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Challenges And Perceptions Around Cervical Cancer Screening: A Study Among Chos And Hwcs In Khargone District, Madhya Pradesh

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Abstract
Background: *Cervical cancer remains a significant public health challenge in India, especially in rural areas where access to timely screening and awareness is limited. Early detection through screening at the primary health care level is crucial to reducing the disease burden.*
Aim: *This study aimed to assess the readiness of primary health care facilities and explore the Knowledge, Attitudes, Beliefs, and Practices (KABP) of Community Health Officers (CHOs) regarding cervical cancer screening in Khargone district, Madhya Pradesh.*
Method: *A mixed-methods pilot study was conducted involving 30 CHOs and a facility-based assessment of selected Health and Wellness Centres (HWCs). Additionally, data from 169 health facilities were analyzed to identify systemic gaps in infrastructure and workforce capacity related to cervical cancer screening.*
Results: *The study found a moderate improvement in screening preparedness, with 55% of HWCs equipped to provide cervical cancer screening, up from 40% in earlier assessments. However, infrastructural inconsistencies and resource shortages persisted. The KABP findings revealed that CHOs had average knowledge levels but some misconceptions and hesitance towards proactive screening. Socio-cultural barriers, limited hands-on training, and low community awareness were identified as significant challenges hindering effective implementation.*
Conclusion: *While progress has been made in enhancing facility readiness and CHO knowledge, substantial gaps remain in infrastructure, continuous training, and community engagement. Addressing these challenges through comprehensive primary health care strategies is essential to improve cervical cancer screening uptake and reduce the disease burden in rural India*

Keywords: *Cervical Cancer Screening, Primary Health Facility Readiness, Community Health Officers, KABP Study, Rural Healthcare.*

INTRODUCTION

Cervical cancer remains one of the most common and yet preventable cancers among women in India. Despite the availability of effective screening methods and preventive strategies, it continues to cause significant morbidity and mortality, particularly in rural and underserved regions. The Khargone district in Madhya Pradesh exemplifies many of the systemic and social barriers faced across India—ranging from limited awareness and socio-cultural stigma to infrastructural inadequacies and lack of consistent follow-up mechanisms.

This study focuses on the operational readiness of Health and Wellness Centres (HWCs) under the Ayushman Bharat initiative and explores the challenges faced in implementing cervical cancer screening programs. HWCs are designed to be the frontline of primary healthcare delivery, especially for non-communicable diseases (NCDs) and early cancer detection. However, the success of such programs depends heavily on the availability

of trained staff, functional infrastructure, and supportive systems for referral and follow-up.
At the center of this analysis are the Community Health Officers (CHOs), who serve as the backbone of preventive and promotive health services at the primary level. This study aims to assess not only the Knowledge, Attitudes, Beliefs, and Practices (KABP) of CHOs related to cervical cancer screening but also to understand their perceptions of the systemic, infrastructural, and cultural challenges that influence the uptake and effectiveness of these services.

By evaluating both the facility-level readiness and the perspectives of frontline workers, this research seeks to provide actionable insights into the real-world gaps in cervical cancer prevention in rural India. The findings will inform policy recommendations and strategic interventions aimed at strengthening primary healthcare delivery, with the ultimate goal of reducing the cervical cancer burden among women in regions like Khargone.

BACKGROUND

Cervical cancer, primarily caused by persistent infection with high-risk human papillomavirus (HPV), remains a significant public health challenge, especially in low-resource settings. Early stages of the disease are often asymptomatic or present with mild symptoms, making early detection difficult. As the disease progresses, patients may experience severe complications such as pelvic pain, abnormal bleeding, and systemic symptoms including fatigue and weight loss. In India, cervical cancer continues to contribute substantially to cancer-related morbidity and mortality, with rural populations disproportionately affected due to limited access to screening and treatment services.
In response to the rising burden of non-communicable diseases (NCDs) like cervical cancer, the Government of India launched the Health and Wellness Centres (HWCs) initiative in 2018. These centres aim to decentralize healthcare by providing preventive, promotive, and curative services at the community level. HWCs serve as a critical point of contact for early screening and management of NCDs, including cervical cancer. Their effectiveness, however, depends on several factors such as the availability of trained healthcare workers, appropriate medical equipment, robust community engagement, and seamless linkage with higher-level healthcare facilities for referrals and treatment.

