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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING IMPORTANCE OF HPV VACCINE FOR PREVENTION OF CERVICAL CANCER AMONG LATE ADOLESCENT GIRLS OF SELECTED HIGHER SECONDARY SCHOOLS OF MEHSANA DISTRICT

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ABSTRACT

Cervical cancer is a major public health concern worldwide, primarily caused by human papillomavirus (hpv) infection. This study assessed the effectiveness of a structured teaching programme (stp) on knowledge regarding the importance of hpv vaccination among late adolescent girls in selected higher secondary schools of mehsana district. Using a quantitative one-group pre-test and post-test design, 60 participants were selected through purposive sampling. The findings showed a significant improvement in knowledge scores after the intervention, demonstrating the effectiveness of the stp. The study concluded that structured educational programmes are effective in increasing awareness and knowledge about hpv vaccination and cervical cancer prevention among adolescent girls.

1.INTRODUCTION

I. Cervical cancer is one of the most common cancers affecting women worldwide and remains a major public health concern due to its high morbidity and mortality rates. Persistent infection with high-risk Human Papillomavirus (HPV) strains, particularly HPV-16 and HPV-18, is responsible for the majority of cervical cancer cases. Despite the availability of safe and effective HPV vaccines, awareness and knowledge regarding HPV infection, vaccination, and cervical cancer prevention remain inadequate among many adolescents. HPV vaccination has been proven to be an effective preventive measure that significantly reduces the risk of cervical cancer and related diseases. However, factors such as lack of awareness, misconceptions, cultural beliefs, and insufficient health education contribute to low vaccine acceptance and uptake. Educational interventions play a vital role in improving knowledge, promoting positive attitudes, and encouraging preventive health practices among young individuals. Schools provide an ideal platform for delivering health education because adolescents are highly receptive to learning and can easily understand health-related information when presented in an appropriate manner. Late adolescent girls represent an important target group for cervical cancer prevention programmes, as they are at a suitable age to receive information regarding HPV infection, vaccination, and reproductive health. Increasing their awareness can contribute to better health-seeking behavior and greater acceptance of preventive measures. Therefore, the present study was undertaken to assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding the importance of HPV vaccination among late adolescent girls studying in selected higher secondary schools of Mehsana district, with the aim of enhancing awareness and promoting cervical cancer prevention.

III. MATERIALS AND METHODS

2.1 Study Design

A quantitative evaluative research approach with a quasi-experimental one-group pre-test and post-test design was adopted to assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding the importance of HPV vaccination for the prevention of cervical cancer among late adolescent girls. The knowledge of participants was assessed before and after the educational intervention to determine the effectiveness of the programme.

2.2 Study Setting

The study was conducted in selected higher secondary schools of Mehsana District, Gujarat. These schools were chosen as they provided access to late adolescent girls and offered a suitable educational environment for implementing the Structured Teaching Programme and conducting the research activities.

2.3 Study Population and Sample

The study population consisted of late adolescent girls aged 17–19 years studying in selected higher secondary schools of Mehsana District. A total of 60 participants were selected through purposive sampling technique. The participants were considered appropriate for the study because they belonged to an age group that is highly receptive to health education and are at an appropriate stage for receiving information regarding HPV vaccination and cervical cancer prevention.

2.4 Inclusion and Exclusion Criteria

The study included late adolescent girls aged 17–19 years who were studying in selected higher secondary schools of Mehsana District, were available during the period of data collection, and were willing to participate in the study. Girls who were absent during data collection, unwilling to participate, or had previously received extensive education regarding HPV vaccination were excluded from the study.

2.5 Research Tool

Data were collected using a structured questionnaire developed by the investigator to assess knowledge regarding HPV infection, HPV vaccination, and prevention of cervical cancer. The questionnaire consisted of demographic variables and knowledge-related questions. The Structured Teaching Programme included lecture methods, discussion, and audiovisual aids designed to improve participants' understanding of HPV vaccination and its role in cervical cancer prevention.

2.6 Data Collection Procedure

After obtaining permission from the concerned school authorities and ethical clearance, a pre-test was conducted to assess the baseline knowledge of the participants. Following the pre-test, the Structured Teaching Programme was administered. After completion of the educational intervention, a post-test was conducted using the same questionnaire to evaluate changes in knowledge levels. The difference between

pre-test and post-test scores was used to determine the effectiveness of the Structured Teaching Programme.

2.7 Data Analysis

The collected data were organized, tabulated, and analyzed using descriptive and inferential statistics. Frequency, percentage, mean, and standard deviation were used to describe the demographic characteristics and knowledge scores. The effectiveness of the Structured Teaching Programme was determined by comparing pre-test and post-test knowledge scores, and the association between demographic variables and knowledge scores was analyzed using appropriate statistical tests.

