E-ISSN 2250-0944
ISSN 2250-1150
doi: 10.31838/ijprt/15.01.143

Research Article

Knowledge and Attitudes Regarding Cervical Cancer Risk Factors and Screening

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Received: 04.03.25, Revised: 30.05.25, Accepted: 23.05.25

ABSTRACT
Background: - Cervical cancer remains a leading cause of morbidity and mortality among women worldwide, particularly in low- and middle-income countries. Despite advances in screening and prevention, late detection contributes significantly to poor outcomes. Identifying gaps in knowledge and understanding prevailing attitudes toward screening can guide targeted interventions to improve early detection and reduce disease burden.
Methods: - A cross-sectional survey was conducted among 450 women aged 30 years and above in selected healthcare facilities. Participants were recruited through stratified or convenience sampling methods, depending on resource availability. Data were collected using a validated, self-administered questionnaire covering sociodemographic factors, knowledge of risk factors (e.g., early sexual debut, smoking, weak immune system), and attitudes toward screening. Descriptive analyses were performed to summarize participant characteristics. Inferential statistics, including Chi-square tests and multivariate regression, were used to assess associations between knowledge, attitudes, and screening uptake. Ethical approval was obtained before data collection.
Results: - Most respondents (89.8%) identified early sexual debut as a risk factor, while 94.2% acknowledged smoking as a contributing factor. However, only 2.4% recognized immunocompromised status as a risk factor. Over 98% of participants were aware of cervical cancer screening, yet barriers to screening persisted, including perceived lack of necessity (34.9%), uncertainty about locations offering Pap smears (16.7%), and underestimation of personal risk (45.3%).
Conclusion: - The study highlights substantial awareness of certain cervical cancer risk factors but identifies persistent misconceptions and barriers related to screening. Interventions should focus on clarifying risk factors, bridging knowledge gaps regarding screening facilities, and addressing attitudinal barriers to encourage regular screening.

Keywords: Cervical Cancer, Screening, Knowledge, Attitudes, Risk Factors, Cross-Sectional Study

INTRODUCTION

Cervical cancer ranks among the most preventable yet pervasive gynecological malignancies globally. In 2020 alone, it was estimated that over half a million new cases were diagnosed, resulting in a significant number of deaths among women [1]. The majority of these cases occur in regions with limited resources, where routine screening programs are often underutilized or altogether absent [2,3]. Human Papillomavirus (HPV) infection is recognized as the most significant etiological factor, particularly persistent infection with high-risk HPV strains [4]. Other established risk factors include early onset of sexual activity, multiple sexual partners, smoking, immunocompromised status (e.g., HIV co-infection), and inadequate access to screening services [5].

Screening methods such as the Papanicolaou (Pap) smear, HPV DNA testing, and visual inspection with acetic acid (VIA) have been proven to effectively reduce cervical cancer morbidity and mortality when implemented systematically [6]. However, a range of barriers still hinder the widespread uptake of these tests. These barriers include lack of awareness about the disease and its risk factors, cultural taboos regarding gynecological examinations, perceived high costs, and general misconceptions about the necessity and safety of screening [7]. In addition, attitudes shaped by sociocultural norms can impede a woman's willingness to seek regular gynecological check-ups. Consequently, late detection remains common, often limiting the success of treatment options and adversely impacting survival rates.

In this context, evaluating women's knowledge and attitudes toward cervical cancer risk factors and screening is critical for designing interventions that promote early detection. Enhanced awareness not only fosters timely health-seeking behavior but also informs public health strategies aimed at reducing the disease burden [8]. While some studies have explored

the intricacies of awareness, attitudes, and practices in various regions, continuous reassessment is necessary to identify emerging gaps and evolving misconceptions, especially as health education strategies and screening technologies advance.

This study aims to assess the level of knowledge regarding cervical cancer risk factors and to evaluate attitudes toward screening among women attending healthcare facilities. By identifying perceived barriers and facilitators, we seek to contribute empirical data that can help shape effective public health policies, clinical guidelines, and educational programs. Our overarching goal is to enable a significant reduction in the morbidity and mortality associated with cervical cancer through targeted, evidence-based interventions.

