

CERVICAL CANCER AWARENESS, RISK FACTORS AND PREVENTION PRACTICES AMONG FEMALE HEALTHCARE EMPLOYEES IN A NIGERIAN TERTIARY HOSPITAL: A CROSS-SECTIONAL STUDY

Christiana Onyayole **Abah** RN, BNSc, ROncN,¹ Huwaila **Rabiu**, RN, RM, BNSc, MSc,² Khadijat Bolanle **Abubakar** RM, RN, BNSc, ROncN, PDGE, MPH, MSc, PhD³, Pauline Ene **Obochi** RN, RM, ROncN, BNSc⁴, Sola J. **Abubakar** MBBS, FWACS, DMAS, FICS, PF-IART⁵, Cynthia Kadoon **Orshi** RN, BNSc⁶

1 Department of Nursing, Federal University of Health Sciences Teaching Hospital, Otukpo, Benue State

2 Department of Nursing, Federal University of Medical and Health Science, Funtua, Katsina State

3 Department of Nursing, School of Post-Basic Oncology Nursing, National Hospital Abuja

4 Department of Nursing, Federal Medical Centre, Makurdi

5 Department of Obstetrics and Gynaecology, National Hospital Abuja

6 Department of Nursing, Federal University of Health Sciences Teaching Hospital, Otukpo, Benue State

ORCID:

Christiana O. **Abah** :<https://orchid.org/0009-0007-2974-8126>

Email: christykidac143@gmail.com

ABSTRACT

Background: Cervical cancer remains a major public health burden in sub-Saharan Africa, accounting for approximately 177,000 cases and 77,000 deaths annually in Africa alone. In Nigeria, an estimated 12,075 women are diagnosed and 7,968 die from cervical cancer each year. Despite the availability of effective preventive interventions, awareness and uptake of screening and vaccination remain persistently low, particularly in resource-constrained settings.

Objective: This study evaluated the level of cervical cancer awareness, identified perceived risk factors, assessed supportive attitudes and determined the knowledge and utilization of prevention methods among female employees at the Federal University of Health Sciences Teaching Hospital (FUHSTHO), Otukpo, Benue State, Nigeria.

Methods: A descriptive cross-sectional survey was conducted among 244 female employees selected through convenience sampling from clinical, administrative, operational, support and other departments. Data were collected using a structured self-administered questionnaire (Cronbach's $\alpha = 0.81$) and analyzed using descriptive statistics including frequencies and percentages.

Results: Of 244 questionnaires administered, 237 were returned (response rate 97.1%). Overall awareness was moderate: 75% recognized cervical cancer as a leading cause of female morbidity and mortality, yet 58% were unaware of its local prevalence and 70% did not perceive its severity as personally relevant. Persistent HPV infection (86%) and lack of screening (85%) were the most frequently identified risk factors. While 90% endorsed medical support and 82% favoured lifestyle modification as preventive strategies, only 4% had ever received the HPV vaccine and 4% had undergone cervical cancer screening. The institution lacked a documented routine cervical cancer prevention programme, as reported by 72% of respondents.

Conclusion: A significant knowledge-to-action gap exists: despite moderate general awareness, preventive health-seeking behaviours including vaccination and screening are markedly deficient even among healthcare workers. Institutionalizing routine cervical cancer education, screening programmes, and workplace health policies is urgently needed.

Keywords: cervical cancer awareness, predisposing risk factors, preventive practices, human papilloma virus, healthcare workers, female employees

1. INTRODUCTION

Cervical cancer is the fourth most common cancer in women worldwide and a leading cause of cancer-related mortality in low- and middle-income countries (LMICs). According to the World Health Organization's Global Health Estimates, approximately 570,000 new cases and 311,000 deaths occur annually, with sub-Saharan Africa bearing a disproportionate share of this burden (WHO 2020). Within Africa, approximately 177,000 new cases and 77,000 deaths are recorded each year, representing roughly 26% of global incidence (WHO 2020). In Nigeria, a country of over 200 million people, an estimated 12,075 women are diagnosed with cervical cancer and 7,968 die annually, making it the second leading cause of female cancer mortality in the country (ICO/IARC 2023).

The high burden of cervical cancer in Nigeria is attributable to a confluence of structural and behavioural determinants such as low awareness of risk factors and symptoms, inadequate and poorly distributed screening programmes, limited HPV vaccination coverage and sociocultural barriers that discourage gynaecological health-seeking behaviours (Djibril et al., 2021). Screening infrastructure is predominantly concentrated in state capitals and the Federal Capital Territory, leaving rural communities largely underserved (Anyasi & Foss 2021). The introduction of Papanicolaou (Pap) cytology, HPV DNA testing and prophylactic HPV vaccines (Gardasil, Cervarix) has substantially reduced cervical cancer incidence in high-income settings however, equivalent gains have not been realized in Nigeria.

