

Cervical Cancer: Knowledge, Awareness, Hygiene-Related Myths, and Attitudes among Women: A Cross-Sectional Survey

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Abstract

Background: Cervical cancer is one of the significant public health issues; however, it is a preventable condition through human papillomavirus (HPV) vaccination, screening, and health education. However, knowledge gaps and hygiene-related misconceptions about the disease may still persist among women.

Objective: The objective of this study is to investigate the knowledge and awareness on cervical cancer and HPV, practices of menstrual hygiene, hygiene-related misconceptions and attitude towards cervical cancer screening among women.

Methods: Cross-sectional survey was carried out on 50 women using a structured questionnaire that was distributed via Google forms. The survey included questions on demographic characteristics, awareness on cervical cancer and HPV, menstrual hygiene practices, hygiene related beliefs, misconceptions, and attitude to screening. Frequencies and percentages were calculated as a data analysis method.

Results: Only 50% of respondents heard about the existence of cervical cancer and only 48.1% heard about HPV. Awareness of the cervical cancer screening and HPV vaccination was 50%. The most frequently used menstrual absorbent was sanitary pads (86.5%).

However, 34.6% of participants believed that poor menstrual hygiene causes cervical cancer, and 36.5% believed that the use of unclean menstrual cloth directly causes cervical cancer. Nevertheless, 65.4% of participants were willing to undergo screening if advised by a doctor.

Conclusion: Considerable gaps in awareness of cervical cancer and HPV, together with significant hygiene-related misconceptions, persist among women and should be addressed through targeted health education.

Keywords: Cervical cancer; HPV; Awareness; Menstrual hygiene; Misconceptions; Screening.

Introduction

Cervical cancer is a major public health issue that affects many women around the world and is one of the leading causes of cancer morbidity and mortality, especially in low- and middle-income countries [1]. Cervical cancer is mainly caused by chronic infection with high-risk human papillomavirus (HPV). Even though cervical cancer is preventable through vaccination against

HPV, screening, and proper management of precancerous lesions, awareness of these preventive measures remains a critical problem globally [2]. Knowledge on transmission of HPV, risk factors for cervical cancer, symptoms, cervical cancer screening techniques, and vaccination is an important determinant in shaping preventive health behaviours. Apart from knowledge deficits, there may be cultural misconceptions that can shape how women perceive cervical cancer. Myths related to hygiene such as poor genital hygiene, poor menstrual hygiene, poor menstrual hygiene materials, using public toilets, and not washing after sex are direct causative agents of cervical cancer. Therefore, it is important to understand these misconceptions so that effective health promotion strategies can be formulated. Similar knowledge gaps and hygiene-related misconceptions have been reported in other low- and middle-income settings [3–6]. This is the reason the current cross-sectional survey was carried out among women to study their knowledge and awareness of cervical cancer and HPV, menstrual hygiene behaviour, hygiene myths, and cervical cancer screening attitudes.

Methodology

Study Design and Participants

A cross-sectional descriptive survey was conducted among 50 women to assess their knowledge, awareness, hygiene-related beliefs, misconceptions, and attitudes regarding cervical cancer and screening.

Data Collection

Data were collected using a structured questionnaire prepared in Google Forms. The questionnaire was distributed electronically to the participants, and responses were collected voluntarily. The questionnaire included sections covering demographic characteristics, awareness of cervical cancer and HPV, menstrual hygiene practices, hygiene-related beliefs and misconceptions, and willingness to undergo cervical cancer screening.

Study Variables

The survey assessed age, educational status, marital status, and place of residence. Knowledge-related questions assessed awareness of cervical cancer, HPV, cervical cancer prevention, screening, and HPV vaccination. Menstrual hygiene practices included genital hygiene frequency, menstrual absorbent use, and frequency of changing sanitary materials. Additional questions evaluated common hygiene-related misconceptions and traditional beliefs concerning the causes of cervical cancer. Attitudes toward screening were assessed by determining participants' willingness to undergo cervical cancer screening when recommended by a healthcare professional.

