intervention, it was observed that 48.39% of participants demonstrated good knowledge, whereas 42.74% had average knowledge, and only 8.87% had poor physical health status and health-seeking behavior.

Post-test knowledge- After the intervention, the majority of participants, 82.26%, demonstrated good knowledge, while 13.71% had an average knowledge, and only 4.03% demonstrated poor knowledge of physical health status and health-seeking behavior.

Comparison of pre-test and post- test scores- The pretest mean knowledge score was 20.75, while the median was 22.00 and the SD was 5.133, which later showed an increase to mean being 25.71, median being 27.50 and SD being 4.799 in the post-test. The t-values were 45.01 and 59.67 for the pretest and post-test, respectively, with a statistically significant p-value < 0.0001.

Table 1: Distribution of subjects according to mean, median, mode, SD, and range of pre-test, post-test knowledge scores, knowledge of physical health status and health-seeking behavior of adolescent girls (n=124)

Area of analysis	Mean	Median	SD	p value	t value
Pre-test Knowledge of subjects regarding physical health status and health-seeking	20.75	22.000	5.133	<0.001	45.012

behavior of adolescent girls.					
Post-test knowledge of subjects' physical health status and health-seeking behavior of adolescent girls.	25.71	27.5 00	4.7 99	<0.0 001	59. 671

Association between socio-demographic variables and knowledge levels-

The association between the socio-demographic variables and levels of knowledge of physical health status and their health-seeking behavior in terms of good, average, and poor was also established by using the chi-square test. The results indicated that the calculated p-values were greater than 0.05 in all cases of all the socio-demographic parameters, such as age, standard of study, number of siblings, name of school, information regarding menstrual hygiene, source of information, fathers' education, mothers' education, fathers' occupation, mothers' occupation, family income, type of family, and residence. Thus, there was no significant association between the socio-demographic variables and the level of knowledge of physical health and health-seeking behavior of adolescent girls.

Discussion

The findings of the present study clearly indicate that a structured educational intervention was highly effective in enhancing knowledge related to physical health and health-seeking behavior among adolescent girls. The significant increase in post-test knowledge scores supports the effectiveness of planned teaching programs in addressing existing knowledge gaps, consistent with earlier findings.[9] The low baseline knowledge observed among participants reflects challenges commonly reported in low- and middle-income countries, where adolescents often lack access to reliable health information.[3]

According to the results, a significant percentage of participants had only average (42.74%) or low (8.87%) knowledge before intervention, even though almost half (48.39%) had strong knowledge. This reveals a gap in rural teenagers' thorough knowledge of physical health and proper health-seeking behaviors, which may be based on cultural taboos, a lack of candid conversations, and limited access to trustworthy health information. Knowledge levels were found to have significantly improved after the educational intervention. While the percentage of participants with average and poor knowledge decreased to 13.71% and 4.03%, respectively, the percentage of participants with strong knowledge increased drastically to 82.26%. The post-tests' improved mean and median knowledge scores provide evidence of the intervention's efficacy. Rather than demographic factors, the educational intervention seems to be the main cause of the knowledge acquired. Post-intervention improvements in healthcare-seeking readiness and awareness support findings from a study, which emphasised the positive influence of school-based health education on adolescent behavioral outcomes.[10]

All of the factors in the study, like age, education, family background, and information sources, were found to be independent of physical health knowledge levels. The association between the socio-demographic variables and the physical health and health-seeking behavior was not established. The present study findings are correlated with the previous research, indicating that socio-demographic variables do not always demonstrate a statistically significant association with health-seeking behavior among adolescent girls, such as social stigma, lack of facilities, lack of information, and knowledge, which may play an influential role.[11,12]

The substantial improvement in post-test scores highlights the importance of planned health education in addressing gaps in awareness related to nutrition, menstrual hygiene, reproductive health, and healthcare utilization. However, the study further highlights schools as effective platforms for delivering adolescent health education, aligning with recommendations from WHO and UNICEF advocating early, school-centred interventions. [13,14]

The potential to fully attribute improvements to the educational intervention is limited by the lack of a control group. Additionally, the study did not explicitly test improvements in the health outcomes or practices; instead, it just evaluated the knowledge levels.

Conclusion

The study concludes that the structured educational intervention was highly effective in improving knowledge related to physical health status and health-seeking behavior among adolescent girls. Incorporating structured health education programs into the school curriculum can empower adolescent girls, promote healthy lifestyle practices, encourage timely care-seeking, and contribute to improved long-term health outcomes.

Declarations

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Conflicts of Interest: None

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