Healthcare workers, particularly nurses, occupy a uniquely influential position in the cervical cancer prevention continuum simultaneously as potential beneficiaries of preventive services and as educators and advocates for their patients. Evidence from comparable settings suggests that even health professionals may harbour knowledge gaps and fail to translate awareness into personal protective behaviours (Uchendu et al., 2021). Additionally, empirical data from tertiary healthcare institutions in Benue State, north-central Nigeria, an area characterized by limited oncology infrastructure remains scarce.

This study therefore aimed to achieve the following objectives: (i) To evaluate the level of cervical cancer awareness, (ii) to determine the perceived risk factors, (iii) to ascertain the supportive attitudes and environment (iv) to determine the knowledge and utilization of prevention methods among female employees at the Federal University of Health Sciences Teaching Hospital (FUHSTHO), Otukpo, Benue State, Nigeria. The findings are expected to inform evidence-based, institution-level interventions and to contribute to the growing body of literature on cervical cancer prevention in resource-constrained African settings.

2. LITERATURE REVIEW

Theoretical Framework

The study reviews three foundational theories that collectively explain health-related behaviours among women namely: the Health Belief Model (HBM), the Theory of Planned Behaviour (TPB) and Social Cognitive Theory (SCT). Figure 1 below synthesizes HBM, TPB and SCT into an integrated framework showing how the three theories converge on cervical cancer awareness and channel it through health-seeking behaviour toward expected health outcomes.

