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Original Research Article

A study to assess knowledge, awareness and attitude towards HPV vaccination among young adults in a tertiary health care setting

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ABSTRACT

Background: Human papillomavirus (HPV) is one of the most common sexually transmitted infections worldwide and is a major etiological factor for cervical cancer and several other anogenital malignancies. Despite the availability of highly effective vaccines, HPV vaccination coverage remains suboptimal in many developing countries. This study was conducted to assess the knowledge, awareness and attitude regarding HPV vaccination among young adults in a tertiary health care setting.

Methods: A cross-sectional questionnaire-based study was conducted among 100 young adults aged 17-25 years in a tertiary health care teaching institution between January and March 2026. Data were collected using a structured and prevalidated questionnaire distributed through Google Forms. Information regarding knowledge of HPV infection, awareness of HPV vaccination, vaccination status and attitudes towards vaccination was collected and analyzed using descriptive statistics.

Results: Among the 100 participants, 96% had heard of HPV and 89% were aware that a vaccine against HPV is available. Eighty-five percent correctly identified cervical cancer and genital warts as HPV-related diseases. Ninety percent considered HPV vaccination important and 82% expressed willingness to receive vaccination. However, only 18% had been vaccinated. Lack of information, vaccine cost, fear of side effects and social stigma were the major barriers identified.

Conclusions: Although awareness and acceptance of HPV vaccination were generally satisfactory among young adults, actual vaccination uptake remained low. Educational interventions, increased accessibility and targeted awareness programmes are needed to improve HPV vaccine coverage.

Keywords: Awareness, Cervical cancer, HPV, HPV vaccination, Vaccine hesitancy, Young adults

INTRODUCTION

Human papillomavirus (HPV) is one of the most common sexually transmitted infections worldwide and is recognized as a major public health concern. Persistent infection with high-risk HPV strains, particularly HPV-16 and HPV-18, is strongly associated with cervical cancer, which remains one of the leading causes of cancer-related morbidity and mortality among women globally.^{1,2}

Apart from cervical cancer, HPV infection is also associated with genital warts, vulvar cancer, vaginal

cancer, anal cancer, penile cancer and oropharyngeal cancers.² The introduction of prophylactic HPV vaccines has significantly reduced the burden of HPV-related diseases and has emerged as one of the most effective preventive strategies against cervical cancer.^{3,4}

The World Health Organization recommends HPV vaccination before the onset of sexual activity, preferably between 9 and 14 years of age, to achieve maximum effectiveness.¹ Despite strong recommendations and proven vaccine efficacy, HPV vaccination coverage remains inadequate in many developing countries due to

limited awareness, concerns regarding vaccine safety, financial barriers and socio-cultural misconceptions.^{5,6}

Several studies have reported varying levels of knowledge and acceptance of HPV vaccination among medical students and young adults.⁷⁻¹¹ As future health care providers and educators, medical students play a crucial role in promoting vaccination and preventive health care practices. Understanding their knowledge, awareness and attitudes regarding HPV vaccination is essential for designing effective educational interventions.

Therefore, the present study was undertaken to assess the knowledge, awareness and attitude towards HPV vaccination among young adults in a tertiary health care setting.

METHODS

A cross-sectional questionnaire-based study was conducted among young adults aged 17-25 years studying in a tertiary healthcare teaching institution from January 2026 to March 2026. Ethical clearance was obtained from the institutional ethics committee before commencement of the study.

Participants who were willing to participate and provided informed consent were included in the study. Individuals with incomplete responses and those unwilling to participate were excluded.

A structured questionnaire was developed after reviewing relevant literature and validated by faculty members from the department of obstetrics and gynecology. The questionnaire consisted of four sections: demographic details, knowledge regarding HPV infection, awareness of HPV vaccination, and attitudes towards HPV vaccine acceptance.

