



KNOWLEDGE, ATTITUDE AND PRACTICE OF CERVICAL CANCER AMONG WOMEN

Obstetrics & Gynaecology

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ABSTRACT

Background: Cervical cancer is a significant public health concern, particularly in low- and middle-income countries like India. Despite the availability of preventive measures such as HPV vaccination and regular screening, the incidence remains high due to gaps in knowledge, attitudes, and practices (KAP) among women. **Objective:** This study aimed to assess the level of knowledge, attitude, and practice regarding cervical cancer, including its causes, prevention methods, and symptoms, among females of reproductive age attending the Department of Obstetrics and Gynaecology at LN Medical College and associated JK Hospital, Bhopal. **Methods:** A cross-sectional observational study was conducted over six months, enrolling 500 women aged 18 years and above. Data were collected using a structured questionnaire covering demographic information and KAP related to cervical cancer. Descriptive and inferential statistics were used to analyze the data. **Results:** The mean age of participants was 29.6 years (± 3.2), ranging from 19 to 42 years. Most participants were married, belonged to the middle class (54%), had completed school education, and were unemployed (78%). Knowledge: 82% had heard about cervical cancer. However, only 16.4% knew that HPV causes cervical cancer, 38.4% understood that cervical cancer can be prevented with a vaccine, and 39.6% were aware that regular screenings could detect cervical cancer early. Attitude: 24% would advocate for cervical cancer vaccination, 36.8% believed in the effectiveness of vaccines, 38% were willing to undergo screening, and 34.4% believed that screening is effective. Practice: 43.2% had undergone a Pap smear test and VIA. Additionally, 48.4% had visited an OBGYN with concerns related to cervical cancer, but only 24% had considered getting vaccinated against HPV. **Conclusion:** The study revealed significant gaps in knowledge, attitudes, and practices regarding cervical cancer among the participants. Despite a high level of general awareness about cervical cancer, knowledge about its causes, prevention, and early detection was limited. Educational interventions are needed to improve KAP, promote HPV vaccination, and encourage regular cervical cancer screenings.

KEYWORDS

Cervical Cancer, Knowledge, Attitude, Practice, HPV Vaccination, Screening, Symptoms, Women's Health, India

INTRODUCTION

Cervical cancer is one of the most common cancers affecting women worldwide, particularly in low- and middle-income countries where it remains a leading cause of cancer-related morbidity and mortality^[1]. Despite the availability of effective prevention and early detection measures, such as the Human Papillomavirus (HPV) vaccine and regular Pap smear screenings, the incidence of cervical cancer continues to be alarmingly high in many regions^[2,3]. The persistent high burden of this disease is largely attributable to inadequate knowledge, unfavorable attitudes, and poor health practices among women regarding cervical cancer and its prevention^[4,5].

India accounts for a significant proportion of the global cervical cancer burden, with thousands of new cases diagnosed annually^[6-8]. The disease predominantly affects women of reproductive age, making it a critical public health concern^[6-8]. Numerous studies have highlighted that a lack of awareness and misconceptions about cervical cancer, its risk factors, and preventive measures contribute significantly to the low uptake of screening and vaccination services. Understanding the level of knowledge, attitude, and practice (KAP) among women regarding cervical cancer is essential for developing targeted interventions aimed at reducing the incidence and mortality associated with the disease. Assessing these factors can help identify specific gaps and barriers that hinder the effective implementation of preventive strategies^[9,10].

Cervical cancer is largely preventable through effective vaccination and regular screening. However, the success of these preventive measures depends heavily on the knowledge, attitudes, and practices of the target population^[11,12]. By identifying gaps in these areas, this study aims to inform the design of more effective educational and intervention programs. The findings from this study will provide valuable insights for policymakers, healthcare providers, and public health practitioners. Understanding the KAP levels will aid in formulating policies and programs that address the specific needs and barriers identified in this population. In conclusion, this study aims to fill the existing knowledge gaps and provide a foundation for developing targeted interventions to improve cervical cancer prevention and early detection practices among females of reproductive age.

MATERIAL AND METHODS:

A cross-sectional observational study was conducted over a period of six months at the Department of Obstetrics and Gynaecology, LN

Medical College, Bhopal. The study population comprised women aged 18 years and above who attended the Department of Obstetrics and Gynaecology, LN Medical College, Bhopal, during the study period. Inclusion criteria included:

- Women aged 18 years and above.
- Willingness to participate in the study.
- Ability to provide informed consent.
- Exclusion criteria included:
 - Women with a prior diagnosis of cervical cancer.
 - Women who were not willing to participate or unable to provide informed consent.