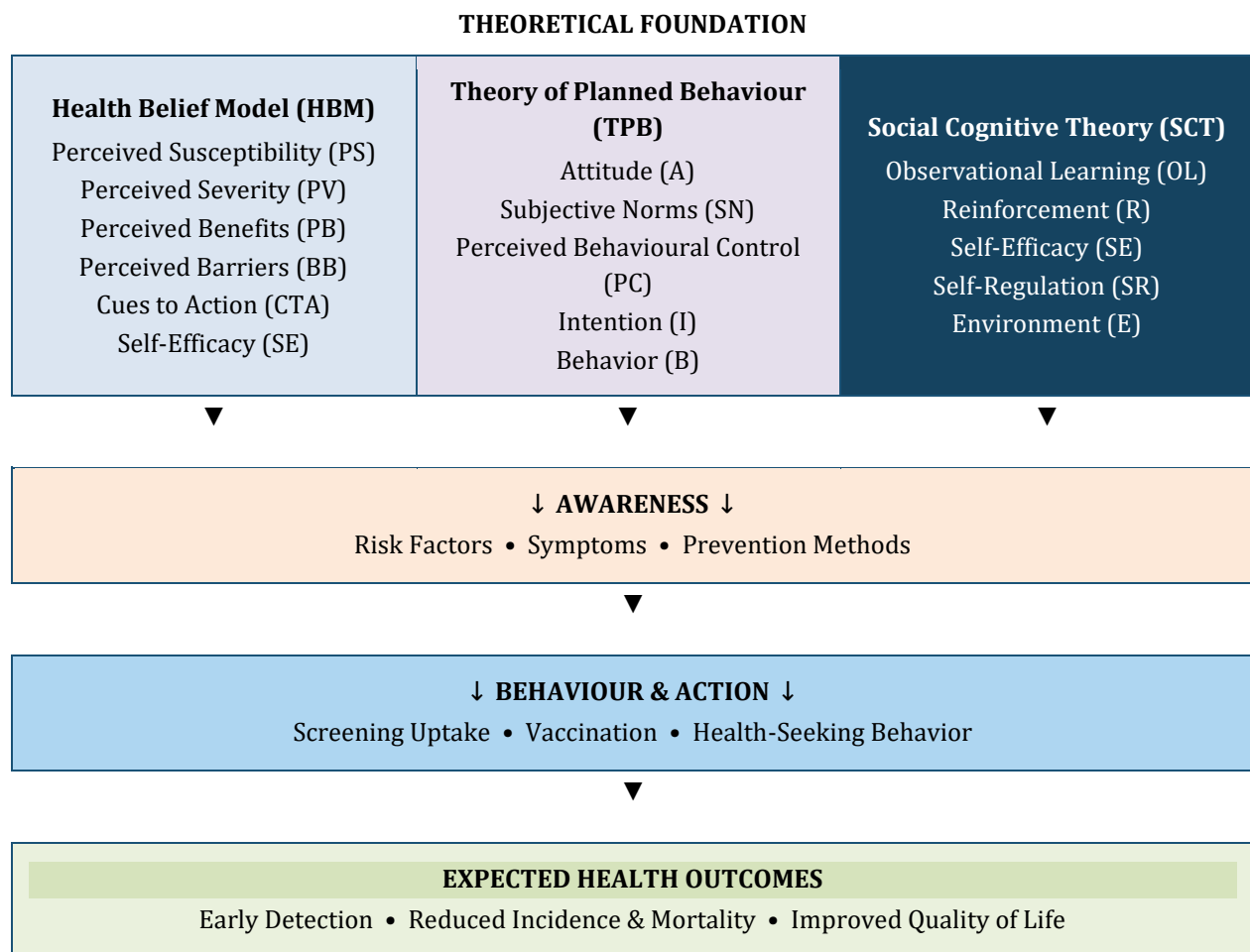


Figure 1: Integrated Theoretical Framework of the Study

2.1.1 Health Belief Model (HBM)

The HBM was developed in the 1950s by Rosenstock, Hochbaum, Kegeles, and Leventhal at the U.S. Public Health Service. The theory explains why individuals do or do not act to prevent health problems by integrating six constructs: Perceived Susceptibility (PS) - one's sense of personal risk; Perceived Severity (PV) - belief in the

seriousness of the condition; Perceived Benefits (PB) - anticipated advantages of action; Perceived Barriers (BB) - obstacles that impede action; Cues to Action (CTA) - triggers that initiate behaviour and Self-Efficacy (SE) - confidence in one's capacity to act.

$$HBM = PS + PV + PB - BB + CTA + SE \rightarrow \text{Health Behaviour}$$

Applied to cervical cancer, HBM predicts screening uptake when women perceive personal susceptibility (shaped by age, HPV status and family history), appreciate the disease's severity, recognize screening benefits, receive cues from healthcare providers or media campaigns and overcome barriers such as cost, distance and embarrassment. Accordingly, this study is anchored on HBM because it most directly captures the perceptual and motivational dynamics that determine women's engagement with cervical cancer screening services.

2.1.2 Theory of Planned Behaviour (TPB)

The TPB popularized by Icek Ajzen (1985) posits that behaviour is proximally determined by intention, which is itself shaped by three antecedents: Attitude (A) - positive or negative evaluations of the behaviour; Subjective Norms (SN) - perceived social pressure from significant others; and Perceived Behavioural Control (PC) - confidence in one's ability to perform the behaviour.

$$TPB = A + SN + PC \rightarrow \text{Intention (I)} \rightarrow \text{Behaviour (B)}$$

In cervical cancer research, TPB guides interventions through education campaigns that improve attitudes and knowledge, healthcare provider engagement that shapes subjective norms and accessible affordable services that enhance perceived control, thereby translating favourable intentions into actual screening behaviour.

2.1.3 Social Cognitive Theory (SCT)

Albert Bandura's SCT explains behaviour through the dynamic triadic interaction of personal cognitions, behaviour and environment. Learning occurs through five interrelated mechanisms: Observational Learning (OL) - acquiring behaviour by watching models; Reinforcement (R) - shaping behavior through rewards or consequences; Self-Efficacy (SE) - belief in one's capability; Self-Regulation (SR) - internal control of behaviour; and Environment (E) - social and physical context that either enables or constrains action.

$$SCT = OL + R + SE + SR + E \rightarrow \text{Behaviour}$$

Applied to cervical cancer, SCT supports public health campaigns that leverage positive role models, community reinforcement and self-efficacy building. Multiple studies

identify self-efficacy as the strongest predictor of screening uptake, underscoring SCT's utility for designing efficacious behaviour-change interventions.

2.2 Empirical Review

This section synthesizes prior empirical studies organized around the four research objectives: awareness and knowledge, risk factors, supportive attitude and environment and prevention methods.

