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A study to assess the effectiveness of informational booklet on knowledge regarding HPV vaccination among adolescents of selected Government school of Mumbai

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Abstract

Background: HPV vaccines provide protection against several cancers caused by Human Papilloma Viruses (HPV). HPV is a group of more than 200 related family of viruses. The HPV vaccine is available under trade name Gardasil and Cervarix and is administered to specific age group of individuals with laid down criteria. The aim of study is to assess the knowledge about HPV vaccination and create awareness among the target population of adolescents [1].

Materials and Methods: A quasi-experimental study was conducted on 100 adolescent girls, selected using purposive sampling method, aged between 10 to 14 years group from a selected Government school of Mumbai, Maharashtra. The respondents were asked to fill the self-structured, self-administered questionnaire which consisted of 12 MCQs'. A Pre and Post test was conducted to assess the difference between pre and post-test knowledge level among the subjects and test the efficacy of the informational booklet.

Results: Study findings revealed that majority of the respondents i.e. 09.00% of the total respondents had poor knowledge, 19.70% had adequate knowledge and about 71.30% of total respondents had good knowledge about HPV vaccine and significant improvement in the knowledge level was observed in post-test.

Conclusion: The study revealed that the knowledge about HPV vaccine was moderate among the target population despite the awareness created across the world through multiple media methods. An early intervention is the only key to prevention and cure and this informational booklet can act as a useful tool in increasing the knowledge about HPV vaccination among the adolescents and creating awareness among the youngsters and their parents. The booklet can be distributed in OPDs, PHCs, schools and community to spread awareness.

Keywords: HPV, HPV vaccination, informational booklet, adolescents, prevention

Introduction

Human Papillomavirus [HPV] belongs to common family of papillomaviridae viruses. There are more than 100 types of HPV. Some HPVs can lead to cancer of tongue, tonsils, anus, cervix, vulva, penis and others cause warts in genital area. World Health Organization has introduced vaccines which are potential to prevent more than 90% of HPV-attributable cancer [7]. Since HPV vaccines are first introduced in India in 2008, the uptake of vaccines since inception is found to be relatively low and the goal of WHO is to reach the target of vaccination to 90% of eligible population by 2030 [2, 3].

Background: HPV vaccines protect against infection with Human Papilloma Viruses (HPV). HPV is a group of more than 200 related viruses, of which more than 40 are spread through direct sexual contact. Among these, two HPV types cause genital warts and about dozen of HPV types can cause certain types of cancer-cervical, anal, oropharyngeal, penile, vulvar and vaginal [4].

1. HPV types 6 and 11 which causes 90% of genital warts.
2. HPV types 16 and 18, two high risk HPVs that cause about 70% of cervical cancer.

The Centre for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) Challenges remain in building community confidence and address the capacity and supply issues.

Need for study

As per the reports given by WHO, in the year 2017 the estimated worldwide prevalence of HPV infections among women is 11.7%. Latin America and Caribbea have a prevalence of 16.1% the second highest prevalence is of women of Sub-Saharan Africa is 24%. HPV serotypes 16 and 18 account for nearly 76.7% of cervical cancer in India. The basic need for our study was:

- To disseminate knowledge about effectiveness of HPV vaccines
- To decrease the rate of incidence of cervical cancer which can be prevented by administering HPV vaccines.

Objectives

- To assess the pre-test knowledge of the group regarding HPV vaccination.
- To assess the post-test knowledge of the group regarding HPV vaccination after distribution of informational booklet.
- To compare the pre- & post-test knowledge of the group about HPV vaccine.
- To correlate the pre- & post-test knowledge of the group regarding HPV vaccine with that of selected socio demographic variable.

Materials and Methods

A pilot study was conducted in August 2023 to assess the feasibility of the study. Pre-test data regarding the knowledge about HPV vaccination was done using the knowledge assessment tool followed by the distribution of informational booklet before conducting the post-test data. Consent was taken from the selected subjects. The data was collected on 29 September 2023 in a single setting within the duration of 04 hours. 100 girls were randomly selected using stratified random sampling. Pretest knowledge was assessed using the structured and validated knowledge assessment tool followed by which a validated self-designed informational booklet was distributed among the selected sample which consisted of all the necessary information related to HPV vaccination. Post test data was collected from the same selected population using the same structured knowledge assessment tool. Descriptive statistics like frequency & percentage were used to assess the demographic variables under study. Inferential statistics was used to assess the association using Chi square ^[5].