Sample Size

A total of 500 women were enrolled in the study. The sample size was calculated based on the estimated prevalence of knowledge, attitude, and practice regarding cervical cancer, with a margin of error and confidence level set at 95%.

Sampling Method

Systematic random sampling was used to select participants. Majority woman attending the Department of Obstetrics and Gynaecology opd was invited to participate in the study until the required sample size was achieved.

Data Collection

Data were collected using a structured questionnaire developed specifically for this study. The questionnaire was designed to capture information on the following aspects:

- Demographic Information: Age, educational level, marital status, employment status, and socioeconomic status.
- Knowledge: Awareness of cervical cancer, its causes, risk factors, symptoms, and prevention methods including HPV vaccination and Pap smear testing.
- Attitude: Perceptions and beliefs about cervical cancer, its preventability, and the importance of screening and vaccination.
- Practice: Personal practices regarding cervical cancer prevention, including frequency of Pap smear tests, uptake of HPV vaccination, and other preventive behaviors.

The questionnaire was pre-tested on a small sample of women to ensure clarity and relevance. Necessary modifications were made based on the feedback received.

Data Collection Procedure

Authors administered the questionnaires to the participants in a private setting within the hospital premises. The interviewers provided explanations and clarifications as needed to ensure accurate responses. Informed consent was obtained from all participants before data collection.

Data Analysis

Data were entered into a computerized database and analyzed using statistical SPSS 17.0 software. Descriptive statistics (mean, standard deviation, frequencies, and percentages) were used to summarize the demographic characteristics and KAP levels of the participants. Inferential statistics, including chi-square tests and logistic regression, were employed to identify factors associated with adequate knowledge, positive attitudes, and good practices.

Ethical Considerations

The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Institutional Ethics Committee of LN Medical College, Bhopal. Participants were assured of the confidentiality of their responses, and participation was entirely voluntary. Informed consent was obtained from each participant prior to their inclusion in the study.

RESULTS

The study included 500 women aged 18 years and above attending the Department of Obstetrics and Gynaecology, LN Medical College, Bhopal. The mean age of the participants was 29.6 years (SD ± 3.2), with ages ranging from 19 to 42 years. The majority of the participants were married. Based on the Kuppuswamy classification, most of the participants (54%) belonged to the middle class. The majority of the participants had completed their school education. A significant proportion of the participants (78%) were unemployed.

Table 1: Characteristics of Participants

	n	%
Mean Age, SD	29.6 (3.2)	
Range	19 – 42	
SES		
Lower	120	24
Middle	270	54
Upper	110	22
Education		
Primary	58	11.69
Secondary	221	44.16
Completed School	153	30.52
College Education	75	14.94

Symptoms of Cancer Cervix:

The study assessed the awareness of various symptoms of cervical cancer among the participants. The most commonly recognized symptom was "bleeding per vaginum," with 76% of participants acknowledging it as a symptom of cervical cancer. "Post coital bleeding" and "abnormal vaginal discharge" were also frequently recognized, reported by 64% and 62% of participants, respectively. In contrast, "urine urgency" and "pain in the lower abdomen" were less commonly identified as symptoms, recognized by 18% and 24% of participants, respectively.



Knowledge About Cervical Cancer

A significant majority of the participants (82%) had heard about cervical cancer, indicating a high level of general awareness about the disease. Only 38.4% of the participants understood that cervical cancer can be prevented with a vaccine, highlighting a considerable gap in knowledge regarding preventive measures. Knowledge about the Human Papillomavirus (HPV) as a cause of cervical cancer was low,

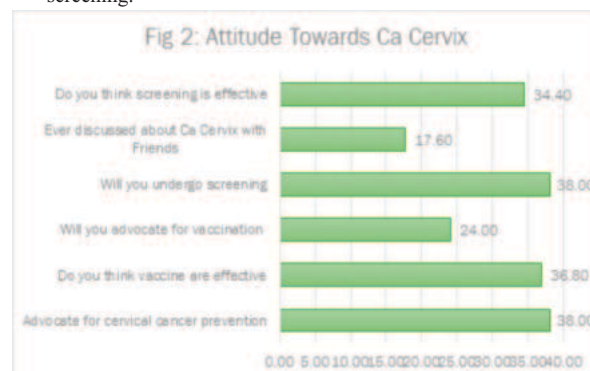
with only 16% of participants being aware of this critical information. Nearly half of the participants (47.6%) believed that cervical cancer can be treated, indicating a moderate level of awareness about the treatability of the disease. And 39.6% of the participants were aware that cervical cancer can be detected early through regular screenings, reflecting a moderate understanding of the importance of early detection in managing cervical cancer.