2.2.1 Cervical Cancer Awareness and Knowledge

Evidence consistently reveals a troubling gap between general awareness and actionable knowledge of cervical cancer across Nigerian and sub-Saharan African contexts. Jomusu et al. (2024), studying 141 antenatal clients in Yola, Nigeria, found that only 25.5% demonstrated good knowledge of screening, with knowledge emerging as the sole predictor of actual uptake, highlighting that mere awareness does not translate into screening behaviour. Similarly, Ade-Ojo and Ojo (2024) surveyed 410 pregnant women in Ekiti State and found that while 61.7% had heard of cervical cancer, just 40.3% knew the screening modalities, and 90.5% had never been screened revealing a profound awareness-practice gap. Osaro et al. (2024) corroborated this pattern in Ikwerre, Rivers State, where only 39.4% of women knew of cervical cancer and a mere 6.1% had good knowledge of screening, even though 81.7% expressed willingness to accept screening indicating that positive disposition without adequate knowledge remains insufficient. Maitanmi et al. (2023), working with 345 female undergraduates in Ogun State, found relatively higher awareness (68.4%) but noted that nearly half lacked correct screening information. At the general level, Djibril (2021) analyzed demographic and health survey data from five sub-Saharan countries ($n = 28,976$) and concluded that cervical cancer screening prevalence is substantially low with marked between-country variation, providing broad-based evidence that low knowledge is a pan-African challenge requiring targeted, context-specific interventions.

2.2.2 Risk Factors of Cervical Cancer

Studies examining risk factor awareness reveal that most women, even those nominally aware of cervical cancer, lack nuanced understanding of its determinants. Ayeni et al. (2023) examined 326 women of reproductive age in Kwara State and found that while 83.1% had heard of the disease, only 39.0% demonstrated good knowledge. Crucially, risk behaviours were prevalent: 74.5% were sexually active, 70% did not use condoms, and a statistically significant association was established between poor knowledge and engagement in risk behaviours including multiple sexual partners, non-use of contraceptives, and previous sexually transmitted infections with only 6.9% ever screened. Elikwu et al. (2022), studying 310 female undergraduates at Babcock University, found similarly alarming patterns: while 95.5% were aware of HPV infection,

only 21.0% knew HPV causes cervical cancer, and just 14.2% had received HPV vaccination. The combined evidence underscores that surface-level awareness of cervical cancer does not extend to an understanding of HPV transmission and associated risk behaviours, a gap that directly limits both vaccine uptake and preventive sexual behaviour among Nigerian women.

2.2.3 Supportive Attitude and Environment

Research on attitudes reveals a consistent pattern: positive disposition toward cervical cancer screening coexists with persistently low uptake, largely because socio-cultural, economic and structural barriers undermine behavioural follow-through. Uchendu et al. (2021), in a systematic review of nine Nigerian studies, found that while health workers had superior disease awareness, their personal screening uptake was inadequate; barriers including modesty concerns, partner consent requirements, culture and religion suppressed health-seeking across all groups. Dozie et al. (2021) similarly reported 68.8% awareness of screening in Owerri West, yet cost and privacy concerns particularly discomfort with male doctors inhibited uptake; age and education level were the strongest determinants of positive attitude. Baral et al. (2020), working in Kathmandu, Nepal, found that 88.8% had heard of cervical cancer but only 11.3% had adequate screening awareness, and 46.6% held positive attitudes with employment status, ethnicity, and marital status shaping both awareness and attitude. Agboola and Bello (2019) in Southwest Nigeria found that 75.6% of antenatal attendees were willing to screen, yet only 9.4% had actually been screened; tertiary education predicted positive attitudes, confirming that educational investment is a key lever. Collectively, these studies demonstrate that favorable attitudes are necessary but insufficient: reducing structural, cultural and informational barriers is equally essential to converting intent into action. Kurt and Akyuz (2019) added that structured one-on-one training combined with educational brochures in Turkey significantly outperformed brochure-only or verbal invitation approaches, a finding with direct implications for intervention design in Nigerian settings.

2.2.4 Prevention Methods for Cervical Cancer

Empirical studies on cervical cancer prevention consistently show that knowledge-based interventions substantially improve screening uptake, but that gains remain fragile without structural support and sustained community engagement. Akpan et al. (2023), using a randomized controlled trial in Cross River State, Nigeria, demonstrated that a targeted health education intervention produced a 60.3% net gain in screening uptake, along with significant improvements in knowledge ($p < 0.05$) and attitude ($p < 0.05$), highlighting the power of well-designed health education. Omowhara et al. (2022) documented that awareness of screening methods was as low as 9.4% and actual uptake was 4.3% among rural women in Delta State — reinforcing the need for targeted

sensitization in underserved communities. Abugu and Nwagu (2021) found that even where cervical cancer awareness (70.8%) and knowledge of screening (68.1%) were relatively high in Enugu State, 91.7% of women had never been screened due to lack of knowledge about screening locations and perceived invulnerability, suggesting that translating awareness into action requires both logistical access and personal risk perception. From a comparative policy perspective, Anyasi and Foss (2021) concluded through a systematic review that subsidies and free programmes alone do not improve uptake; findings from Nigeria and Nordic countries (Denmark, Finland, Norway, Sweden) showed that reminders, general practitioner invitations, and stakeholder-led policy coordination were more effective. Osuchukwu and Ukach (2019) reinforced this conclusion through a community screening exercise in which 90% of participating women had never been screened, demonstrating that without active sensitization even in non-clinical settings, women remain disengaged from potentially life-saving preventive services.

