



## KNOWLEDGE, ATTITUDE, AND PRACTICE (KAP) ON CERVICAL CANCER, HPV, SCREENING, AND HPV VACCINATION AMONG WOMAN

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### Abstract

#### Background

HPV is a global health concern, particularly for cervical cancer. In India, HPV is a leading cause of cervical cancer among females. Vaccines effectively prevent high-risk HPV strains, but vaccination rates among adolescent girls are low due to limited awareness, safety concerns, and cultural barriers. This study examines women's knowledge, attitude, and practice (KAP) on HPV, cervical cancer, screening, and vaccination in India. This study aims to contribute to the development of targeted educational and awareness campaigns to enhance public health outcomes.

#### Aims and Objectives:

The present study aims to evaluate the knowledge, attitude, and practice of topics like HPV infection, cervical cancer, and HPV vaccination among young women and enhance their awareness on the topic.

#### Methodology:

A 6-month cross-sectional study was conducted from March to November (2022) in Anantapur, India. Questionnaires were distributed among the general public, who were instructed to complete them diligently.

**Results:** Among the 200 participants, a high percentage of respondents were aware of cervical cancer (91.5%) and its association with HPV infection (88%). A majority (90%) considered cervical cancer a significant illness for females in the reproductive age group. The study also revealed that most respondents (89%) understood that HPV infection can be transmitted through sexual contact. However, a large proportion (87%) had never undergone cervical cancer screening. Nonetheless, the majority (83.5%) expressed willingness to undergo screening if it was free and safe. Among the 200 participants, 76% were open to receiving the HPV vaccine, and 86% were willing to recommend the vaccine to friends and relatives.

**Conclusion:** The study reveals a significant lack of awareness about HPV infection and vaccination, emphasising the urgent need to bridge this knowledge gap and raise awareness to decrease the incidence of cervical cancer among women. It suggests that government organisations should formulate policies, conduct adequate public awareness campaigns, and offer appropriate medical interventions to effectively prevent HPV infections, including genital warts and cervical cancer.

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## Introduction

A common sexually transmitted infection that affects millions of people worldwide is the human papillomavirus (HPV). Cervical cancer affects countless women globally and is a major global health concern. With over 570,000 new cases and 311,000 fatalities recorded each year, cervical cancer is the fourth most prevalent cancer among women (WHO, 2021). But human papillomavirus (HPV) vaccines, which are very effective in preventing infections with the most common HPV strains that cause cervical cancer, can help prevent cervical cancer. (Markowitz *et al.*, 2020). Despite the fact that HPV vaccines are available in many countries, particularly developing ones, the vaccination rate among teenage females is shockingly low in these areas (Bruni *et al.*, 2019). Adolescent girls are a particularly at-risk population for the disease because cervical cancer usually affects women in their 40s and 30s (WHO, 2021). Therefore, it's imperative to spread knowledge about cervical cancer among this community, as well as the benefits of receiving an HPV vaccination. Adolescent girls' awareness and understanding of cervical cancer and HPV vaccination in diverse situations have been examined in a number of research studies. For instance, a Nigerian research found that just 14.7% of teenage girls had heard of cervical cancer and only 4.8% of them had received the HPV vaccine. (Oche *et al.*, 2013).

Along with low awareness and uptake of the HPV vaccination, there are other barriers to immunisation among adolescent females. A few of these barriers are a lack of knowledge about the vaccination, concerns about its safety and side effects, and cultural and religious beliefs (Kessel *et al.*, 2012).

## Objectives

1. To assess the knowledge, attitude and practice towards HPV vaccination
2. To improve awareness on HPV vaccination among young women

## Study Design

Cross-sectional questionnaire-based study

## Questionnaire Preparation

A questionnaire was created based on relevant literature, which included sections on socio-demographic characteristics, knowledge, attitude, and practice. The research study focused on college girls aged between 18 to 26 as the target population. The questionnaire was customised to align with the

specific objectives of the present study. The questionnaire comprised of 33 questions segregated into four different sections:

- The first section of the questionnaire includes demographic details of participants
- The second section of the questionnaire is about the Knowledge regarding the HPV vaccination
- The third section contains an Attitude questionnaire regarding HPV vaccination
- The fourth section of the questionnaire contains Practice regarding HPV vaccination

## Inclusion Criteria

Participants aged 18-26 years

## Exclusion Criteria

Participants unwilling to take part in the questionnaire study

## Sample Collection

The sample size was collected using the following equation:

$$\text{Sample Size} = \frac{1.96pq}{E^2}$$

$$= \frac{1.96 \times 44 (100 - 44)}{5^2} = 193$$

Where, p = % prevalence

Q = (1-p) (i.e., 100 - prevalence)

