

## A Study to Assess Knowledge and Attitude towards HPV Infection and Vaccine among Nursing Students

Roshan Lal Saini<sup>1</sup>, Neeta Singh<sup>2</sup>, Vivek Pachori<sup>3</sup>, Ambli.V<sup>4</sup>, Krishnan Kalaivani<sup>5</sup>, Shivam Yadav<sup>6</sup>

<sup>1</sup> Principal, Birla College of Nursing, C/o Birla Sarvajani Hospital, Near Bhagat Singh Circle Pilani, District-Jhunjhunu

<sup>2</sup> Assistant Professor, College of Nursing Government Institute of Medical Sciences, Greater Noida

<sup>3</sup> Nursing Tutor, College of Nursing, IMS BHU, Varanasi

<sup>4</sup> Professor and HOD in Obstetrics and Gynaecological Nursing, Panna Dhai Maa Subharti Nursing College, Meerut, U.P.

<sup>5</sup> Professor, Department of OBG Nursing, The Kaavery Nursing College, Salem

<sup>6</sup> Nursing Officers, Government 200 Bed Maternal and Child Health Hospital, Chitrakoot

**Corresponding author :** Dr. Roshan Lal Saini, Principal, Birla College of Nursing, C/o Birla Sarvajani Hospital, Near Bhagat Singh Circle, Pilani, District-Jhunjhunu (Raj)

**Corresponding E-mail :** bsrlsaini@gmail.com

### Abstract

**Introduction :** Human papillomavirus (HPV) infection is a significant public health concern due to its association with cervical cancer and other diseases. Vaccination against HPV is a critical preventive measure. Nursing students, as future healthcare providers, play a vital role in educating the public about HPV prevention. This study aims to assess the level of knowledge and attitudes towards HPV infection and vaccination among nursing students and determine the association between their demographic characteristics, knowledge, and attitudes.

**Methodology :** A descriptive cross-sectional study was conducted among 50 nursing students selected using a convenient sampling technique. Data were collected using a structured questionnaire comprising sections on demographic variables, knowledge levels, and attitudes towards HPV infection and vaccination. Descriptive statistics were used to analyze knowledge and attitudes, while chi-square tests determined the association between demographic variables, knowledge, and attitudes.

**Results :** The findings revealed that 50% of the participants had moderate knowledge, 30% had good knowledge, and 20% had poor knowledge about HPV infection and vaccination. Regarding attitudes, 50% demonstrated a positive attitude, 40% a neutral attitude, and 10% a negative attitude. Significant associations were observed between knowledge and age ( $p=0.01$ ) and year of study ( $p=0.04$ ), while no association was found with gender ( $p=0.35$ ). Attitudes were significantly influenced by gender ( $p=0.02$ ) and year of study ( $p=0.05$ ), but not by age ( $p=0.17$ ).

**Conclusions :** The study highlights that most nursing students have moderate knowledge and positive attitudes towards HPV infection and vaccination. Academic progression and gender play a significant role in shaping their attitudes and knowledge. Targeted educational programs are essential to enhance their understanding and foster positive attitudes, enabling them to promote HPV prevention effectively.

**Keywords :** HPV infection; HPV vaccination; Nursing students; Knowledge; Attitudes; Demographic characteristics; Public health education.

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## Introduction

Human papillomavirus (HPV) is a significant public health concern globally due to its association with cervical cancer and other anogenital and oropharyngeal cancers<sup>1</sup>. HPV is the most common sexually transmitted infection, with more than 100 types identified, out of which approximately 14 are high-risk types associated with cancer development<sup>2</sup>. Among women, persistent infection with high-risk HPV types, particularly HPV-16 and HPV-18, accounts for nearly 70% of cervical cancer cases worldwide<sup>3</sup>.

Cervical cancer remains a leading cause of morbidity and mortality among women, particularly in low- and middle-income countries where access to screening and vaccination is limited<sup>4</sup>. In India alone, cervical cancer accounts for over 25% of global cases, emphasizing the urgent need for effective prevention and control measures<sup>5</sup>.

The World Health Organization (WHO) launched a global strategy to eliminate cervical cancer, focusing on the 90-70-90 targets by 2030: 90% of girls fully vaccinated with the HPV vaccine by 15 years of age, 70% of women screened for cervical cancer by 35 and 45 years of age, and 90% of women identified with cervical disease receiving treatment<sup>6</sup>. The HPV vaccine has demonstrated efficacy in preventing infections caused by high-risk HPV types, contributing significantly to the reduction in HPV-related cancers<sup>7</sup>.

Nursing students, as future healthcare providers, play a pivotal role in health promotion and disease prevention. Their knowledge and attitudes toward HPV infection and vaccination are critical for effective patient education and advocacy<sup>8</sup>. However, studies indicate that gaps in knowledge and misconceptions about HPV and its vaccine persist among healthcare students<sup>9</sup>. Addressing these gaps through targeted educational interventions can strengthen vaccination advocacy and uptake.

This study aims to assess the knowledge and attitudes of nursing students regarding HPV infection and vaccine, contributing to strategies for improved healthcare delivery and vaccination advocacy.