Results

Majority of the respondents 40.50% had poor knowledge about the HPV vaccination 22.50% of total respondents had adequate knowledge and 37% had good knowledge about HPV vaccination in the Pre-test ^[6].

Post test data showed a marked increase in the knowledge

level among adolescent girls. Around 71.30% of total respondent showed an increase in the good knowledge about HPV vaccination after the distribution of Informational booklet 19.70% had moderate knowledge and 09.00% had poor knowledge ^[7]. A statistical analysis was done using chi square formula the correlation between age and knowledge was 0.39 thus signifies that knowledge increasing with advancing age.

- **Among 50 samples:** 26 student had poor knowledge, 8 had moderate knowledge and 10 had high knowledge of lower class
- **Among 50 samples:** 14 student had poor knowledge, 15 had moderate knowledge and 21 had high knowledge.

Section I: Assessment of pre-informational booklet knowledge about HPV vaccine among adolescents

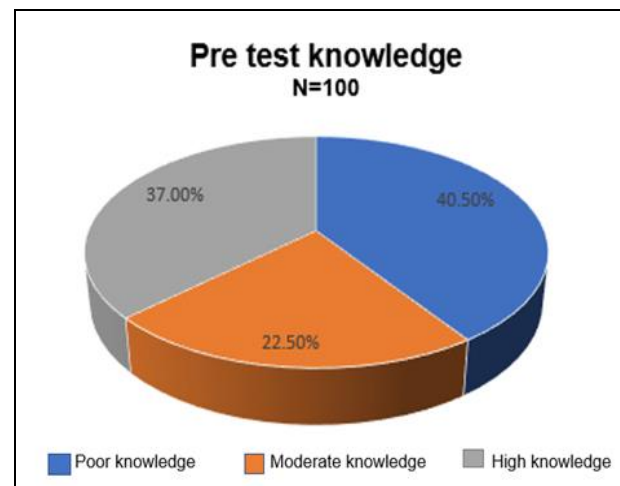


Fig 1: Distribution of pre-informational booklet knowledge

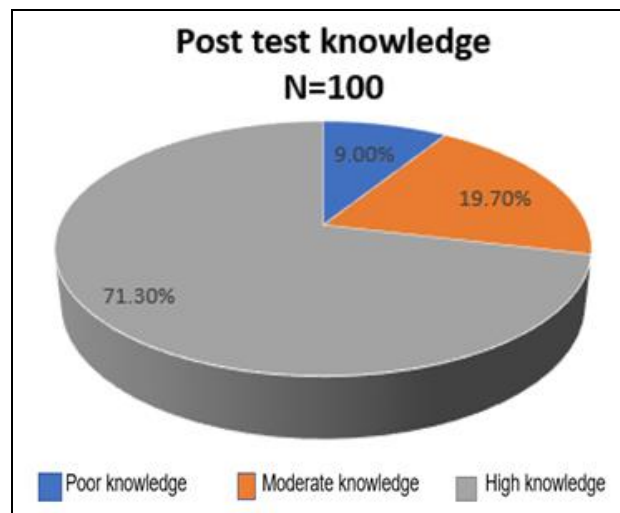


Fig 2: Depicts post-test knowledge about HPV vaccination after distribution of informational booklet