E = % Error (i.e., if confidence interval is 99, e = 1; CI - 95, E = 5%)

[Prevalence taken from Percentage of girls Knowledge on HPV Vaccine)

## Data Collection

The information was gathered via a cross-sectional web-based survey, employing a method where questionnaires were distributed online through multiple social media platforms. The questions were organised into a Google Form and shared with participants for completion. Prior to filling out the form, informed consent was obtained from all individuals involved. The initial page of the questionnaire contained a concise introduction explaining the goals, procedures, and demographics, and included a consent form.

## Data Analysis

The data gathered from Google Forms was subjected to descriptive statistics for analysis. Microsoft Excel was utilised to compile and analyse the collected data. To assess the data, a Chi-Square test was conducted, and the results were visually presented through tables, bar graphs, and pie charts.

**Results**

Our study focuses on evaluating the knowledge, attitude, and practices of women concerning HPV vaccination. To gather data, we developed a self-administered questionnaire based on previous research. The information provided by participants was treated confidentially during data collection. Among the 200 responses we received, the majority of participants (84.5%) fell into the 19-23 age

range, as indicated in Table 1.1. Since our study was conducted in an urban area, a significant portion of our sample had an educational background, as depicted in Table 1.2. The responses were mostly from students pursuing their Bachelor's Degrees, with a few participants enrolled in Master's Degree programs.

**Table 1:** Age of study participants

Age	Number of participants	Percentage (%)
18-20	72	36
21-23	108	54
24-26	20	10

Table shows the age group categorization as 18-20 years (36%),21-23 years (54%), and 24-26 years (10%)

**Table 2:** Educational background of study participants

Education	Number of participants	Percentage (%)
PUC/12th Std	11	5.5
Studying Bachelor's	162	81
Studying Master's	27	13.5

**Table 3:** Knowledge-based study questions

Knowledge-based Questions		
Questions	Responses	
	Yes	No
Have you ever heard of cervical cancer?	183	17
Is HPV infection very common?	128	72
Is HPV a virus?	180	20
Can men be infected by HPV?	140	60
Is HPV infection prevented by vaccination?	167	33
Does HPV spread by sexual contact?	178	22
Can HPV lesions be treated	162	38
Is HPV cured by medication?	130	70
Does HPV cause cervical cancer?	176	24
Does HPV infection cause any symptoms in women?	175	25

Based on the questionnaire responses, it was observed that participants' knowledge and awareness regarding HPV infection and vaccination was evaluated through specific questions. The findings revealed that approximately 91.5% respondents showed awareness of cervical cancer. The findings revealed that approximately 88% of the respondents had awareness that HPV infection caused cervical cancer, while 12% believed that HPV does not cause cancer. These results highlight the necessity of increasing awareness and knowledge about Human Papillomavirus infection and cervical cancer.

Moreover, the study findings revealed that approximately 64% of the respondents believed that Human Papillomavirus infection is a common occurrence and 87.5% of the respondents believed that Human Papillomavirus infection causes symptoms in women. Additionally, 70% of the participants were aware that men can also get HPV infection.

The results also indicated that 89% of the respondents believed that Human Papillomavirus infection can be spread through sexual contact, while 11% believed that HPV infection cannot be transmitted through sexual contact. Improving practices related to transmission, such as promoting safe sexual behaviours, and educating about the modes of transmission, including skin-to-skin contact, can help prevent the spread of HPV infection. These measures can help in reducing the burden of cervical cancer caused by the virus.

In terms of preventability, 83.5% of participants responded that HPV infection is preventable, and 16.5% believed it is not preventable.

When asked about the treatment of HPV lesions, 81% believed that HPV lesions were treatable. Additionally, a significant proportion of participants (96.5%) responded that HPV infection can be cured by medications.