The questionnaire was converted into a Google form and circulated electronically through institutional student groups. Participants were informed regarding the purpose of the study and anonymity of responses before completing the survey. Duplicate responses were avoided by restricting participants to a single submission.

Data collection was carried out over a period of three months. Completed responses were exported to Microsoft Excel, coded and analyzed using descriptive statistical methods. Results were expressed as frequencies and percentages and presented in tables and figures.

RESULTS

A total of 100 participants were included in the study. The majority belonged to the age group of 21-25 years and females constituted a larger proportion of the study population.

Table 1: Awareness regarding HPV and HPV vaccination among participants (n=100).

Variables	Frequency	Percentage
Heard about HPV	96	96
Aware of HPV vaccine availability	89	89
Consider HPV vaccination important	90	90
Willing to receive HPV vaccination	82	82
Already vaccinated	18	18

Most participants had heard about HPV and were aware of the availability of HPV vaccination.

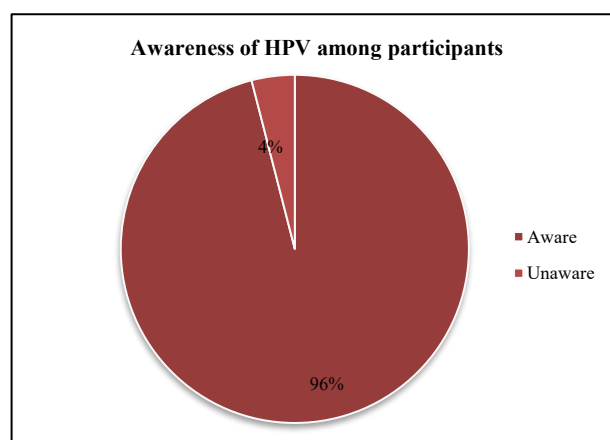


Figure 1: Awareness of HPV among participants.

Regarding knowledge, approximately 85% of participants correctly identified cervical cancer and genital warts as conditions associated with HPV infection. The majority recognized sexual contact as the primary mode of transmission, while 78% knew that vaccination is recommended for both males and females. Approximately 72% correctly identified the ideal age for vaccination as below 15 years.

Table 2: Common reasons for HPV vaccine hesitancy among participants.

Reason	Percentage
Lack of information	38
Cost	24
Fear of side effects	22
Social stigma	16

Among participants, 90% believed HPV vaccination is important, 82% were willing to receive vaccination and 88% would recommend vaccination to others. Furthermore, 94% agreed that additional awareness programmes regarding HPV vaccination are required.

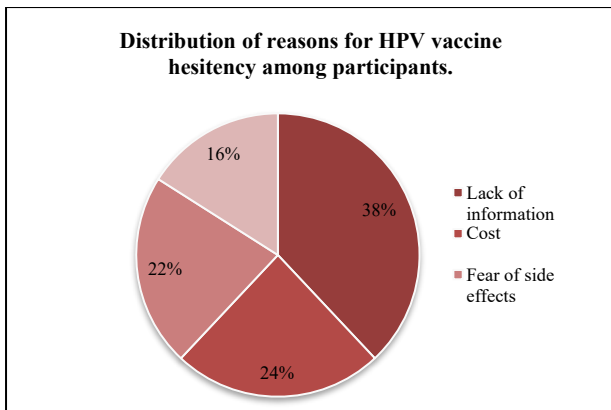


Figure 2: Distribution of reasons for HPV vaccine hesitancy among participants.

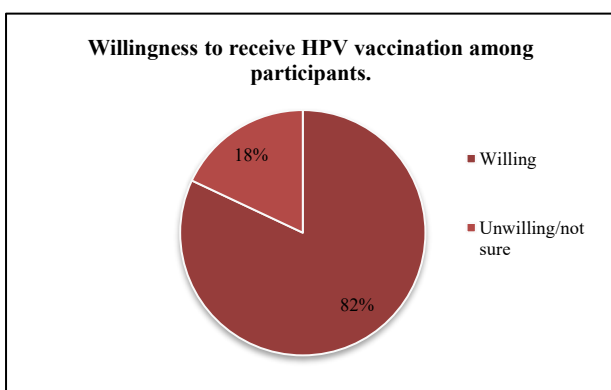


Figure 3: Willingness to receive HPV vaccination among participants.