Section III: Comparison of pre-test and post-test knowledge about HPV vaccine

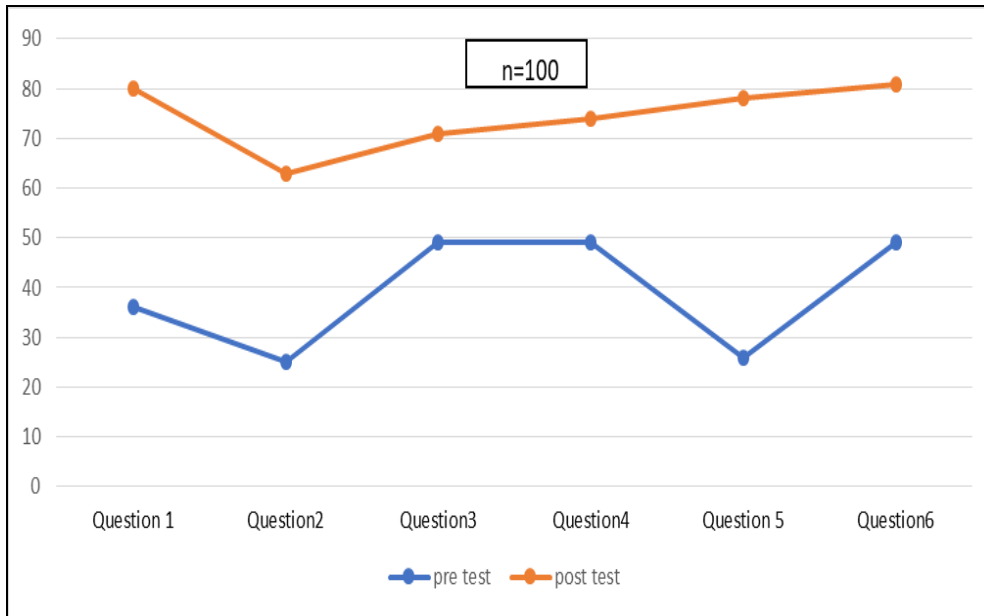


Fig 3: Correlation between pre-test and posttest from question 1-6

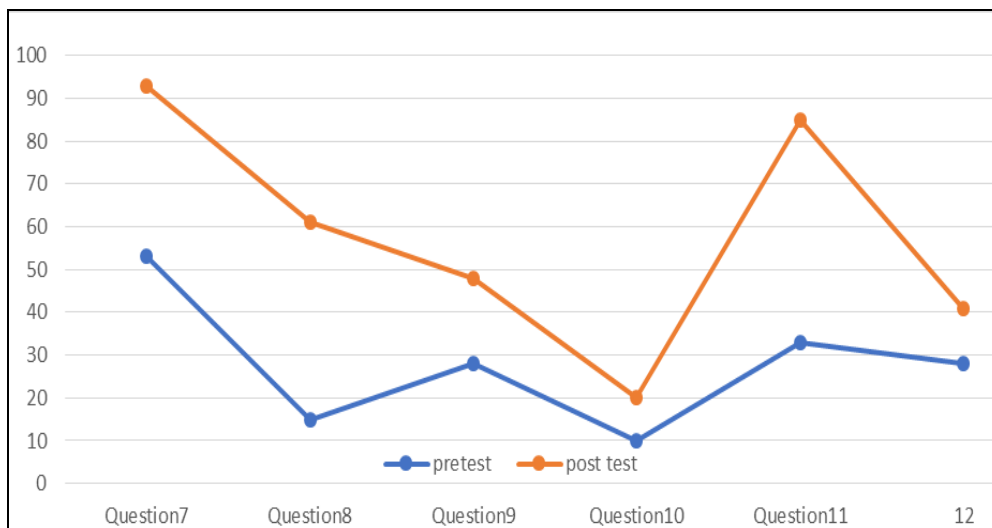


Fig 4: Correlation between pre-test and post-test from question 7-12

Figure 3 and 4 depicts the variation in pre-informational booklet knowledge and post informational booklet knowledge. The table shows a marked visible increase in post-test knowledge.

Section IV-Association of knowledge with selected socio demographic variables

Table 5: Depicts the knowledge among lower and higher class students respectively

Classes	Lower class students 50 students (10-12 years)	Higher class students 50 students (13-15 years)
Pre-test (out of 50)	18	26
Post-test (out of 50)	24	44

Discussion

Section I: Assessment of pre-informational booklet knowledge about HPV vaccine among adolescents, which was considered as pretest data.

- Majority of the samples 59.50% had poor knowledge about the HPV vaccination also approximately 40.50% of total samples had adequate knowledge about HPV vaccination.
- The findings are similar to study conducted by Maria Rosaria Gualano *et al.* (2018) on a large population of undergraduate students from University of Turin, Italy

which showed a marked increase in knowledge about HPV vaccine after the intervention and more than 90% found the informative material as source of useful information.

Section II: Assessment of post informational booklet knowledge about HPV vaccine among adolescents, which was considered as a posttest data.

- Post test data showed a marked increase in the knowledge level of the young adolescent girls. Around 80.30% of total samples showed an increase in the

knowledge about HPV vaccination whereas 19.70% of total population had partial knowledge about the HPV vaccination.

Section III: Comparison of pretest and post-test knowledge about HPV vaccine

- The responses to the 12 questions pertaining to the assessment of knowledge on HPV was plotted on a line graph with the following findings.
- The graph plotted itself showed a marked increase in the total percentage of knowledge of the same group, which proves the effectiveness of the self-structured validated informational booklet.