Table 2: Knowledge about Cancer Cervix (n = 500)

	n	%
Heard about Ca Cervix	410	82.00
Ca Cervix can be prevented with vaccine	192	38.40
Ca cervix can be treated	238	47.60
Ca Cervix can be detected early	198	39.60
Ca cervix can Happen to Anyone	290	58.00
HPV causes Ca Cervix	82	16.40

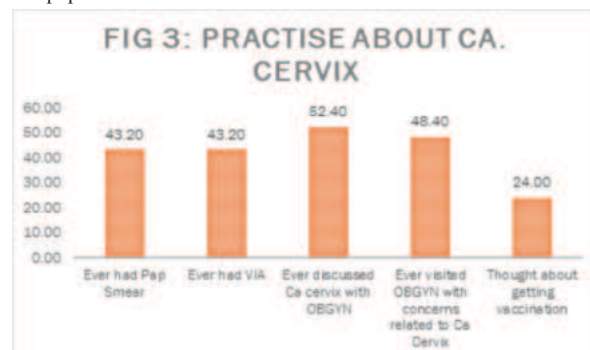
Attitude Towards Cervical Cancer

- **Advocacy for Vaccination:** Only 24% of the participants reported that they would specifically advocate for cervical cancer vaccination, indicating a relatively low level of proactive support for vaccination among the participants.
- **Belief in Vaccine Effectiveness:** 36.8% of the participants believe that vaccines are effective in preventing cervical cancer, showing a moderate level of confidence in the protective benefits of vaccination.
- **Willingness to Undergo Screening:** 38% of the respondents expressed willingness to undergo screening for cervical cancer, reflecting a moderate level of readiness to participate in preventive health measures.
- **Belief in Screening Effectiveness:** 34.4% of the participants believe that cervical cancer screening is effective, indicating a moderate perception of the importance and efficacy of regular screening.



Practice Regarding Cervical Cancer Prevention and Treatment

- **Pap Smear -** A total of 43.2% of the participants reported having undergone a Pap smear test. This indicates that a moderate proportion of the participants have engaged in cervical cancer screening practices.
- **Obstetrician gynaecologist - Visits:** 48.4% of the respondents have visited the medical setup with concerns specifically related to cervical cancer. This reflects a relatively high level of proactive health-seeking behavior regarding cervical cancer.
- **HPV Vaccination Consideration:** Only 24% of the participants have thought about getting vaccinated against HPV, indicating a low level of consideration for vaccination among the study population.



DISCUSSION

The study evaluated the awareness, knowledge, attitudes and practice related to cervical cancer among 500 women attending the department of Obstetrics and Gynaecology LN Medical College, Bhopal. The mean age of participants was 29.6 years with a diverse socioeconomic background, predominantly from the middle class. Most participants had completed school education and were unemployed.

The majority of participants correctly identified "bleeding per vagina" as a symptom of cervical cancer, followed by "post coital bleeding and abnormal vaginal discharge". However, less recognition was given to symptoms such as urine urgency and pain in lower abdomen, suggesting a gap in comprehensive symptom awareness that could impact early detection efforts. Similar results were found in study conducted in other regions like one conducted in (a) Kolkata – 85% women were aware of cervical cancer, only 38% knew about HPV vaccination, (b) Malaysia the study high awareness about cervical cancer (84%), but low knowledge of HPV as a causative agent & preventive vaccination.

The low awareness of HPV as a cause of cervical cancer (16%) in our study, similar results were found in other study conducted showed that only 15% of women knew about HPV's role in cervical cancer^[13]. A significant majority (82%) had heard of cervical cancer, demonstrating general awareness. However only 38.4% were aware that cervical cancer can be prevented through vaccination & just 16% knew about the role of HPV & its causation, while 47.6% believed in the treatability of cervical cancer & 39.6% recognized the importance of early detection, through screenings. There is considerable room for improving knowledge about preventive measures & early detection. Similar findings were seen in studies that 20% women were willing to receive the HPV vaccine & only 30% believed in its effectiveness^[14], similarly in Thailand study showed that 30% women expressed willingness to get vaccinated & 38% were willing to undergo pap's smear but only 35% believed in their effectiveness^[15]. This suggests a need for more robust public health campaign to promote the benefits of regular screening.