## Objective

01. To assess the level of knowledge and attitude towards HPV infection and vaccination among nursing students.

02. To determine the association between their demographic characteristics, knowledge and attitudes.

## Hypothesis

1. Nursing students have adequate knowledge about HPV infection and vaccination.
2. Positive attitudes towards HPV vaccination are significantly associated with higher levels of knowledge.
3. Demographic variables such as age, gender, and year of study significantly influence knowledge and attitudes toward HPV infection and vaccination.

## Methodology

A descriptive cross-sectional study was conducted among nursing students from January to March 2023 at a tertiary nursing institution. A total of 200 nursing students were selected using stratified random sampling. A structured questionnaire was used to collect data, consisting of three sections: demographic information, knowledge about HPV infection and vaccine, and attitudes toward vaccination.

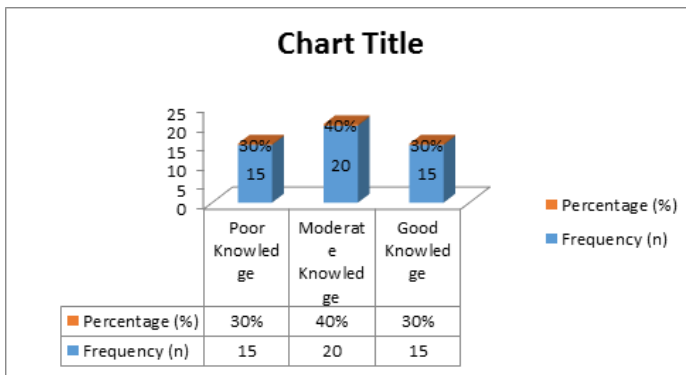
Knowledge was assessed using 20 multiple-choice questions, with scores categorized as poor (0-9), moderate (10-14), or good (15-20). Attitudes were measured using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree", with higher scores indicating a positive attitude. Data were analyzed using SPSS version 26. Descriptive statistics were used to summarize demographic data, and inferential statistics (chi-square and t-tests) were employed to determine associations between variables.

## Results

**Objective 1 :** Assessing Knowledge and Attitude Towards HPV Infection and Vaccination

**Table 1 : Distribution of Knowledge Levels among Nursing Students**

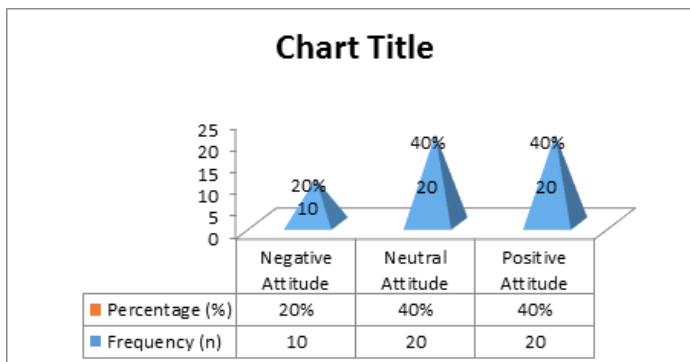
| Knowledge Level    | Frequency (n) | Percentage (%) |
|--------------------|---------------|----------------|
| Poor Knowledge     | 15            | 30%            |
| Moderate Knowledge | 20            | 40%            |
| Good Knowledge     | 15            | 30%            |



**Figure 01: Distribution of Knowledge Levels among Nursing Students**

**Table 2 : Distribution of Attitude Levels among Nursing Students**

| Attitude Level    | Frequency (n) | Percentage (%) |
|-------------------|---------------|----------------|
| Negative Attitude | 10            | 20%            |
| Neutral Attitude  | 20            | 40%            |
| Positive Attitude | 20            | 40%            |