Data Analysis

The collected responses were analysed using descriptive statistics. Results were expressed as frequencies and percentages and presented according to the major domains assessed in the questionnaire.

1. Demographic Information

The majority of participants were aged 18–25 years (61.6%), followed by those aged 26–35 years (17.8%), 36–45 years (11.5%), and 46–55 years (9.6%). Regarding educational status, 58.8% of participants had completed secondary education or were uneducated, while 37.3% were graduates and 3.9% were postgraduates. In terms of marital status, 51.9% of participants were married and 48.1% were unmarried. With respect to place of residence, 51.9% were from rural areas and 48.1%

were from urban areas.

2. Awareness of Cervical Cancer and HPV among Participants

The assessment revealed a considerable knowledge gap regarding cervical cancer and HPV among the participating women. Half of the participants (50%) had previously heard of cervical cancer, while the other half had not. Similarly, only 50% knew that cervical cancer affects the cervix, and 51% recognized that it is preventable. Awareness of HPV was particularly low, with only 48.1% having heard of HPV and 51.9% unaware of the infection. Awareness of early detection through screening, including the Pap smear, was reported by only 50% of participants. Likewise, only 50% knew that vaccination is available to reduce the risk of cervical cancer [5,7]. Overall, approximately half of the women demonstrated inadequate knowledge of cervical cancer, HPV infection, screening, and vaccination. These findings highlight the need for targeted health education and awareness programs to improve knowledge regarding HPV transmission, cervical cancer prevention, screening, and the importance of HPV vaccination[4,7].

3. Menstrual Hygiene Practices

Regarding menstrual hygiene practices, 19.2% of participants reported cleaning their genital area once daily, while 67.3% cleaned it twice daily and 13.5% did so occasionally. During menstruation, 55.8% of participants reported changing their sanitary pad or cloth every 4–6 hours, 40.4% reported changing it three times a day, and 3.8% changed it once daily. Sanitary pads were the most commonly used menstrual absorbent (86.5%), followed by reusable cloth (11.5%) and other absorbents (2.0%). Among the 11.5% of participants who reported using reusable menstrual cloth, 2.5% always washed the cloth properly before reuse, while 1.17% reported doing so sometimes.

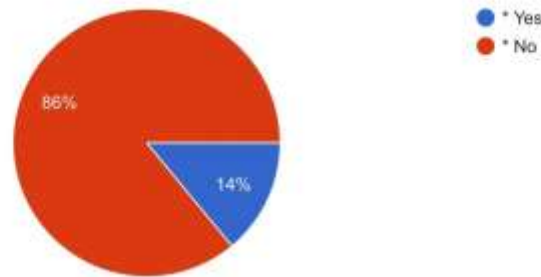
4. Hygiene-Related Beliefs and Cervical Cancer Misconceptions

The findings indicate that most participants recognized the relationship between poor genital hygiene and infections, with 92.3% believing that poor genital hygiene can cause infections, while 7.7% did not. However, misconceptions regarding menstrual hygiene and cervical cancer were evident. A total of 34.6% of participants believed that poor menstrual hygiene directly causes cervical cancer, whereas 65.4% disagreed. Similarly, 23.1% believed that cervical cancer occurs only among women who do not maintain personal cleanliness, while 76.9% disagreed with this belief. Regarding public toilets, 38.5% believed that their use increases the risk of cervical cancer, whereas 61.5% did not. The findings further demonstrated the persistence of hygiene-related misconceptions regarding cervical cancer.

