A Descriptive Study to Assess the Knowledge Regarding Prevention of Human Papillomavirus Infection and Cervical Cancer among Women in Indore, Madhya Pradesh

[1]Nitika Bhargav,

Ph.D. Scholar, Department of Nursing, Malwanchal University, Indore, M.P.

[2]Dr Thaunaojam Bidyani Devi,

Research Supervisor, Department of Obstetrics and Gynecology Nursing, Malwanchal University, Indore, M.P.

How to Cite this Article:

Bhargav, N. (2026). A Descriptive Study to Assess the Knowledge Regarding Prevention of Human Papillomavirus Infection and Cervical Cancer among Women in Indore, Madhya Pradesh. International Journal of Creative and Open Research in Engineering and Management, 02(05). https://doi.org/10.55041/ijcope.v2i5.296

https://doi.org/ 10.55041/ijcope.v2i5.296

Abstract

Human Papillomavirus (HPV) infection is one of the most common sexually transmitted infections worldwide and is the major cause of cervical cancer. Cervical cancer remains a significant public health problem among women, especially in developing countries like India. The present descriptive study was conducted to assess the knowledge regarding prevention of Human Papillomavirus infection and cervical cancer among women in selected areas of Indore, Madhya Pradesh. A quantitative research approach with a descriptive research design was adopted for the study. The sample consisted of 100 women selected through non-probability convenient sampling technique. A structured knowledge questionnaire was used to collect data regarding HPV infection, cervical cancer, risk factors, symptoms, screening, and preventive measures. The study findings revealed that 20% of women had adequate knowledge, 55% had moderately adequate knowledge, and 25% had inadequate knowledge regarding prevention of HPV infection and cervical cancer. The study also showed significant association between knowledge scores and selected demographic variables such as age, educational status, marital status, and area of residence. The study concluded that awareness regarding HPV vaccination, Pap smear screening, and preventive practices among women was still inadequate and educational interventions are essential to improve women's knowledge and promote early prevention of cervical cancer.

Keywords: Human Papillomavirus, Cervical Cancer, Prevention, Knowledge, Women, HPV Vaccine, Pap Smear

Introduction

Human Papillomavirus (HPV) is a common viral infection transmitted mainly through sexual contact. Persistent infection with high-risk HPV types is the major cause of cervical cancer among women. According to the World Health Organization, almost 99% of cervical cancer cases are associated with HPV infection. Cervical cancer is one of the leading causes of cancer-related mortality among women globally.

Cervical cancer develops slowly and usually begins with precancerous changes in cervical cells. Early detection and prevention can significantly reduce the burden of disease. Preventive measures include HPV vaccination, regular Pap smear testing, safe sexual practices, and awareness regarding risk factors and symptoms.

In India, cervical cancer remains one of the most common cancers among women due to inadequate awareness, poor screening practices, and limited access to preventive healthcare services. Studies have shown that lack of knowledge regarding HPV infection and cervical cancer prevention contributes significantly to delayed diagnosis and increased mortality. Therefore, assessing women's knowledge regarding prevention of HPV infection and cervical cancer is essential for planning effective health education programs.

Need for the Study

Cervical cancer is largely preventable through HPV vaccination and regular cervical screening. Despite advancements in healthcare, many women still lack adequate knowledge regarding preventive measures. The World Health Organization reported approximately 660,000 new cervical cancer cases and 350,000 deaths globally in 2022.

India contributes significantly to the global burden of cervical cancer. Limited awareness regarding HPV infection, vaccination, and Pap smear testing increases the risk among women. Many women seek healthcare only after the appearance of symptoms, resulting in late diagnosis and poor prognosis.

Women residing in urban and semi-urban communities often have inadequate knowledge about HPV vaccination schedules, cervical screening, and risk factors such as multiple sexual partners, smoking, poor genital hygiene, and early marriage. Therefore, this study was undertaken to assess the knowledge regarding prevention of HPV infection and cervical cancer among women in Indore, Madhya Pradesh.

Objectives of the Study

1. To assess the knowledge regarding prevention of Human Papillomavirus infection and cervical cancer among women.
2. To determine the association between knowledge scores and selected demographic variables.