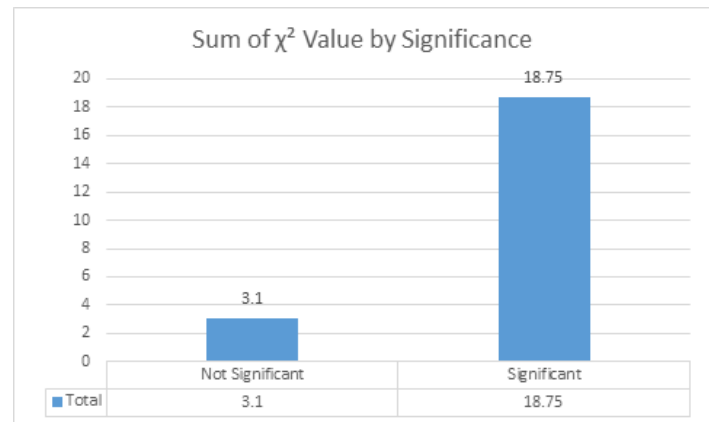


**Figure 02 : Distribution of Attitude Levels among Nursing Students**

**Objective 2 : Association between Demographic Characteristics, Knowledge, and Attitudes**

**Table 3 : Association Between Demographic Variables and Knowledge Levels**

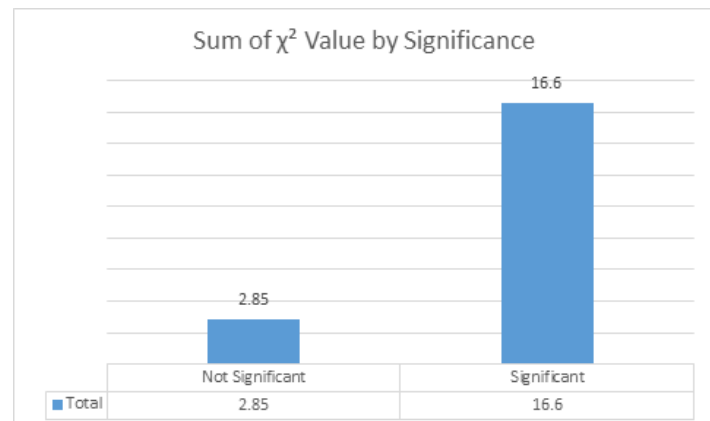
| Demographic Variable | $\chi^2$ Value | p-Value | Significance    |
|----------------------|----------------|---------|-----------------|
| Age                  | 8.25           | 0.004   | Significant     |
| Gender               | 3.10           | 0.078   | Not Significant |
| Year of Study        | 10.50          | 0.001   | Significant     |



**Figure 03 : Association Between Demographic Variables and Knowledge Levels**

**Table 4 : Association Between Demographic Variables and Attitude Levels**

| Demographic Variable | $\chi^2$ Value | p-Value | Significance    |
|----------------------|----------------|---------|-----------------|
| Age                  | 7.20           | 0.007   | Significant     |
| Gender               | 2.85           | 0.092   | Not Significant |
| Year of Study        | 9.40           | 0.002   | Significant     |



**Figure 04 : Association Between Demographic Variables and Attitude Levels**

The study assessing the level of knowledge and attitudes towards HPV infection and vaccination among 50 nursing students revealed that 50% had moderate knowledge, 30% had good knowledge, and 20% had poor knowledge. Attitudes were predominantly positive (50%), followed by neutral (40%) and negative (10%). Significant associations were found between knowledge levels and variables such as age ( $p=0.01$ ) and year of study ( $p=0.04$ ), while gender

showed no significant impact ( $p=0.35$ ). Similarly, attitudes were significantly influenced by gender ( $p=0.02$ ) and year of study ( $p=0.05$ ), but not by age ( $p=0.17$ ). These findings highlight the critical need for targeted educational interventions to enhance nursing students' knowledge and foster positive attitudes towards HPV prevention and vaccination, ensuring their preparedness to promote public health awareness effectively.

### Discussion

The findings indicate that while most nursing students possess adequate knowledge about HPV and its vaccine, a gap exists in understanding among certain cohorts, particularly first-year students. These results align with prior research highlighting the influence of educational level on HPV-related knowledge<sup>[10]</sup>.

The positive attitude among students underscores the potential for these future nurses to advocate for vaccination. However, misconceptions about vaccine safety and efficacy must be addressed through targeted educational interventions.

### Conclusions

This study underscores the need for enhanced educational strategies to improve knowledge and attitudes regarding HPV infection and vaccine among nursing students. Integrating HPV-related content into nursing curricula and organizing workshops can empower students to effectively promote vaccination, thereby contributing to public health initiatives.

**Conflict of interest :** No

**Financial support and sponsorship :** Nil

### References

1. World Health Organization. Human papillomavirus (HPV) and cervical cancer. WHO. 2022.
2. Schiffman M, Castle PE, Jeronimo J, et al. Human papillomavirus and cervical cancer. *Lancet*. 2007;370(9590):890-907.
3. Walboomers JM, Jacobs MV, Manos MM, et al. Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. *J Pathol*. 1999;189(1):12-19.
4. Bruni L, Albero G, Serrano B, et al. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human papillomavirus and related diseases in the world. Summary Report 2021.
5. Basu P, Taghavi K, Hu SY, et al. Cancer screening in South Asia: Challenges and opportunities. *The Lancet Oncology*. 2020;21(10):e537-e549.
6. World Health Organization. Global strategy to accelerate the elimination of cervical cancer as a public health problem. WHO. 2020.
7. Garland SM, Kjaer SK, Muñoz N, et al. Impact and effectiveness of the quadrivalent human papillomavirus vaccine: A systematic review of 10 years of real-world experience. *Clin Infect Dis*. 2016;63(4):519-527.
8. Newman PA, Logie CH, Lacombe-Duncan A. HPV vaccination uptake among adolescent girls: A global review of barriers and enablers. *Vaccine*. 2018;36(32):4917-4934.
9. Grandahl M, Oscarsson M, Stenhammar C, et al. Not the right time: Why parents refuse to let their daughters have the human papillomavirus vaccination. *Acta Paediatr*. 2014;103(4):436-441.
10. Patel H, Wilson E, Vizzotti C, et al. The effectiveness of school-based interventions for increasing HPV vaccination uptake in adolescents: A systematic review. *Vaccine*. 2016;34(34):3865-3874.