DISCUSSION

The present study assessed the knowledge, awareness and attitude towards HPV vaccination among young adults in a tertiary health care setting. The findings revealed a high level of awareness regarding HPV infection and HPV vaccination; however, actual vaccination uptake remained considerably low.

In the present study, 96% of participants had heard about HPV. This finding is higher than that reported by Mehta et al, who observed awareness levels of approximately 78% among medical students.⁵ Similar studies conducted by Pandey et al and Patel et al also reported lower awareness levels ranging from 70-85%.^{6,7} The higher awareness observed in the present study may be attributed to increased access to academic teaching, healthcare professionals and digital health information.

Awareness regarding the availability of HPV vaccination was reported by 89% of participants. This finding is comparable to studies conducted by Sharma et al and Singh et al, who reported awareness levels between 80% and 88% among healthcare students.^{10,11} The widespread dissemination of information through academic curricula

and social media may have contributed to this favorable level of awareness.

Knowledge regarding HPV-associated diseases was generally satisfactory, with most participants correctly identifying cervical cancer and genital warts as HPV-related conditions. Similar findings were reported by Kamzol et al and Blödt et al, who demonstrated that healthcare students possessed better knowledge regarding HPV-related diseases compared with the general population.^{8,9}

Despite high awareness and positive attitudes, vaccination uptake was low, with only 18% of participants reporting previous vaccination. This finding is consistent with previous studies demonstrating a substantial gap between awareness and actual vaccine acceptance.^{12,13} Financial constraints, concerns regarding adverse effects and insufficient information continue to be significant barriers to vaccination.

In the present study, 82% of participants expressed willingness to receive HPV vaccination. Similar acceptance rates have been reported by Kessels et al and Lazarus et al, who observed favorable attitudes towards vaccination among adolescents and young adults.^{12,14} However, vaccine hesitancy persists due to misinformation, fear of side effects and social stigma.

The most common barriers identified in the present study were lack of information, cost, fear of side effects and social stigma. Similar observations have been reported by Holman et al and Lazarus et al, highlighting the importance of targeted educational programmes and improved vaccine accessibility.^{13,14}

Healthcare students represent future healthcare providers and play an essential role in promoting preventive healthcare practices. Improving their knowledge and encouraging vaccine uptake may positively influence public awareness and contribute to increased vaccination coverage.¹⁵

The study was conducted in a single tertiary care institution and involved a relatively small sample size, which may limit the generalization of the findings. Additionally, the use of self-reported questionnaires may have introduced recall and response bias.

Interpretation

The high awareness observed in the present study may be attributed to increased exposure to digital media, academic curricula and healthcare-related educational resources. However, despite satisfactory awareness levels, vaccination uptake remained low, indicating that knowledge alone may not translate into preventive health behavior.

The discrepancy between awareness and actual vaccination status highlights the importance of addressing practical barriers such as vaccine cost, accessibility and misconceptions regarding vaccine safety. Educational interventions alone may not be sufficient unless supported by institutional and public health initiatives that improve vaccine availability and affordability.

CONCLUSION

The present study demonstrated satisfactory knowledge, awareness and positive attitudes regarding HPV vaccination among young adults in a tertiary health care setting. Despite high awareness and willingness to receive vaccination, actual vaccine uptake remained low. Lack of information, vaccine cost, fear of side effects and social stigma were identified as the major barriers to vaccination. These findings emphasize the need for comprehensive educational programmes, increased accessibility to vaccination services and public health initiatives aimed at improving HPV vaccine coverage and reducing the burden of HPV-related diseases.

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Conflict of interest: None declared

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