Regarding post-intercourse hygiene, 65.4% disagreed that failure to wash the genital area after intercourse causes cervical cancer, whereas 34.6% believed that it could cause the disease. Similarly, 63.5% disagreed that using unclean menstrual cloth directly leads to cervical cancer, while 36.5% held this misconception. Regarding traditional or non-medical explanations, 84.6% disagreed that cervical cancer is caused by “body heat,” bad blood, or impurity in the body, while 15.4% believed in these explanations. Furthermore, 84.6% disagreed that cervical cancer is mainly due to poor hygiene rather than infection or other medical causes, whereas 15.4% believed that poor hygiene was the primary cause. The misconception that women with good personal hygiene cannot develop cervical cancer was rejected by 84.3% of participants, while 15.7% agreed with this belief. Importantly, social stigma related to hygiene was also evident: although 60.8% did not believe that women with cervical cancer may be blamed for their hygiene habits, 39.2% believed that such women may be blamed. Overall, these findings indicate that while most participants did not

attribute cervical cancer primarily to poor hygiene, a considerable proportion continued to associate the disease with genital cleanliness, menstrual hygiene, and culturally rooted concepts of bodily impurity.

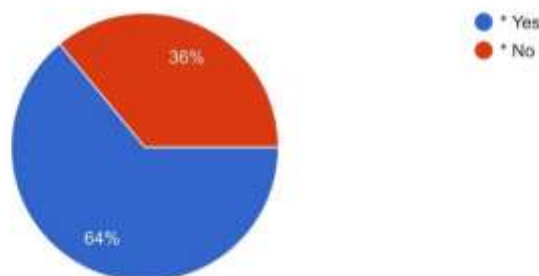
22. Do you believe that cervical cancer is mainly due to poor hygiene rather than infection or medical causes?
50 responses



5. Screening Attitude and Health-Seeking Behaviour

Regarding willingness to undergo cervical cancer screening, 65.4% of participants reported that they would be willing to undergo screening if advised by a doctor, whereas 34.6% were unwilling to undergo screening. This finding indicates a generally favourable attitude toward cervical cancer screening among the participants, particularly when screening is recommended by a healthcare professional. However, the proportion unwilling to undergo screening highlights the need for improved awareness, appropriate counselling, and promotion of preventive screening practices[8–10].

25. Would you be willing to undergo cervical cancer screening if advised by a doctor?
50 responses



Discussion

The present pilot study identified substantial gaps in knowledge and awareness regarding cervical cancer and HPV among the participating women. Only half of the participants had heard of cervical cancer, while 48.1% had heard of HPV. Awareness of cervical cancer screening and HPV vaccination was also reported by only 50% of participants. These findings suggest that basic knowledge of cervical cancer prevention remains limited in this study population. In particular, the relatively low awareness of HPV is important because persistent infection with high-risk HPV types is the principal cause of cervical cancer, and HPV vaccination and screening are key preventive strategies [1,11].

Awareness levels in the present study were lower than those reported among Ghanaian adults

(90.1%) but broadly comparable to figures reported in other Indian community-based surveys, suggesting that the extent of the knowledge gap varies considerably across populations and study settings [4–6].

Although sanitary pads were the predominant menstrual absorbent used by participants, misconceptions linking menstrual hygiene with cervical cancer were observed. More than one-third of participants believed that poor menstrual hygiene directly causes cervical cancer, while 36.5% believed that using unclean menstrual cloth directly leads to cervical cancer.

Similarly, 34.6% believed that failure to wash the genital area after intercourse causes cervical cancer. These responses represent participants held misconception regarding general hygiene-related infections or genital health practices with the specific causes of cervical cancer. Such misconceptions contribute to unnecessary fear, stigma, and misunderstanding of the importance of HPV infection and evidence-based preventive measures. Poor menstrual hygiene has been studied in relation to lower reproductive-tract infections, but this evidence should not be interpreted as evidence that menstrual hygiene practices directly cause cervical cancer [11]. Most participants did not endorse several traditional or culturally influenced explanations for cervical cancer. For example, 84.6% disagreed that cervical cancer is caused by “body heat,” bad blood, or bodily impurity, and the same proportion disagreed that poor hygiene is the main cause of cervical cancer. Similarly, 84.3% did not believe that women with good personal hygiene are unable to develop cervical cancer. These findings indicate that although misconceptions remain among a substantial minority, most participants recognized that personal cleanliness alone does not determine whether a woman develops cervical cancer. An important finding was the presence of hygiene-related stigma. Although 60.8% of participants did not believe that women with cervical cancer would be blamed for their hygiene habits, 39.2% believed that such blame may occur. This suggests that misconceptions about hygiene may extend beyond individual beliefs and influence social perceptions of women diagnosed with cervical cancer. Addressing such stigma is therefore an important component of cervical cancer education. Despite the observed knowledge gaps, 65.4% of participants expressed willingness to undergo cervical cancer screening if advised by a doctor. This finding suggests that healthcare professionals may have an important role in improving screening uptake. However, the 34.6% who were unwilling to undergo screening indicate that willingness does not necessarily follow from awareness alone.