Section IV: Association between age and knowledge about the HPV vaccine

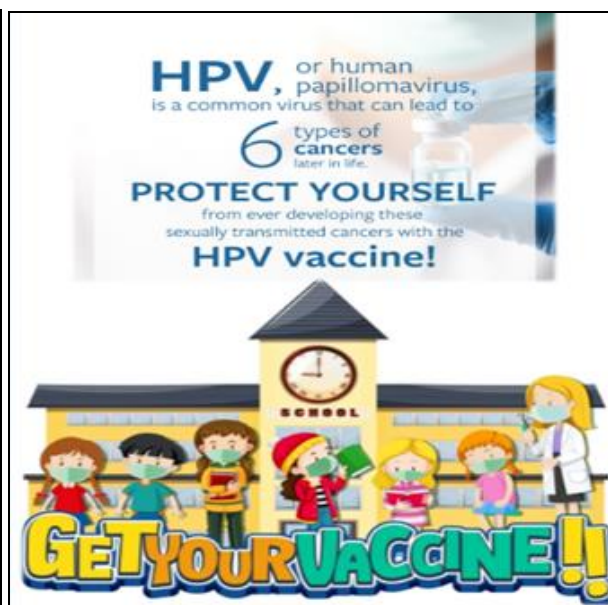
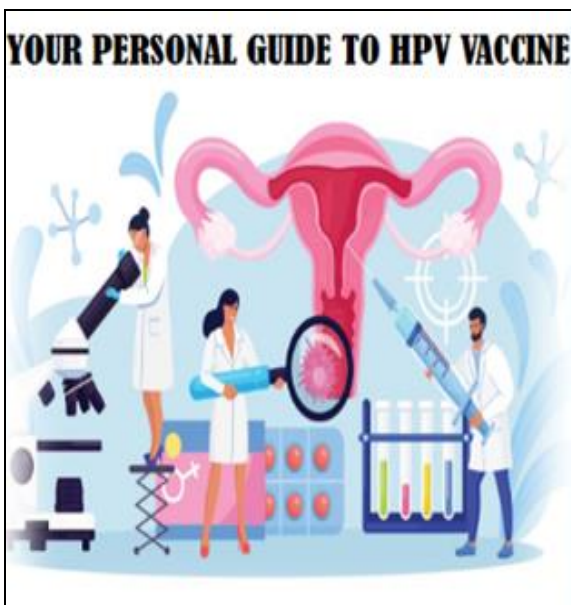
The study analyzed the association between knowledge of the HPV vaccine and selected sociodemographic variables, with a particular focus on age. For the feasibility of

correlation the participants were grouped in two classes i.e. lower class of age 10-12 years and higher class of age 13-15 years 50 students each to observe variations in knowledge levels.

A study by Smith *et al.* (2017) found that College students aged between 18-24 demonstrated increased awareness of HPV due to school based educational programs and media campaigns. The study emphasized that the majority of students (85%) knew that vaccine prevents cervical cancer with 70% reporting that they had received the vaccine. Younger populations, particularly adolescents and young adults, exhibit relatively high levels of awareness about HPV and its vaccine.

Limitations

- The study is limited to adolescents of age-group 10-15 years.
- The data collection period is limited to one week



What is HPV ?

Human Papilloma Virus (HPV) is a common family of viruses which causes infection of skin, mucous membranes and can lead to dreadful cancers in body such as cervical, penile and oral cancers etc.

HPV क्या होता है?

ह्यूमन पेपिलोमा वायरस (HPV) एक कॉमन वायरस है, जो शरीर के कई हिस्सों को प्रभावित कर सकता है. ह्यूमन पेपिलोमावायरस एक वायरस है जो सरविकस के कैंसर और जेनिटल वार्ट्स का कारण बन सकता है।

How is HPV spread?

Infection is mostly passed from the infected person to the non-infected person during sexual activity, having close skin-to-skin contact. A person with HPV can pass the infection to someone even when they have no signs or symptoms.

एचपीवी (HPV) का स्प्रेड कैसे होता है?