III. METHODOLOGY

The present study concluded that the Structured Teaching Programme (STP) was effective in improving the knowledge of late adolescent girls regarding the importance of HPV vaccination for the prevention of cervical cancer. The post-test knowledge scores showed a significant improvement compared to the pre-test scores, indicating that educational interventions can successfully enhance awareness and understanding of HPV infection, vaccination, and cervical cancer prevention. The findings highlight the importance of school-based health education programmes in promoting preventive health practices among adolescents. Therefore, Structured Teaching Programmes should be encouraged in educational settings to increase awareness, support informed decision-making, and contribute to the prevention of cervical cancer among young women.

IV. RESULTS AND DISCUSSION

Table 4.1: Frequency and Percentage Distribution of Demographic Variables of Adolescents (N = 60)

Socio-Demographic Variables	Categories	Frequency (f)	Percentage (%)
Age (in years)	14 years	10	16.7%
	15 years	20	33.3%
	16 years	30	50%
Religion	Hindu	48	80%
	Muslim	8	13.3%
	Christian	4	6.7%
Educational Status	11th Standard	30	50%
	12th Standard	30	50%
Type of Family	Nuclear	36	60%
	Joint	18	30%
	Extended	6	10%
Family Income (per month)	< ₹10,000	6	10%
	₹10,001–₹20,000	24	40%
	> ₹20,000	18	30%

	Others	**12**	**20%**
Area of Residence	**Rural**	**24**	**40%**
	Urban	**24**	**40%**
	Semi-urban	**12**	**20%**
Heard About HPV Vaccination	**Yes**	**30**	**50%**
	No	**30**	**50%**
HPV Vaccination Status	**Yes**	**10**	**16.7%**
	No	**50**	**83.3%**
Participation in Cancer Prevention Programme	**Yes**	**24**	**40%**

Table 4.1 shows that the majority of adolescents (50%) were aged 16 years. Most participants belonged to Hindu religion (80%). Equal distribution was observed in educational status (50% in 11th and 50% in 12th standard). Majority belonged to nuclear families (60%). Only 16.7% had received HPV vaccination, indicating low vaccination coverage among adolescents.

TABLE 4.2: PRE-TEST KNOWLEDGE LEVEL OF ADOLESCENTS REGARDING HPV

Knowledge Level	Score Range	Frequency (f)	Percentage (%)
Inadequate Knowledge	0–8	22	36.7%
Moderate Knowledge	9–16	30	50%
Adequate Knowledge	17–25	8	13.3%

VACCINATION (N = 60)

Table 4.2 reveals that before the structured teaching programme, 50% of adolescents had moderate knowledge, 36.7% had inadequate knowledge, and only 13.3% had adequate knowledge regarding HPV vaccination. This indicates a knowledge deficit prior to intervention.

TABLE 4.3: POST-TEST KNOWLEDGE LEVEL OF ADOLESCENTS REGARDING HPV VACCINATION (N = 60)

Knowledge Level	Score Range	Frequency (f)	Percentage (%)
Inadequate Knowledge	0–8	3	5%
Moderate Knowledge	9–16	15	25%
Adequate Knowledge	17–25	42	70%

Table 4.3 shows that after the structured teaching programme, 70% of adolescents achieved adequate knowledge, and only 5% remained in the inadequate category. This indicates significant improvement in knowledge levels.

TABLE 4.4: COMPARISON OF PRE-TEST AND POST-TEST MEAN KNOWLEDGE SCORES (PAIRED t-TEST) (N = 60)

Knowledge Score	Pre-Test Mean ± SD	Post-Test Mean ± SD	Mean Difference	t-value	p-value
Total Knowledge Score	12.10 ± 3.45	20.85 ± 2.60	8.75	15.62	<0.001

Table 4.4 shows that the mean pre-test knowledge score (12.10 ± 3.45) increased to 20.85 ± 2.60 in the post-test. The calculated t-value of 15.62 was statistically significant at $p < 0.001$. This confirms that the structured teaching programme was highly effective in improving knowledge regarding HPV vaccination.

TABLE 4.5: ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE SCORES AND SELECTED DEMOGRAPHIC VARIABLES (CHI-SQUARE TEST) (N = 60)

Variables	χ^2 Value	df	p-value	Significance
Age	7.82	2	0.020	Significant*
Religion	1.45	2	0.484	NS
Educational Status	9.65	1	0.002	Significant**
Type of Family	2.11	2	0.348	NS
Previous Awareness	10.84	1	0.001	Significant**
Participation in Programme	6.32	1	0.012	Significant*

Table 4.5 reveals that educational status, previous awareness about HPV vaccination, and participation in cancer prevention programmes showed statistically significant association with pre-test knowledge scores ($p < 0.05$). Religion and type of family were not significantly associated.