Hypothesis

H1: There will be a significant association between knowledge scores regarding prevention of HPV infection and cervical cancer and selected demographic variables among women.

Research Methodology

The present study was conducted to assess the knowledge regarding prevention of Human Papillomavirus (HPV) infection and cervical cancer among women in Khudel & Pardesipura of Indore, Madhya Pradesh. A quantitative research approach was adopted for the study as it was considered appropriate to obtain measurable data related to the knowledge level of women regarding HPV infection and cervical cancer prevention. A descriptive research design was used to assess and describe the existing level of knowledge among women without manipulating any variables.

The study was carried out in selected Khudel & Pardesipura areas of Indore, Madhya Pradesh. The target population comprised women between the age group of 18–45 years residing in the Khudel & Pardesipura. A sample size of 100 women was selected for the study using a non-probability convenient sampling technique. Women who were willing to participate and available during the period of data collection were included in the study, whereas healthcare professionals and women diagnosed with cervical cancer were excluded.

The data collection tool consisted of two sections. Section A included demographic variables such as age, educational status, marital status, and area of residence. Section B consisted of a structured knowledge questionnaire prepared by the investigator to assess knowledge regarding HPV infection, cervical cancer, risk factors, symptoms, screening methods, HPV vaccination, and preventive measures. The tool was validated by experts from the field of nursing and community health. Reliability of the tool was established using appropriate statistical methods before the final data collection.

Prior permission was obtained from concerned authorities and informed consent was taken from all participants before data collection. The purpose of the study was clearly explained to the participants and confidentiality of the information was assured. Data were collected through direct interview and questionnaire method. The collected data were organized, tabulated, and analyzed using descriptive and inferential statistics. Frequency, percentage, mean, and standard deviation were used to assess the level of knowledge, while chi-square test was used to determine the association between knowledge scores and selected demographic variables. The findings of the study were interpreted according to the objectives and hypothesis of the research study.

Results and Interpretation

Table 1: Distribution of Women According to Age (N=100)

Age Group	Frequency	Percentage
18–25 years	35	35%
26–35 years	40	40%
36–45 years	25	25%

Interpretation

The table shows that the majority of women (40%) belonged to the age group of 26–35 years, followed by 35% in the age group of 18–25 years, while 25% belonged to 36–45 years.

Table 2: Distribution According to Educational Status (N=100)

Educational Status	Frequency	Percentage
Primary Education	20	20%
Secondary Education	35	35%
Graduate	30	30%
Postgraduate	15	15%

Interpretation

The findings indicate that 35% of women had secondary education, 30% were graduates, 20% had primary education, and 15% were postgraduates.

Table 3: Distribution According to Marital Status (N=100)

Marital Status	Frequency	Percentage
Married	70	70%
Unmarried	30	30%

Interpretation

The majority of women (70%) were married, while 30% were unmarried.

Table 4: Distribution According to Area of Residence (N=100)

Area of Residence	Frequency	Percentage
Urban	60	60%
Rural	40	40%

Interpretation

The study findings revealed that 60% of women belonged to urban areas and 40% belonged to rural areas.

Table- 5 Knowledge Assessment

Level of Knowledge	Frequency	Percentage
Adequate Knowledge	20	20%
Moderately Adequate Knowledge	55	55%
Inadequate Knowledge	25	25%

Interpretation

The majority of women (55%) had moderately adequate knowledge regarding prevention of HPV infection and cervical cancer, whereas 25% had inadequate knowledge and only 20% had adequate knowledge.