एचपीवी वायरस एसटीडी का कारण बनता है. यह वायरस स्किन से स्किन में संपर्क होने पर फैलता है और जनितल, हाथ, पैर, चेहरे आदि पर मस्से उत्पन्न करता है. एचपीवी के लक्षण अक्सर दिखाई नहीं देते, इसका उपचार जरूरी है।

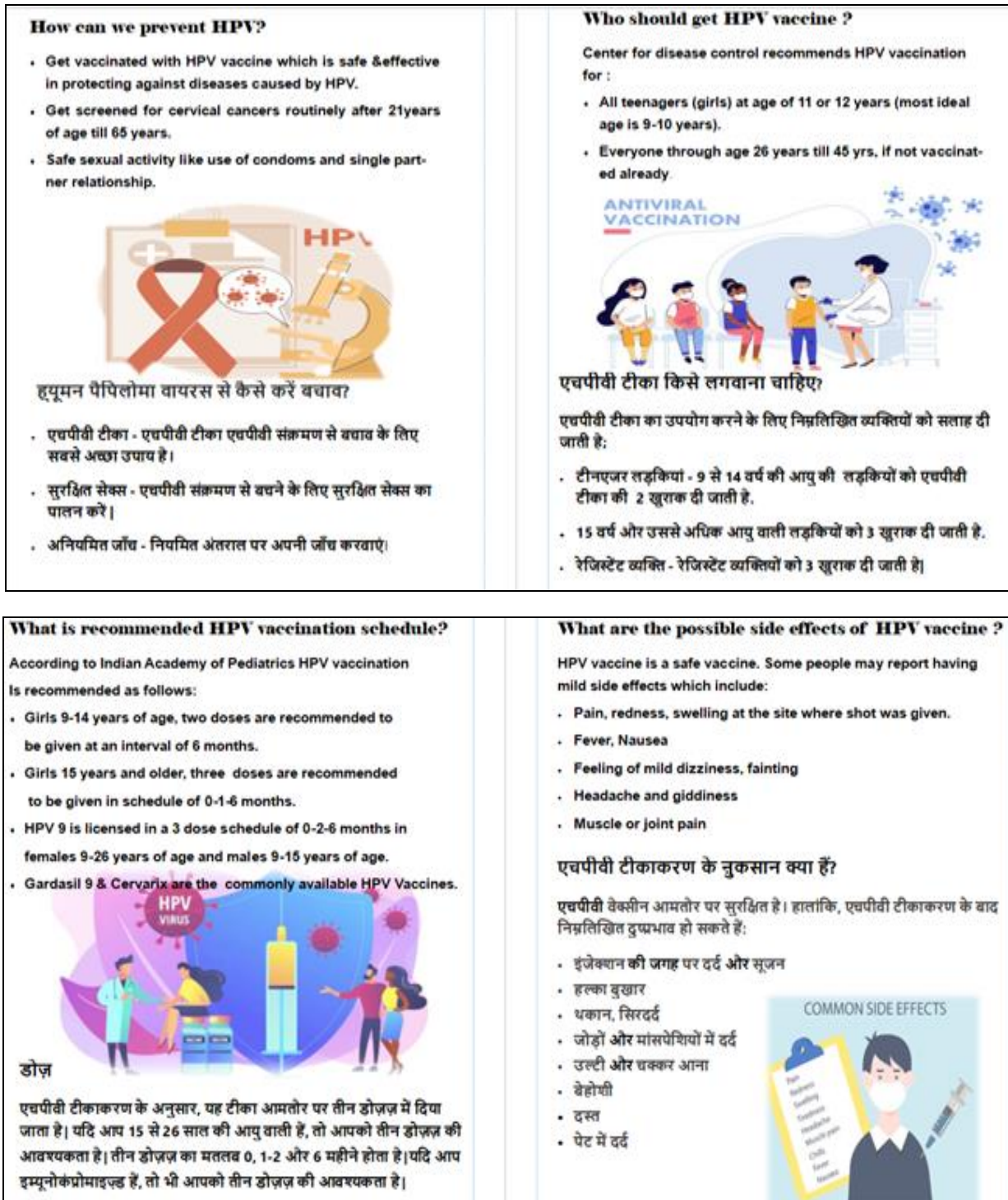


Fig 5: Depicts the informational booklet about HPV vaccine used in the study

Conclusion

The study highlights a significant knowledge gap among adolescents regarding Human Papillomavirus (HPV) and its vaccine, especially in the pre-test phase. However, the use of a structured informational booklet proved effective in enhancing awareness and understanding of HPV vaccination. Post-test results showed a substantial improvement in knowledge levels, particularly among older adolescents, indicating a positive correlation between age and awareness. These findings underscore the critical need for targeted educational interventions in schools to promote vaccine literacy and support WHO’s goal of 90% HPV vaccination coverage by 2030. Broader implementation of such programs could contribute to a meaningful reduction in

HPV-related cancers and help overcome the low uptake of vaccines in India.

Conflict of Interest

Not available

Financial Support

Not available

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