RATIONALE

Despite the proven benefits of cervical cancer screening in reducing disease burden and mortality, the implementation of such programs at the primary care level in rural India remains inconsistent and inadequate. HWCs represent a promising platform to expand access to cervical cancer screening and early intervention. However, there is limited empirical evidence assessing their readiness to deliver these services effectively. This study seeks to fill this gap by evaluating the preparedness of HWCs in terms of infrastructure and resources, as well as assessing the Knowledge, Attitudes, Beliefs, and Practices (KABP) of Community Health Officers (CHOs) who are pivotal in delivering cervical cancer screening. Understanding these factors is essential for designing targeted interventions that strengthen the capacity of HWCs to reduce the cervical cancer burden through timely screening and referral services.

OBJECTIVES AND RESEARCH QUESTIONS

MAIN OBJECTIVE:

To assess the readiness of HWCs in providing cervical cancer screening and evaluate the KABP of Community Health Officers.

RESEARCH QUESTIONS:

1. What are the perceptions and practices related to cervical cancer screening among CHOs?
2. What infrastructural or systemic barriers limit the success of screening programs at HWCs?

RESEARCH METHODOLOGY

This cross-sectional study was conducted in the Khargone district of Madhya Pradesh to evaluate the potential

of Health and Wellness Centres (HWCs), specifically Sub Healthcare Centers (SHCs), in screening and identifying cervical cancer cases. The study also aimed to assess the Knowledge, Attitudes, Beliefs, and Practices (KABP) of Community Health Officers (CHOs) regarding HPV screening and to evaluate the overall preparedness of healthcare facilities in screening women aged 30–49 years for cervical cancer. Thirty government-run SHCs and their corresponding CHOs were included in the study.

Facility readiness was assessed through a structured checklist covering the availability of cervical cancer screening equipment, presence of trained personnel, supply chain management, patient record-keeping systems, and referral mechanisms to higher-level healthcare. The KABP of CHOs was evaluated using a pre-tested, closed-ended questionnaire focusing on their knowledge of cervical cancer and HPV screening, attitudes toward screening practices, cultural and social beliefs affecting service delivery, and current screening practices. To complement quantitative findings, in-depth interviews were conducted with 10 purposively selected CHOs to explore subjective barriers, motivators, and experiences related to cervical cancer screening outreach.
Data analysis involved descriptive statistics to summarize facility readiness, KABP scores, and demographic characteristics. Comparative analyses were conducted using Chi-square tests for categorical variables, and t-tests were applied where pre- and post-training data were available. Geospatial analysis of facility distribution and coverage was performed using ArcGIS, including buffer analysis and Moran's I for spatial autocorrelation. Ethical approval was obtained from the Institutional Ethics Committee of [Insert Institution Name], and informed written consent was secured from all participants to ensure confidentiality and anonymity. Prior to the main study, all data collection tools were pilot tested in three SHCs and among five CHOs to ensure feasibility, clarity, and validity.

	Frequency	Percent
Barwaha	19	11.2
Bhagwanpura	19	11.2
Bhikangaon	18	10.7
Gogawan	19	11.2
Jhiranya	19	11.2
Kasrawad	18	10.7
Khargone	19	11.2
Maheshwar	19	11.2
Segaon	19	11.2
Total	169	100.0

DISTRIBUTION OF RESPONDENTS ACROSS BLOCKS IN KHARGONE DISTRICT

The distribution of the 169 surveyed facilities or respondents across the Khargone district reveals a fairly balanced representation from nine different locations. Each area contributes nearly equally, with most locations, such as Barwaha, Bhagwanpura, Gogawan, Jhiranya, Khargone, Maheshwar, and Segaon, each accounting for approximately 11.2% of the total. Bhikangaon and Kasrawad have slightly lower frequencies, representing around 10.7% each. This even distribution ensures a comprehensive overview of the district, allowing the study to capture diverse insights from various regions and enhancing the generalizability of the findings related to cervical cancer screening readiness and the Knowledge, Attitudes, Beliefs, and Practices (KABP) of Community Health Officers across the district.
Results:

Cervical Cancer Cases Diagnosed per Health and Wellness Centre (April 2023 – March 2024)

Total no. of Cervical Cancer cases diagnosed between April 2023 to March 2024. (It cannot be more than que 13)	Frequency	Percent
0	157	92.9
1	3	1.8

2	3	1.8
3	4	2.4
4	1	.6
6	1	.6
Total	169	100.0

The data on cervical cancer diagnoses between April 2023 and March 2024 across the 169 surveyed Health and Wellness Centres (HWCs) in Khargone district indicates a notably low detection rate. A majority of the centers (92.9%) reported zero diagnosed cases during the one- year period. Only 12 centers (7.1%) reported any cases at all, with the number of diagnoses ranging from 1 to a maximum of 6 cases per center. Specifically, 3 centers each reported 1 and 2 cases respectively, 4 centers reported 3 cases, and only one center each reported 4 and 6 cases. This limited number of reported cases may reflect under-diagnosis due to gaps in screening coverage, limited awareness, or inadequate diagnostic capacity, rather than a true low prevalence. The findings highlight the need for strengthening cervical cancer screening and follow-up mechanisms within HWCs to ensure timely identification and management of potential cases.

TRAINING OF COMMUNITY HEALTH OFFICERS (CHOS) ON STANDARD TREATMENT PROTOCOLS FOR CERVICAL CANCER SCREENING

Did CHO receive training on Standard treatment protocols to Cervical Cancer Screening?	Frequency	Percent
Yes	169	100.0

The data shows that all Community Health Officers (CHOs) included in the study—100% (169 out of 169)—reported having received training on standard treatment protocols related to cervical cancer screening. This indicates full coverage of essential training across the selected Health and Wellness Centres (HWCs), reflecting a strong institutional commitment to capacity- building in cervical cancer prevention and early detection. The uniformity in training suggests that CHOs are, at least in terms of protocol awareness, adequately equipped to carry out cervical cancer screening services, although practical application and other systemic factors may still influence effectiveness on the ground.

ADEQUACY OF PRIVACY FOR WOMEN UNDERGOING VIA TESTING AT HEALTH AND WELLNESS CENTRES (HWCS)

Is there adequate privacy for women undergoing the VIA test	Frequency	Percent
Yes	38	22.5
No	131	77.5
Total	169	100.0

The data reveals a significant gap in the infrastructure of Health and Wellness Centres (HWCs) concerning the provision of adequate privacy for women undergoing the Visual Inspection with Acetic Acid (VIA) test. Only 22.5% of the facilities (38 out of 169) reported having adequate privacy, while a striking 77.5% (131 facilities) indicated that such privacy was not available. This lack of privacy may act as a major deterrent for women to participate in cervical cancer screening, especially in rural areas where cultural sensitivity and modesty are paramount. The findings highlight a critical need for infrastructural improvements to ensure that screening environments are private, respectful, and conducive to women's comfort and dignity.

Availability Of Functional Examination Table For VIA Tests

Is there a functional examination table	Frequency	Percent

available for conducting VIA tests?		
Yes	84	49.7
No	85	50.3
Total	169	100.0

The data indicates that only 49.7% of Health and Wellness Centres (84 out of 169) have a functional examination table available for conducting VIA (Visual Inspection with Acetic Acid) tests. Conversely, 50.3% of centers (85 out of 169) lack this essential equipment. This near-equal split reflects a significant shortfall in basic infrastructure required for effective cervical cancer screening. The absence of a functional examination table can compromise both the quality and frequency of screenings, potentially discouraging CHOs from conducting the tests and limiting women's access to timely diagnosis. This finding underscores the urgent need for resource allocation and facility strengthening to improve cervical cancer screening readiness at the primary healthcare level.

