



A STUDY ON AWARENESS OF HUMAN PAPILLOMAVIRUS VACCINE AMONG ADOLESCENT GIRLS IN NORTHERN BIHAR

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ABSTRACT **Background:** Human papillomavirus (HPV) is the most common sexually transmitted infection and is the causal factor for the development of cervical cancer in virtually 100% of cases. Lack of awareness and poor acceptance of preventive modalities, including HPV vaccination, remain important challenges in cervical cancer prevention. **Objective:** To assess the awareness of the HPV vaccine among adolescent girls studying in a high school in Northern Bihar. **Materials and Methods:** A questionnaire-based observational cross-sectional study was conducted among adolescent girls aged 10-19 years during September 2023 to November 2023. A total of 96 participants were interviewed using a pre-designed, pre-tested and structured questionnaire. The questionnaire assessed awareness regarding the HPV vaccine, the causative relationship of HPV with cervical cancer, and the effectiveness and acceptance of the HPV vaccine. Data were summarised using frequencies and percentages. **Results:** Around 12% of participants had heard of HPV infection, while only 4.2% had ever heard about the HPV vaccine. Only 4 (4.2%) participants had ever heard of cervical cancer, and 2 (2.1%) knew that HPV causes cervical cancer. Cost was reported as the main reason for not taking the vaccine. A majority of participants had a positive attitude towards vaccination. Sixty-seven (69.8%) participants stated that they would get the vaccine if it were free of cost, while 82 (85.4%) wished to get more information regarding HPV. 12 (12.5%) thought their parents would pay for the vaccine, and 22 (22.9%) felt vaccination was not necessary for them. None of the participants was vaccinated; 53 (55.2%) reported that they were not vaccinated, and 43 (44.8%) did not know their vaccination status. **Conclusion:** Awareness regarding cervical cancer and its prevention through HPV vaccination was poor among the participants. However, the willingness of most participants to receive vaccination if it were free of cost was encouraging. Appropriate sensitisation and education programmes, along with improved affordability and accessibility of HPV vaccination, may facilitate greater awareness and acceptance. Healthcare providers can play an important role in educating adolescent girls and their parents regarding cervical cancer prevention through HPV vaccination.

KEYWORDS : Human papillomavirus; HPV vaccine; cervical cancer; adolescent girls; awareness; vaccination; Northern Bihar

INTRODUCTION

HPV is the most common sexually transmitted infection and is the causal factor for the development of carcinoma cervix in virtually 100% of cases.[1] According to ICMR findings, despite the availability of HPV vaccine in our country, deaths due to cervical cancer have increased rapidly during the last few years.[2]

This is probably due to a lack of primary prevention, combined with late detection and the unavailability or unaffordability of secondary prevention and treatment. Lack of awareness and low acceptability of preventive modalities, including vaccination, are major compounding factors in preventing this disease in our country.

Adolescence is an important period for preventive health interventions, including HPV vaccination. Awareness among adolescent girls regarding HPV infection, cervical cancer and HPV vaccination may influence acceptance of vaccination and can contribute to prevention of cervical cancer.

Previous studies from India have demonstrated poor awareness regarding HPV infection and vaccination among adolescent girls, while health education has been shown to improve awareness and willingness to receive vaccination.[3,4] Family support and affordability are also important considerations in HPV vaccine acceptance.[5]

Therefore, the present study was undertaken to assess awareness of the HPV vaccine among adolescent girls attending a high school in Northern Bihar.

OBJECTIVE

To assess the awareness of the HPV vaccine among adolescent girls studying in a high school in Northern Bihar.

METHODOLOGY

- Study type:** Questionnaire-based observational study with cross-sectional design

- Study setting:** A high school in Northern Bihar
- Study population:** Adolescent girls aged 10-19 years
- Study duration:** September 2023-November 2023
- Study tool:** A pre-designed, pre-tested & structured questionnaire
- Sample size:** A total of 96 participants were interviewed during the study period.

Method of data collection - After verbal explanation of the objective and the general nature and purpose of the study, and after obtaining consent, the questionnaire was administered to the participants. The questionnaire enquired about awareness of the HPV vaccine, the causative relationship of HPV with cervical cancer, and the effectiveness and acceptance of the HPV vaccine.

Data analysis: Data thus collected were summarised using frequencies and percentages.

RESULT

A total of 96 participants were interviewed for the present study. The results showed that around 12% of participants had heard of HPV infection. Only 4.2% of participants had ever heard about the HPV vaccine.