The attitude towards cervical cancer prevention were mixed only 24% would advocate for vaccination & 36.8% believed in the effectiveness of screening, these figures indicate moderate but not optimal engagement with preventive measures. In the terms of preventive practices, 43.2% of participants had undergone pap's smear, showing moderate engagement with cervical cancer, indicating a relatively high level of health seeking behavior. However, only 24% had considered HPV vaccination, pointing to a low level of engagement with vaccination despite its proven efficacy in preventing cervical cancer. Similarly another study showed 42% of women had undergone pap smear testing & low consideration of HPV vaccination (24%) aligns with other findings & in Africa, only 25% of women had considered HPV vaccination, reflecting similar barrier to vaccine uptake^[16,17].

In comparison with Alkhaldi et al., who reported that only 34.6% of women in the western region of Saudi Arabia were aware of HPV, our study showed a slightly lower awareness level, with only 16.4% of participants recognizing HPV as the causative agent for cervical cancer^[18]. The lack of awareness about HPV and its vaccine is a critical barrier to effective cervical cancer prevention. This was similarly noted by Berkowitz et al., who found that a significant portion of women in the United States lacked awareness about HPV testing, highlighting a global trend of insufficient knowledge about this key risk factor for cervical cancer^[19].

Despite the general awareness of cervical cancer in our study population (82%), the understanding of preventive measures, particularly vaccination, remains low. Only 38.4% of the participants knew that cervical cancer could be prevented through vaccination, and just 24% had considered getting vaccinated against HPV. These figures are comparable to findings by the authors in a study conducted in South India, where 42% of women had undergone Pap smear testing, but only 24% had considered HPV vaccination^[6]. This suggests that while there is some engagement with screening practices, the uptake of vaccination, a critical preventive measure, is still lacking.

Attitudes towards cervical cancer prevention in the current study were mixed, with only 24% of participants advocating for vaccination and 36.8% believing in the effectiveness of screening. These attitudes are not unique to our study population. For instance, Alkhaldi et al. found that while 75.8% of women in Saudi Arabia were willing to receive the HPV vaccine, the actual uptake was low, partly due to misconceptions

and lack of knowledge^[18]. This highlights the need for robust public health campaigns that not only provide information but also address cultural and societal barriers to vaccine acceptance.

The moderate engagement with preventive practices observed in our study, with 43.2% of participants having undergone a Pap smear, reflects a significant gap in preventive health behavior. This is consistent with findings from other regions, such as Indonesia, where only 25% of women had considered HPV vaccination. The global pattern of low vaccine uptake despite high awareness levels calls for targeted interventions to bridge this gap^[20,21].

In conclusion, the study highlights the persistent gaps in knowledge, attitudes, and practices regarding cervical cancer among women in Bhopal, India. Despite a high level of general awareness, there is a significant lack of understanding about HPV's role in cervical cancer and the importance of vaccination and regular screening. These findings, consistent with studies by Alkhaldi et al., and Berkowitz et al., among others, indicate that these challenges are not confined to one region. Addressing these gaps through targeted educational interventions and public health campaigns is crucial for improving cervical cancer prevention and early detection, ultimately reducing the burden of this preventable disease.

The present study highlights significant gaps in knowledge, attitudes, and practices regarding cervical cancer among women attending the Department of Obstetrics and Gynaecology at LN Medical College and associated JK Hospital, Bhopal. Although there is a high level of general awareness about cervical cancer (82%), the understanding of critical preventive measures remains inadequate. Only 16.4% of participants were aware of HPV as the causative agent of cervical cancer, and just 38.4% knew that cervical cancer could be prevented through vaccination. Furthermore, only 24% of the women considered getting vaccinated against HPV, and 43.2% had undergone a Pap smear test.

These findings underscore the urgent need for targeted educational interventions to improve knowledge about HPV and the benefits of vaccination and regular screening. Enhanced public health campaigns focusing on these aspects could play a crucial role in increasing the uptake of preventive measures and ultimately reducing the incidence and impact of cervical cancer in this population.

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