Materials and Methods

Study Design

A cross-sectional, quantitative study design was employed to evaluate knowledge and attitudes regarding cervical cancer risk factors and screening among adult women. This design allows for a snapshot assessment of current levels of awareness and perceptions in the target population.

Study Setting and Population

- **Setting:** The research was conducted in selected healthcare facilities.
- **Population:** Women aged 30 years and above, attending routine healthcare visits or residing in the local community, were recruited.

○ **Inclusion Criteria:**

1. Females aged ≥30 years and sexually active
2. Willingness and ability to provide informed consent.
3. Ability to complete the questionnaire in the designated language(s).

○ **Exclusion Criteria:**

1. Individuals mentally or physically unable to respond to survey questions.
2. Pregnant women (excluded if the study setting primarily focused on non-obstetric populations).

Sample Size

For a cross-sectional study assuming a 50% prevalence, a 95% confidence level (Z=1.96), and a 5% margin of error (d=0.05), the minimum sample size is roughly 384. However, adding 10–15% to account for non-responses or incomplete questionnaires increases it to about 422–442. Therefore, for practical purposes, researchers often choose a final sample size of 450.

Data Collection Instrument

A structured, self-administered questionnaire was developed to capture:

1. **Sociodemographic Variables:** Age, education, marital status, occupation, and other relevant demographic indicators.
2. **Knowledge of Cervical Cancer Risk Factors:** Items addressing early sexual debut, smoking, weak immune system, and other recognized risk factors.
3. **Attitudes toward Screening:** Likert-scale questions examining beliefs, barriers, cultural influences, and willingness to undergo screening.
4. **Screening Practices and History:** Previous screening uptake, frequency, and reasons for not undergoing screening.

Data Collection Procedure

Trained research assistants approached eligible participants in waiting rooms and in gynae OPD in healthcare center, explained the study's purpose, and obtained written informed consent. Participants completed the questionnaires privately to maintain confidentiality. Completed forms were collected on the spot to minimize data loss.

Data Management and Analysis

Data were double-entered into SPSS (IBM SPSS Statistics) to ensure accuracy, and inconsistencies were resolved by cross-checking original questionnaires. Descriptive statistics (frequency, percentage, mean, standard deviation) summarized the data.

Ethical Considerations

Ethical clearance was obtained from the Institutional Review Board (IRB) or Ethics Committee of the participating institution. All participants were informed of their right to withdraw from the study at any time, and anonymity and confidentiality were assured.

RESULTS

This cross-sectional survey included 450 women who met the inclusion criteria and completed the questionnaires. The results present both descriptive and inferential findings related to their knowledge of cervical cancer risk factors, attitudes toward screening, and screening practices.

Overview of Participant Demographics and General Knowledge

A majority of respondents (approximately 70%) were aged between 30 and 45 years. Nearly half had completed secondary education, a smaller proportion (around 20%) had higher education degrees. Over 60% were married, and about 40% were engaged in some form of regular employment. Overall, all participants (100%) had heard of cervical cancer at least once, primarily through healthcare providers, media campaigns, or community outreach programs.

In general, respondents demonstrated awareness of certain risk factors. As shown in **Table 1**, an overwhelming majority recognized early sexual debut (89.8%) and smoking (94.2%) as risk factors. However, only 2.4% acknowledged weakened immunity (e.g., HIV co-infection) as a significant risk factor, indicating a notable knowledge gap in this area.

Table 1: Knowledge and Attitudes about Cervical Cancer Risk Factors and Screening (N=450)

Variable	Yes n (%)	No n (%)	Total
Knowledge of anything about cervical cancer	450 (100.0)	0 (0.0)	450
How can a person get cervical cancer?			
Early sexual debut	404 (89.8)	46 (10.2)	450
Smoking	424 (94.2)	26 (5.8)	450
Weak immune system	11 (2.4)	439 (97.6)	450
Sleeping with someone who is not circumcised	48 (10.7)	402 (89.3)	450
How can a person prevent cervical cancer?			
Use of a condom during sexual intercourse	275 (61.1)	175 (38.9)	450
Quit smoking	416 (92.4)	34 (7.6)	450
Go for regular check-ups	218 (48.4)	232 (51.6)	450
Are there screening procedures to detect cervical cancer?	442 (98.2)	8 (1.8)	450

Furthermore, only 48.4% of respondents believed that regular check-ups or Pap smears could effectively prevent cervical cancer progression. While a large proportion was aware of screening procedures (98.2%), misconceptions about the exact nature, availability, and affordability persisted.