Only 4 (4.2%) participants had ever heard of cervical cancer, and 2 (2.1%) participants knew that HPV causes cervical cancer.

Cost was the main reason reported for not taking the vaccine. The majority of the participants had a positive attitude towards the vaccine. None of the participants was vaccinated.

Regarding attitude towards vaccination, 12 (12.5%) participants thought that their parents would pay for the vaccine. Sixty-seven (69.8%) participants stated that they would get the vaccine if it were free of cost. Twenty-two (22.9%) felt that it was not necessary for them to get vaccinated, while 82 (85.4%) wished to get more information regarding HPV.

Table No.1 Assessment of Knowledge Regarding Cervical Cancer (n=96)

Variable	Response
Have ever heard of cervical cancer	4 (4.2%)
HPV cause cervical cancer	2 (2.1%)

Table No.2 Assessment of Attitude Towards the Vaccine (n=96)

Variables	Response
I think my parents would pay for the vaccine	12 (12.5%)
I would get the vaccine if it were free of cost	67 (69.8%)
It's not necessary for me to get vaccinated	22 (22.9%)
I wish to get more information regarding HPV	82 (85.4%)

Table No.3 Vaccination Status of Participants (n=96)

Vaccination status	Response
Vaccinated	00
Not vaccinated	53 (55.2%)
Don't Know	43 (44.8%)

DISCUSSION

The present study found low awareness of cervical cancer, HPV infection, and HPV vaccination among adolescent girls in Northern Bihar. Only 4.2% of participants had ever heard of cervical cancer, 2.1% knew that HPV causes cervical cancer, and 4.2% had ever heard of the HPV vaccine.

Ramavath and Olyai conducted a cross-sectional study among 1,000 urban adolescent girls in India and reported poor knowledge and awareness regarding HPV infection and vaccination. Following a health talk, awareness improved, and 74.4% agreed to get vaccinated.[3] The present study similarly demonstrates the need for focused health education among adolescent girls.

In the present study, 69.8% of participants stated that they would get the vaccine if it were free of cost. This indicates that affordability may be an important consideration in vaccine acceptance. The majority also showed a positive attitude towards vaccination, despite their low level of awareness.

Joshi et al. reported that education improved awareness, knowledge and willingness to be vaccinated among females in Western India. The study also identified cost and lack of convincing information as barriers to HPV vaccination.[4] The present study's findings underscore the importance of affordability and information in improving vaccine acceptance.

Degarege et al., in a study among parents of adolescent girls in rural Mysore, reported that 79.9% were willing to have their daughters vaccinated.[5] This highlights the importance of parental involvement in HPV vaccination programmes. In the present study, only 12.5% of participants believed their parents would pay for the vaccine, suggesting a need for parent-focused awareness and counselling.

A notable finding was that 85.4% of participants wished to get more information regarding HPV. This provides an important opportunity for health education through schools and healthcare providers. Educating adolescent girls and their parents regarding HPV infection, cervical cancer and the benefits of vaccination may improve awareness and acceptance.

The study also found that none of the participants was vaccinated, while 55.2% reported that they were not vaccinated and 44.8% did not know their vaccination status. The absence of reported vaccination in this study indicates very low uptake among participants, and the proportion who were unsure of their status should also be considered when interpreting the findings.

The findings of the present study emphasise the importance of school-based sensitisation, parental counselling and involvement of healthcare providers. Improving awareness, along with the availability and affordability of vaccination, may increase acceptance and uptake of the HPV vaccine.

Comparison of Present Study with other Studies

Table No.4 Comparison of Present Study with other Studies

Variables	Present study	Ramavath et al [3]	Degarege et al [5]
Study population	96 adolescent girls, Northern Bihar	1000 adolescent girls, India	831 parents, rural Mysore

Awareness s/acceptability	4.2% had heard of the HPV vaccine; 69.8% would receive it if free	Poor baseline awareness; 74.4% agreed after health talk	79.9% willing to vaccinate daughters
Key finding	Poor awareness with favourable willingness if free	Health education improved awareness	Parental acceptability was favourable

CONCLUSION

Awareness of cervical cancer and its prevention through HPV vaccination was low among the participants. However, it was encouraging to find that most participants agreed to be vaccinated if it were free of charge.

The acceptability of HPV vaccination may increase with improved awareness, affordability and accessibility. Introducing appropriate sensitisation and education programmes for the target population may enhance awareness of and acceptance of HPV vaccination.

Healthcare providers may play a major role by taking opportunities to educate adolescent girls and their parents about cervical cancer and its prevention through HPV vaccination.

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