Appropriate counselling and clear communication about the benefits, purpose, and preventive value of screening may help address barriers to screening, as demonstrated by structured audio-visual education interventions that improved both awareness and screening willingness among Indian women [3,5,10,12]. Comparable hygiene-related misconceptions and stigma have also been documented among women in other Indian and African settings, indicating that these beliefs are not unique to the present study population [13,14]. Overall, the findings of this pilot study demonstrate that limited awareness and hygiene-related misconceptions coexist with a relatively favourable attitude toward screening. Health education initiatives should therefore focus not only on increasing general awareness but also on specifically explaining the role of persistent high-risk HPV infection, HPV vaccination, cervical cancer screening, and the distinction between maintaining good hygiene and preventing HPV-associated cervical cancer [3,11]. Comparison with findings from larger studies in similar populations would be valuable in future research to determine whether these patterns are consistent across different demographic and geographic groups.

Limitations

This pilot study has several limitations. The sample size was small (n=50), limiting the generalizability of the findings. The voluntary online questionnaire may have introduced selection and response bias. The study used descriptive statistics and therefore did not assess statistically significant associations between demographic characteristics and awareness, misconceptions, or screening attitudes. In addition, the findings were self-reported and may be influenced by recall or social-desirability bias. Future studies should use larger samples, validated questionnaires, and appropriate inferential statistical methods to examine predictors of cervical cancer awareness and screening behaviour.

Conclusion

A number of significant gaps in the knowledge about cervical cancer, HPV, screening, and HPV vaccination among the participant women have been revealed through this pilot study. While most of the participants did not see any direct connection between poor hygiene or “body heat” on the one hand, and the risk of cervical cancer on the other, there were still those who continued to believe that poor menstrual hygiene, unhygienic menstrual cloths, and poor hygiene of the genitals after sexual intercourse could increase the chances of developing cervical cancer. These beliefs should be interpreted as misconceptions identified by the survey rather than established causal factors, as persistent high-risk HPV infection is the necessary cause of cervical cancer. Stigma associated with poor hygiene was also noted; specifically, there were those who believed that people might blame women for cervical cancer due to poor hygiene practices. Regardless of the mentioned knowledge gaps and misconceptions, 65.4% of the participants said that they would undergo cervical cancer screening when recommended by a physician. Evidence-based screening is an established cervical cancer prevention strategy, and healthcare-provider engagement can support screening uptake [3,8,15,16]. Thus, it can be seen that physicians can play a positive role in encouraging women to screen themselves for cervical cancer.