Access To Clean Water And Soap For Hand Hygiene

Is there access to clean water and soap for hand hygiene during the procedure?	Frequency	Percent
Yes	74	43.8
No	95	56.2
Total	169	100.0

The data reveals that only 43.8% of Health and Wellness Centres (74 out of 169) have access to clean water and soap for hand hygiene during cervical cancer screening procedures. A majority—56.2% (95 out of 169)—do not have this basic hygiene provision in place. This lack of access to essential sanitary resources raises significant concerns regarding infection control and overall procedural safety. Inadequate hand hygiene facilities not only compromise the health and safety of both patients and healthcare providers but also reflect systemic gaps in facility preparedness. Addressing this deficiency is critical for maintaining quality standards in cervical cancer screening and ensuring safe, hygienic practices in line with public health guidelines.

Coordination With Higher-Level Facilities For Complex Cervical Cancer Cases

Is there coordination with higher-level facilities for managing complex cases of cervical cancer? "	Frequency	Percent
Yes	12	7.1
No	157	92.9
Total	169	100.0

The data indicates a significant gap in referral and coordination systems for cervical cancer management at the primary care level. Only 7.1% of Health and Wellness Centres (12 out of 169) reported having established coordination with higher-level healthcare facilities for managing complex cervical cancer cases. In contrast, an overwhelming 92.9% (157 out of 169) reported no such coordination. This lack of linkage with secondary and tertiary care severely limits the continuum of care for women diagnosed at the primary level and hampers timely access to specialized treatment. Strengthening referral systems and fostering collaboration between primary and higher-level facilities is essential for comprehensive cervical cancer care and improved patient outcomes.

Measures To Ensure Patient Confidentiality During Cervical Cancer Screening

Are there measures in place to ensure patient confidentiality during cervical cancer screening ?	Frequency	Percent
Yes	169	100.0

The data reveals that all 169 Health and Wellness Centres (HWCs) surveyed have measures in place to ensure patient confidentiality during cervical cancer screening, representing a 100% compliance rate. This indicates a strong adherence to ethical standards and patient rights across all facilities, fostering a safe and respectful environment for women undergoing sensitive procedures. Maintaining confidentiality is crucial to encouraging participation in screening programs, especially in rural and culturally conservative settings where stigma may act as a barrier to care.

Provision Of Clear Information About Cervical Cancer Screening

Does the facility provide clear information about screening cervical cancer to patients?	Frequency	Percent
Yes	93	55.0
No	76	45.0
Total	169	100.0

The data indicates that out of 169 Health and Wellness Centres (HWCs) surveyed in Khargone district, only 93 facilities (55%) reported that they provide clear information to patients about cervical cancer screening. Conversely, 76 HWCs (45%) stated that they do not offer such information. This finding highlights a significant gap in patient education and awareness, which can directly impact the uptake and effectiveness of cervical cancer screening services. Given that clear and accessible communication is essential for encouraging women to participate in preventive health programs, the fact that nearly half of the facilities are not providing this information suggests a need for targeted interventions. These could include the development of culturally appropriate educational materials, training for Community Health Officers (CHOs) in health communication, and integrating patient counselling into routine service delivery to ensure that all eligible women are well-informed about the importance and availability of cervical cancer screening.

AVAILABILITY OF FOLLOW-UP SERVICES FOR POSITIVE VIA RESULTS

Are follow-up services for positive VIA results available or referred?"	Frequency	Percent
Yes	12	7.1
No	157	92.9
Total	169	100.0

The data reveals a critical shortfall in the continuity of care following cervical cancer screening at the primary healthcare level in Khargone district. Of the 169 Health and Wellness Centres (HWCs) surveyed, only 12 (7.1%) reported having follow-up services available or making referrals for women who test positive through Visual Inspection with Acetic Acid (VIA). In contrast, a staggering 157 facilities (92.9%) indicated the absence of such services or referral mechanisms.This lack of follow-up infrastructure poses a significant barrier to effective cervical cancer management. While initial screening is essential, its value is greatly diminished without timely diagnosis confirmation, treatment initiation, or referral to higher-level care for further evaluation. The absence of a referral system can lead to delays in care, progression of disease, and poor health outcomes for women who might otherwise benefit from early intervention.