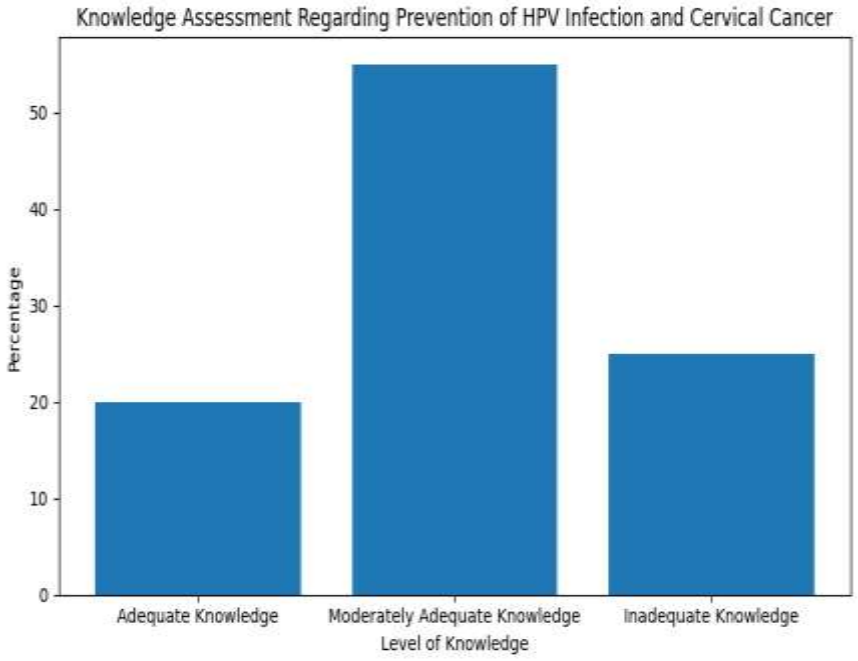

Figure no.-1 Knowledge Assessment

Table 6: Association Between Knowledge Scores Regarding Prevention of HPV Infection and Cervical Cancer with Selected Demographic Variables (N = 100)

Demographic Variables	Adequate Knowledge	Moderately Adequate Knowledge	Inadequate Knowledge	Chi-Square Value	Table Value	Significance
1. Age						
18–25 years	10	18	7	8.12	5.99	Significant
26–35 years	7	25	8			
36–45 years	3	12	10			
2. Educational Status						
Primary Education	1	8	11	14.25	12.59	Significant
Secondary Education	5	22	8			
Graduate	9	18	3			
Postgraduate	5	7	3			
3. Marital Status						
Married	12	40	18	6.45	5.99	Significant
Unmarried	8	15	7			
4. Area of Residence						
Urban	16	32	12	7.18	5.99	Significant
Rural	4	23	13			

Discussion

The study findings revealed that many women had only moderate knowledge regarding HPV infection and cervical cancer prevention. Awareness regarding HPV vaccination and Pap smear screening was insufficient among participants. The findings are consistent with reports from the World Health Organization which emphasize that inadequate awareness and poor screening practices contribute significantly to cervical cancer burden in developing countries.

The study also identified significant associations between knowledge levels and demographic variables such as age, education, marital status, and area of residence. Women with higher educational status demonstrated better awareness regarding preventive measures.

Health education programs, awareness campaigns, and community-based screening initiatives can play an important role in improving women's knowledge and reducing the incidence of cervical cancer.

Conclusion

The study concluded that women had insufficient and moderately adequate knowledge regarding prevention of Human Papillomavirus infection and cervical cancer. Lack of awareness regarding HPV vaccination, cervical screening, and risk factors remains a major concern. Educational interventions and community awareness programs are necessary to improve women's understanding regarding cervical cancer prevention and early detection. Promotion of HPV vaccination and regular Pap smear screening can significantly reduce morbidity and mortality associated with cervical cancer.

Recommendations

1. Conduct health education programs regarding HPV infection and cervical cancer prevention.
2. Organize awareness campaigns on HPV vaccination and Pap smear testing.
3. Encourage regular cervical cancer screening among women.
4. Replicate the study on a larger sample size.
5. Conduct comparative studies between rural and urban populations.

References (APA 7th Edition)

- World Health Organization. (2025). *Cervical cancer*. WHO Cervical Cancer Fact Sheet
- World Health Organization. (2025). *Cervical cancer overview*. WHO Cervical Cancer Overview
- World Health Organization. (2024). *Human papillomavirus and cancer*. WHO HPV and Cancer Fact Sheet
- Basavanthappa, B. T. (2014). *Nursing research* (3rd ed.). Jaypee Brothers Medical Publishers.
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Sharma, S. K. (2018). *Nursing research and statistics* (3rd ed.). Elsevier.
- Kothari, C. R. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International Publishers.