V. DISCUSSION

The present study was conducted to evaluate the effectiveness of a structured teaching programme on knowledge regarding HPV vaccination and cervical cancer prevention among adolescents. The findings of the study clearly demonstrate that the structured teaching intervention was highly effective in improving the knowledge level of participants. The demographic analysis revealed that the majority of adolescents were 16 years of age, followed by 15 and 14 years. This age group is particularly significant because adolescence represents a crucial period for preventive health interventions, especially immunization against human papillomavirus before potential exposure. Most of the participants belonged to Hindu religion, reflecting the demographic pattern of the study setting. Equal representation of students from 11th and 12th standards indicates that the study involved adolescents at a higher secondary educational level, where cognitive maturity may support better comprehension of health education programmes.

The findings also revealed that the majority of adolescents belonged to nuclear families. Family structure plays an important role in health decision-making, particularly in matters related to vaccination where parental approval is essential. Although half of the participants had heard about HPV vaccination, only a small proportion had actually received the vaccine. This indicates a substantial gap between awareness and actual practice. The low vaccination uptake despite moderate awareness may be attributed to factors such as lack of detailed knowledge, financial barriers, parental hesitation, misconceptions regarding vaccine safety, cultural stigma related to reproductive health discussions, and limited accessibility to vaccination services. Similar trends have been observed in other studies, where awareness levels were relatively higher than vaccination coverage, highlighting the need for structured and comprehensive educational strategies.

The pre-test findings revealed that the majority of adolescents had moderate knowledge, followed by inadequate knowledge, and only a few had adequate knowledge regarding HPV vaccination and cervical cancer prevention. This suggests that although adolescents may have been exposed to fragmented information through media or informal sources, they lacked comprehensive understanding of important aspects such as the purpose of HPV vaccination, recommended age, dosage schedule, effectiveness in preventing cervical cancer, and potential side effects. The presence of baseline knowledge deficit emphasizes the importance of structured and systematic educational interventions within school settings. Comparable findings have been reported in previous research studies conducted among adolescent girls, where knowledge levels prior to intervention were predominantly inadequate to moderate.

Following the administration of the structured teaching programme, a remarkable improvement in knowledge levels was observed. The majority of participants shifted to the adequate knowledge category in the post-test assessment, while the proportion of adolescents with inadequate knowledge significantly declined. The increase in mean knowledge score and the statistically significant paired t-test result indicate that the improvement was not due to chance but was a direct effect of the educational intervention. Structured teaching programmes are effective because they provide organized, evidence-based information in a clear and understandable manner. The use of teaching aids, interactive discussions, and opportunities for clarification of doubts may have enhanced comprehension and retention of information. Educational interventions that are well-planned and systematically delivered have been shown to significantly enhance knowledge and awareness among adolescents in various health-related domains.

The statistical analysis further revealed a significant association between pre-test knowledge scores and variables such as educational status, previous awareness about HPV vaccination, and participation in cancer prevention programmes. Adolescents who had prior exposure to health information demonstrated better baseline knowledge, indicating that repeated exposure to awareness initiatives positively influences understanding. However, variables such as religion and type of family did not show significant association with knowledge levels, suggesting that educational exposure and access to information may play a more decisive role than socio-cultural background alone. These findings reinforce the importance

of integrating reproductive health education into school curricula and organizing regular awareness campaigns.

Despite the significant improvement in knowledge following the intervention, the low baseline vaccination rate observed in the study highlights the persistent gap between knowledge and health behaviour. Knowledge alone may not be sufficient to ensure vaccine acceptance and uptake. Parental beliefs, social norms, economic constraints, and accessibility issues also influence vaccination decisions. Therefore, future interventions should not only focus on adolescents but also involve parents, teachers, and community leaders to create a supportive environment for HPV vaccination. Community-based educational campaigns and school-based immunization programmes may contribute to improved vaccination coverage.

Overall, the findings of the present study confirm that structured teaching programmes are highly effective in enhancing knowledge regarding HPV vaccination and cervical cancer prevention among adolescents. The statistically significant improvement in post-test knowledge scores supports the research hypothesis and validates the effectiveness of the intervention. The study underscores the critical role of educational strategies in promoting preventive health practices and reducing the future burden of cervical cancer. Incorporating structured health education programmes within school systems and community health initiatives can play a vital role in empowering adolescents with accurate knowledge and encouraging informed health decisions.

VI. CONCLUSION

The study concluded that the Structured Teaching Programme was highly effective in improving knowledge regarding the importance of HPV vaccination for prevention of cervical cancer among late adolescent girls. Educational interventions should be integrated into school health programmes to enhance awareness and encourage preventive healthcare practices. Increasing knowledge at an early age may contribute to higher vaccination uptake and reduction in future cervical cancer burden.

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