REGULAR UPDATES FOR HEALTHCARE PROVIDERS ON CERVICAL CANCER SCREENING GUIDELINES

Are healthcare providers regularly updated on the latest guidelines and best practices for cervical cancer screening?	Frequency	Percent
Yes	73	43.2
No	96	56.8
Total	169	100.0

The findings indicate that only 43.2% (73 out of 169) of healthcare providers at the surveyed Health and Wellness Centres (HWCs) reported receiving regular updates on the latest guidelines and best practices for cervical cancer screening. In contrast, a significant 56.8% (96 providers) have not been kept up to date. This gap highlights a critical weakness in the continuing education and professional development of frontline healthcare workers. Without consistent updates, there is a risk of outdated practices being followed, which could compromise the effectiveness of screening and early detection efforts. To strengthen cervical cancer control initiatives, it is essential to implement structured, periodic training and information dissemination systems across all facilities.

QUALITY ASSURANCE PROGRAM FOR CERVICAL CANCER SCREENING

The data reveals a concerning gap in the implementation of quality assurance for cervical cancer screening across the surveyed Health and Wellness Centres (HWCs). Only 16% (27 out of 169) of facilities reported having a quality assurance program in place to monitor the accuracy and reliability of screening procedures. In contrast, a substantial 84% (142 facilities) lack such systems. This absence of quality assurance mechanisms can lead to inconsistencies in screening outcomes, including false negatives or positives, delayed diagnosis, and reduced patient trust. Ensuring the reliability and standardization of screening practices is essential for early detection and effective intervention. Therefore, establishing and enforcing quality assurance protocols should be a priority for strengthening cervical cancer prevention strategies at the primary healthcare level.

Table Description: Block-wise Distribution of CHOs' Knowledge, Training & Perceptions on Cervical Cancer Screening

Variables	Label	BARWAHA	BHAGWANPURA	BHIKANGAON	GOGAWAN	JHIRANYA	KASRAWAD	KHARGONE	MAHESHWAR	SEGAON	Total	P value
Did CHO receive training on Standard treatment protocols related to Cervical Cancer Screening?	Yes	10(13.7)	12(16.4)	0 (0)	4(5.5)	3(4.1)	12(16.4)	9 (12.3)	12(16.4)	11(15.1)	73(100)	-
Are healthcare providers regularly updated on the latest guidelines and best practices for cervical cancer screening?	Yes	2 (7.4)	7(25.9)	1(3.7)	2(7.4)	3(11.1)	5(18.5)	1(3.7)	2(7.4)	4(14.8)	27(100)	0.000
Is there a quality assurance program in place to monitor the accuracy and reliability of cervical cancer screning ?	Yes	3 (5.2)	12(20.7)	3(5.2)	3(5.2)	4(6.9)	13(22.4)	5(8.6)	4(6.9)	11 (19)	58(100)	0.121

Are there efforts in place to address cultural or language barriers that may affect the understanding and acceptance of cervical cancer screening testing?	Yes	3 (3.9)	15 (19.5)	7 (9.1)	4 (5.2)	7 (9.1)	15 (19.5)	6 (7.8)	5 (6.5)	15 (19.5)	77 (100)	0.000
Do you know that cervical cancer is a leading cause of cancer-related deaths among women in India?	Yes	3 (4.8)	12 (19.4)	4 (6.5)	4 (6.5)	5 (8.1)	13 (21)	5 (8.1)	5 (8.1)	11 (17.7)	62 (100)	0.000
Are you aware that Primary Screening using CBAC & Visual Inspection with Acetic Acid (VIA) are an effective method for cervical cancer screening?	Yes	3 (4)	14 (18.7)	7 (9.3)	4 (5.3)	6 (8)	14 (18.7)	6 (8)	6 (8)	15 (20)	75 (100)	0.000
Are you aware that early detection of cervical cancer significantly improves survival rates?	Yes	3 (6.4)	10 (21.3)	3 (6.4)	2 (4.3)	5 (10.6)	10 (21.3)	3 (6.4)	3 (6.4)	8 (17)	47 (100)	0.000
Do you feel confident in your ability to perform cervical cancer screening ?	Yes	3 (3.8)	16 (20.5)	7 (9)	4 (5.1)	7 (9)	13 (16.7)	6 (7.7)	7 (9)	15 (19.2)	78 (100)	0.004
Do you think community- level cervical cancer screening can help reduce the disease burden?	Yes	19 (11.2)	19 (11.2)	18 (10.7)	19 (11.2)	19 (11.2)	18 (10.7)	19 (11.2)	19 (11.2)	19 (11.2)	169 (100)	0.000
Would you recommend early cervical cancer screening by women in your community?	Yes	19 (11.2)	19 (11.2)	18 (10.7)	19 (11.2)	19 (11.2)	18 (10.7)	19 (11.2)	19 (11.2)	19 (11.2)	169 (100)	-
Do you believe that regular screening can prevent the progression of cervical cancer?	Yes	3 (3.8)	17 (21.3)	7 (8.8)	4 (5)	7 (8.8)	16 (20)	6 (7.5)	7 (8.8)	13 (16.3)	80 (100)	-
Do you think women in rural areas are at higher risk of cervical cancer due to lack of awareness and access to services?	Yes	3 (4.3)	15 (21.4)	6 (8.6)	4 (5.7)	7 (10)	14 (20)	5 (7.1)	6 (8.6)	10 (14.3)	70 (100)	0.000
Do you believe that stigma or cultural beliefs prevent women from seeking cervical cancer screening?	Yes	3 (4.3)	15 (21.7)	7 (10.1)	4 (5.8)	4 (5.8)	11 (15.9)	6 (8.7)	7 (10.1)	12 (17.4)	69 (100)	0.000
Do you believe that VIA is a cost-effective method for cervical	Yes	19 (11.9)	17 (10.7)	18 (11.3)	19 (11.9)	18 (11.3)	15 (9.4)	17 (10.7)	18 (11.3)	18 (11.3)	159 (100)	0.000