References

1. Bray F, Laversanne M, Sung H, Ferlay J, Siegel RL, Soerjomataram I, et al. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin*. 2024;74(3):229–63. doi:10.3322/caac.21834 PubMed PMID: 38572751.
2. Global strategy to accelerate the elimination of cervical cancer as a public health problem [Internet]. [cited 2026 Aug 21]. Available from: <https://www.who.int/publications/i/item/9789240014107>
3. Taneja N, Chawla B, Awasthi AA, Shrivastav KD, Jaggi VK, Janardhanan R. Knowledge, Attitude, and Practice on Cervical Cancer and Screening Among Women in India: A Review. *Cancer Control J Moffitt Cancer Cent*. 2021 Apr 30;28:10732748211010799. doi:10.1177/10732748211010799 PubMed PMID: 33926235; PubMed Central PMCID: PMC8204637.
4. Khanna D. Evaluating Knowledge Regarding Cervical Cancer and Its Screening among Woman in Rural India. *South Asian J Cancer*. 2020 Jul;9(3):141–6. doi:10.1055/s-0041-1723072 PubMed PMID: 33937136; PubMed Central PMCID: PMC8075625.
5. Pal D, Sahoo BK, Taywad M, Maji S. Evidence of Knowledge, Attitude, and Practice Regarding Human Papilloma Virus Vaccination at the Community Level in India: A Systematic Review and

- Meta-Analysis. Asian Pac J Cancer Prev APJCP. 2024;25(3):793–800. doi:10.31557/APJCP.2024.25.3.793 PubMed PMID: 38546062; PubMed Central PMCID: PMC11152397.
6. Drokow EK, Zi L, Han Q, Effah CY, Agboyibor C, Sasu E, et al. Awareness of Cervical Cancer and Attitude Toward Human Papillomavirus and Its Vaccine Among Ghanaians. *Front Oncol.* 2020;10:1651. doi:10.3389/fonc.2020.01651 PubMed PMID: 33014828; PubMed Central PMCID: PMC7506130.
 7. Chawla B, Taneja N, Awasthi AA, Kaur KN, Janardhanan R. Knowledge, attitude, and practice on screening toward cervical cancer among health professionals in India—A review. *Womens Health.* 2021 Aug 16;17:17455065211017066. doi:10.1177/17455065211017066 PubMed PMID: 34396854; PubMed Central PMCID: PMC8371743.
 8. Kim SI, Kim JW. Book Review: IARC handbooks of cancer prevention, volume 18: Cervical cancer screening. *J Gynecol Oncol.* 2022 Jun 13;33(4):e65. doi:10.3802/jgo.2022.33.e65 PubMed PMID: null; PubMed Central PMCID: PMC9250855.
 9. WHO guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention: use of human papillomavirus (HPV) DNA genotyping [Internet]. [cited 2026 Sep 5]. Available from: <https://www.who.int/publications/i/item/9789240121744>
 10. IGCS [Internet]. [cited 2026 Sep 5]. Cervical Cancer. Available from: <https://igcs.org/cervical/>
 11. WHO guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention [Internet]. [cited 2026 Aug 21]. Available from: <https://www.who.int/publications/i/item/9789240030824>
 12. Ganeshkumar P. Audio-Visual Training Improves Awareness and Willingness of Cervical Cancer Screening among Healthy Indian Women: Findings from a Survey. *South Asian J Cancer.* 2023 Jan;12(1):23–9. doi:10.1055/s-0042-1751094 PubMed PMID: 36851929; PubMed Central PMCID: PMC9966178.
 13. ResearchGate [Internet]. 2026 [cited 2026 Sep 5]. Awareness of Cervical Cancer and Screening in a Nigerian Female Market Population | Request PDF. Available from: https://www.researchgate.net/publication/27788959_Awareness_of_Cervical_Cancer_and_Screening_in_a_Nigerian_Female_Market_Population
 14. Rodrigues SB, Sheilini M, Nayak R. Awareness, risk for cervical cancer and readiness for Papanicolaou (Pap) testing among female housekeeping staff in a tertiary care hospital Karnataka-A quantitative approach. *Clin Epidemiol Glob Health.* 2024 Jan 1;25(101503). doi:10.1016/j.cegh.2023.101503
 15. Evidence-informed guidance for the implementation of HPV-based cervical cancer screening programmes [Internet]. [cited 2026 Sep 5]. Available from: <https://www.who.int/publications/i/item/9789240124172>
 16. Cervical cancer [Internet]. [cited 2026 Sep 5]. Available from: <https://www.who.int/health-topics/cervical-cancer>