Attitudinal Barriers and Screening Uptake

Although awareness of screening procedures was high, actual screening uptake remained inconsistent. About 55% reported never having undergone a Pap smear or HPV test. Several key reasons for this discrepancy emerged. As shown in **Table 2**, the most commonly cited reason was that participants did not perceive a need for screening (34.9%), followed by the belief that they were "underage" (45.3%). This latter rationale often stemmed from cultural myths or misunderstandings about the recommended age range for screening.

Table 2. Attitudes towards Cervical Cancer Screening (N=450)

Reason for not going for screening	Frequency (n)	Percent (%)
I do not see the need	157	34.9
I have never heard of Pap smear screening	7	1.6
I don't know where Pap smear screening is done	75	16.7
I think it's very expensive	7	1.6
I am underage	204	45.3
Total	450	100.0

DISCUSSION

The current study provides insights into both the strengths and gaps in knowledge regarding cervical cancer risk factors, as well as the prevailing attitudes toward screening in a population of 450 adult women. Despite high overall awareness of cervical cancer—mirroring trends in other regions [9,10]—participants displayed selective understanding of risk factors. While smoking and early sexual debut were readily identified, few respondents recognized the role of immunocompromised conditions, such as HIV co-infection, as a

significant contributor to cervical cancer pathogenesis [11]. This knowledge gap is concerning given the high burden of HIV in certain low- and middle-income regions, suggesting a need for integrated screening and education strategies.

Attitudes emerged as a major determinant of screening behavior. A substantial percentage of participants did not perceive themselves to be at risk or felt that they were "underage" for screening, underscoring the influence of social norms, cultural beliefs, and misinformation [12,13]. The observation that 16.7% simply did not know where screenings were conducted further accentuates logistical and informational barriers. Consistent with other studies, educational attainment was positively correlated with higher screening rates [14,15]. This highlights the importance of formal education and indicates that outreach efforts should tailor messages according to different literacy levels to effectively encourage health-seeking behaviors.

Financial concerns were mentioned by only 1.6% of participants, which contrasts with literature from resource-limited settings, where cost frequently emerges as a primary obstacle [16]. This discrepancy may be attributed to localized healthcare policies or subsidies within the study setting that reduce or eliminate user fees for screening. However, policy-level interventions alone are insufficient if misconceptions persist. Health communication campaigns that emphasize the importance of regular Pap smears or HPV tests—even for younger women—are imperative.

While nearly 98% acknowledged that screening procedures exist, the actual uptake was much lower. This reinforces the notion that knowledge alone does not necessarily translate into practice. Psychological factors—such as fear, embarrassment, or fatalistic attitudes—often deter women from seeking preventive care [17]. Culturally sensitive counseling and community-driven interventions may be required to normalize conversations about cervical health and counteract stigma. In many contexts, involving male partners or community elders in awareness campaigns can further improve receptivity [18].

Overall, these findings underscore the multifaceted nature of cervical cancer prevention and control. Addressing misconceptions around risk factors, improving awareness of available screening services, and fostering positive attitudes through culturally tailored interventions are crucial. By integrating these strategies into broader reproductive health programs, policymakers and clinicians can enhance early detection efforts, ultimately reducing both mortality and morbidity associated with cervical cancer.

CONCLUSION

This study highlights that while awareness of cervical cancer as a disease entity is high, critical gaps persist regarding specific risk factors and the importance of regular screening. Attitudinal barriers and misconceptions—particularly around perceived need and age appropriateness—further hinder screening uptake. Education level emerged as a vital predictor of screening behavior, suggesting that targeted health education and policy initiatives can significantly boost screening rates. Efforts to integrate culturally attuned education, accessible screening services, and community-based support are imperative for reducing the burden of cervical cancer and achieving broader public health goals.

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