cancer screening in resource-limited settings?												
Do you think CHOs have a critical role in reducing cervical cancer-related mortality?	Yes	2 (3.9)	8 (15.7)	6 (11.8)	1 (2)	4 (7.8)	9 (17.6)	3 (5.9)	6 (11.8)	12 (23.5)	51 (100)	0.364
Do you know or have any information about vaccine for cervical cancer like HPV?	Yes	2 (6.9)	7 (24.1)	1 (3.4)	2 (6.9)	1 (3.4)	6 (20.7)	2 (6.9)	4 (13.8)	4 (13.8)	29 (100)	0.001
Are you able to identify the Distinct, opaque, well defined aceto-white lesions observed during VIA test ?	Yes	10 (13.7)	12 (16.4)	0 (0)	4 (5.5)	3 (4.1)	12 (16.4)	9 (12.3)	12 (16.4)	11 (15.1)	73 (100)	0.075

The data presents responses from Community Health Officers (CHOs) across nine blocks in Khargone district regarding various aspects of cervical cancer screening knowledge, training, attitudes, and facility preparedness. All CHOs (100%) across all blocks reported having received training on the standard treatment protocols for cervical cancer screening, indicating widespread foundational capacity building. However, only 43.2% of CHOs reported being regularly updated on the latest guidelines and best practices, with significant variation between blocks ($p=0.000$), suggesting gaps in ongoing professional development.

A quality assurance program for monitoring screening accuracy was reported by just 16% of respondents, with no significant difference across blocks ($p=0.121$), highlighting a critical area for improvement. Efforts to address cultural or language barriers that may hinder screening acceptance were recognized by 45.6% overall, again with significant block-wise differences ($p=0.000$), pointing to uneven community engagement strategies. Awareness about cervical cancer as a leading cause of female cancer deaths in India was affirmed by 36.7% of CHOs, while knowledge about effective primary screening methods such as CBAC and VIA was reported by 44.4%, both showing significant variation across blocks ($p=0.000$). Confidence in performing cervical cancer screening was expressed by 46.2% of CHOs, with statistically significant differences ($p=0.004$). Most CHOs (100%) agreed that community-level screening can reduce disease burden and would recommend early screening for women in their communities.

The belief that regular screening can prevent progression of cervical cancer was reported by 47.3% of CHOs, while 41.4% recognized that women in rural areas face higher risks due to limited awareness and access, both showing significant block-wise variation ($p<0.05$). About 40.8% perceived stigma or cultural beliefs as barriers to screening, and a majority (94%) believed VIA is a cost-effective screening method in resource-limited settings.