**Table 4:** Attitude-based study questions

Attitude-based Questions		
Questions	Responses	
	Agree	Disagree
Cervical cancer is the major health problem for females of reproductive age group	180	20
Early detection of cervical cancer is good for treatment outcome	191	9
Do you believe early marriage is a risk factor for cervical cancer?	116	84
HIV positivity increases the chance of getting cervical cancer	163	37
HPV vaccine is most effective on someone who are not sexually active	110	90
Should a woman be evaluated for cervical cancer throughout her life?	141	59
Education on HPV infection should be implemented in schools and colleges	192	8
Do you know that some people with HPV may not have any symptoms?	164	36
HPV vaccine can prevent the development of genital warts and cervical cancer	177	23
Would you get the vaccine if it were free of cost?	183	17

The study found that 90% believed cervical cancer to be a major illness for females of reproductive age group. Furthermore a significant majority of the participants (95.5%) expressed agreement with the notion that early detection of cervical cancer is beneficial for treatment outcomes. When asked about early marriage as a risk factor for cervical

cancer, 58% responded it is a risk factor for cervical cancer while 42% believed it is not a risk factor for developing cervical cancer. Additionally, 76% believed that the habit of smoking is a risk factor in women for developing cervical cancer. This indicates the need for increasing knowledge and raising awareness about cervical cancer as well as

the risk factors associated with it. The KAP study found that 88.5% believed that the Human Papillomavirus vaccine can protect against developing cervical cancer and genital warts, while 11.5% believed it cannot prevent the development of genital warts and cervical cancer. Approximately 81.5% of the participants agreed with the notion HIV positivity increases the chances of contracting cervical cancer. Additionally, the study findings revealed that 55% of the participants agreed HPV vaccination is most effective for sexually inactive individuals while 45% did not agree with this statement. This shows the need for increasing knowledge and raising awareness regarding development of cervical cancer prevention & Human Papillomavirus vaccine. The study revealed approximately 80.5% of the respondents believed

that females should undergo cervical cancer screening throughout their lives. About 82% of the respondents agreed that some people with HPV may not get any symptoms. A significant proportion of participants (92%) agreed that education on HPV infection should be implemented in schools and colleges. Additionally, 8% disagree with this statement.

Practice regarding HPV, Cervical Cancer, and HPV Vaccination

Moving on to the practice section of the questionnaire, it reflects how well participants apply their knowledge as well as attitudes towards HPV infection and vaccines in practice.

### Practice-based Study Questions

Practice-based Questions		
Questions	Responses	
	Yes	No
Have you ever done a cervical cancer screening?	26	174
If the HPV vaccine was available in India, would you accept using it on yourself?	152	48
Can cervical cancer be prevented through regular screening?	159	41
Do women having a habit of smoking have an increased risk of getting cervical cancer?	152	48
Screening can help in early detection and better treatment of cervical cancer	188	12
Screening can detect cervical infection so they do not develop into cancer	171	29
Is it possible to detect cervical cancer with early screening before symptoms appear?	165	35
Screening for HPV will not cause any harm to patient	147	53
If screening is free and will cause no harm, then will you undergo screening?	167	33
Would you recommend the vaccine to your friends and relatives?	173	27

The study indicates that approximately 87% of the participants have never undergone a cervical cancer screening. About 94% agreed that screening can help in early detection and better treatment for HPV patients and 73.5% believed that HPV screening does not cause any harm to patients. Approximately 82.5% of the participants believed that early screening for cervical cancer allows for the detection of the disease before any symptoms manifest.

About 83.5% are willing to undergo cervical cancer screening if it is free and does not cause any harm, while 16.5% are not willing. The study findings

indicate about 79.5% of the respondents believed that the development of cervical cancer can be prevented through regular screenings.

Among the 200 participants surveyed, 76% are willing to take the HPV vaccine, and 24% are not willing to undergo vaccination. Furthermore, the results indicate that 86% of participants agreed to recommend HPV vaccination to their friends and relatives, while 14% disagreed.

In summary, the study highlights the lack of adequate awareness regarding HPV infection and HPV vaccination. It emphasises the need for

reducing the knowledge gap and raising awareness regarding HPV to reduce the risk of developing cervical cancer in women.

Governmental organisations should develop necessary policies and provide the required medical interventions to individuals who meet the specified criteria. This will help prevent HPV infections, which are the leading causative factor for genital warts and cervical cancer.

The study revealed a lack of sufficient knowledge of cervical cancer and related subjects among the study participants. Furthermore, the practice of screening for premalignant cervical cancer lesions was found to be low. Some of the primary reasons that could be a reason for the low screening rates are concerns about lack of knowledge, lack of encouragement to undergo screening, and concerns about health. To address these issues, it is crucial for the government to take proactive measures. This includes allocating higher budgets to healthcare and giving priority to preventive measures for cervical cancer. Implementing national awareness campaigns is essential to educate the common public and raise awareness about the significance of screening. Additionally, it is necessary to ensure widespread availability of affordable screening services throughout the country. Implementing cost-effective screening procedures with reasonable sensitivity and specificity can contribute to increasing the uptake of screening and ultimately reducing the burden of cervical cancer.

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