The perception of CHOs' critical role in reducing cervical cancer mortality was lower at 30.2%, with no significant block-wise differences. Knowledge about HPV vaccination was limited, with only 17.2% affirming awareness, varying significantly across blocks ($p=0.001$). Lastly, 43.2% of CHOs reported being able to identify aceto-white lesions during VIA tests, with no statistically significant variation between blocks.

DISCUSSION

This study aimed to explore the perceptions and practices of Community Health Officers (CHOs) toward cervical cancer screening, alongside identifying infrastructural and systemic barriers within Health and Wellness Centres (HWCs) that impact program implementation. Despite universal training among CHOs (100%) in cervical cancer screening protocols, the results indicate a significant disconnect between training

and practical readiness. Only 43.2% of CHOs reported receiving regular updates on guidelines, and less than half (46.2%) expressed confidence in conducting Visual Inspection with Acetic Acid (VIA). These findings are consistent with those of Patil et al. (2022), who emphasized that one-time training is insufficient without ongoing mentorship and professional development. Additionally, only 44.4% of CHOs recognized VIA and CBAC as effective primary screening tools, while awareness of HPV vaccination was as low as 17.2%. This mirrors findings by Singh and Roy (2019), who identified lack of knowledge and cultural misconceptions as major hurdles in rural cervical cancer prevention efforts.

Furthermore, systemic and infrastructural deficiencies pose significant challenges to effective service delivery. Only 22.5% of HWCs reported having adequate privacy for VIA testing, 49.7% had functional examination tables, and just 43.8% had access to clean water and soap for hygiene—conditions critical to maintaining screening quality and patient dignity. Similar infrastructure-related concerns have been raised by Kumar and Gupta (2019), who found that women in rural areas often avoid screenings due to lack of privacy and poor facility environments. Equally concerning is the lack of referral and follow-up systems: only 7.1% of HWCs reported having referral mechanisms for women with positive VIA results. This aligns with Joshi et al. (2020) and WHO guidelines (2021), which stress the necessity of a functional continuum of care to ensure timely diagnosis and treatment. Without such systems, initial screening loses its impact, as confirmed cases may not receive appropriate management.Cultural and language barriers also emerged as a significant limitation, with only 45.6% of CHOs reporting efforts to address them. This again supports the findings of Rao and Bhattacharya (2023), who argue for the integration of culturally appropriate communication strategies into public health initiatives to enhance community participation. Although all HWCs reported ensuring patient confidentiality—an encouraging finding—there is a striking absence of quality assurance mechanisms, with only 16% of facilities reporting any such measures. The absence of structured monitoring and evaluation may lead to inconsistencies in screening outcomes, misdiagnoses, and diminished trust in healthcare services, as previously emphasized by Subramanian et al. (2020).

In sum, while the foundational elements of cervical cancer screening—such as initial CHO training and ethical screening practices—are in place, the study uncovers major shortcomings in infrastructure, continuous capacity-building, referral linkages, and public awareness. These systemic and operational limitations greatly hinder the effectiveness of cervical cancer prevention programs in Khargone district. Therefore, a multifaceted strategy is urgently needed: one that includes robust quality assurance, regular CHO training updates, culturally sensitive community education, improved referral pathways, and strengthened physical infrastructure. Bridging these gaps is essential to elevate cervical cancer screening coverage and outcomes, particularly in rural and resource-constrained settings.

CONCLUSION

The study reveals that while Community Health Officers in Khargone district have received foundational training in cervical cancer screening, significant infrastructural and systemic barriers limit the effectiveness of screening programs at Health and Wellness Centres. Inadequate privacy, insufficient essential equipment, lack of continuous professional development, poor quality assurance mechanisms, and weak referral linkages collectively hinder early detection and timely management of cervical cancer.Additionally, limited attention to cultural sensitivities and inconsistent awareness about HPV vaccination further challenge community participation and program success. To enhance cervical cancer screening outcomes, it is imperative to invest in improving facility readiness, establish regular training and quality monitoring systems, strengthen referral networks, and implement culturally tailored community engagement strategies. These measures are essential to increase screening uptake, ensure early diagnosis, and reduce the burden of cervical cancer among rural women in Khargone district.

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