3. MATERIAL AND METHOD

3.1 Study Design and Setting

A descriptive cross-sectional survey was conducted between January and December 2024 at FUHSTHO, a federal tertiary healthcare institution established in 2020 in Otukpo, Benue State, Nigeria. The hospital provides specialist outpatient services, surgical and obstetric care, emergency medicine, laboratory and educational programmes for health sciences students.

3.2 Population and Sampling

The target population comprised 624 clinical and non-clinical female employees of FUHSTHO. The sample size of 244 was determined using the Yamane (1967) formula at a 95% confidence level and 5% margin of error: $n = N / [1 + N(e^2)]$, yielding $n = 244$. Participants were recruited through convenience sampling across all departments during working hours. Inclusion criteria were: female sex, minimum six months of employment and willingness to participate. Women with a personal history of cervical cancer or currently undergoing treatment were excluded.

3.3 Data Collection Instrument

A structured, self-administered questionnaire labeled the Questionnaire on Cervical Cancer Awareness (QUECCA) was developed from existing literature aligned with study objectives. The instrument comprised two sections: Section A captured socio-demographic characteristics (age, marital status, years of service, department); Section B contained 28 closed-ended items addressing awareness and knowledge of cervical cancer, perceived risk factors, supportive attitudes and environment, and utilization of prevention methods. Most items used a four-point Likert scale (Strongly Agree = 4; Agree = 3;

Disagree = 2; Strongly Disagree = 1); selected items used frequency-based or categorical response formats. Content validity was established through expert consultation, and face validity was confirmed via pilot testing with 15 nurses, resulting in minor wording revisions. Internal consistency was assessed in a separate pilot sample of 30 participants; Cronbach's alpha was 0.81, indicating good reliability.

3.4 Data Collection Procedure

Questionnaires were distributed and collected by the researchers, following brief standardized instructions. Of 244 questionnaires administered, 237 were returned completed (response rate 97.1%). Ethical approval was obtained from the Hospital Administration prior to data collection. Participation was voluntary and anonymous; informed consent was implied through completion of the questionnaire. Participants were informed of their right to withdraw without penalty.

3.5 Data Analysis

Data were entered and analyzed using descriptive statistics. Frequencies and percentages were calculated for all variables. Results are presented in tables and bar charts to illustrate distributions and comparisons across response categories. Given the exploratory, descriptive objective of the study, inferential statistical testing was not performed.

4. RESULTS

4.1 Sample Characteristics

A total of 237 completed questionnaires were analysed.

Table 1

Socio-demographic characteristics of study participants (N = 237)

Variable	Category	n	%
Age (years)	24–30	48	20.3
	31–40	111	46.8
	41–50	56	23.6
	51–60	22	9.3
Marital Status	Single	71	30.0
	Married	116	48.9
	Divorced	21	8.9
	Widowed	13	5.5
	Other	16	6.7
Years of Service	1–5	128	54.0
	6–10	80	33.8
	11–15	21	8.9
	16–20	8	3.4
Department	Clinical	140	57.4
	Administrative	31	12.7
	Operational	27	11.1
	Support	21	8.6
	Other	18	7.4

Source: Field Survey, 2024

As shown in Table 1, the majority of respondents were aged 31–40 years (46.8%), followed by 41–50 years (23.6%) and 24–30 years (20.3%). Nearly half were married (48.9%), and 54.0% had been employed for 1–5 years. The majority worked in clinical departments (57.4%).

4.2 Level of Cervical Cancer Awareness

General awareness of cervical cancer as a leading cause of female morbidity and mortality was reported by 75% of participants (47% strongly agreed, 28% agreed). However, awareness was uneven across dimensions (Table 2).

Table 2

Dimensions of cervical cancer awareness among respondents (N = 237)

Dimension	Indicator	n	%
Knowledge	Understanding of prevalence	77	32.5
	Understanding of risk factors	63	26.6
	Understanding of symptoms	59	24.9
	Screening & diagnosis	38	16.0
Attitudinal	Perceived severity	79	33.3
	Perceived benefits	60	25.3
	Perceived susceptibility	51	21.5
	Fear & anxiety	47	19.8
Behavioural	Healthy lifestyle	63	26.6
	Screening behaviour	61	25.7
	Seeking medical care	57	24.1
	Vaccination	56	23.6
Environmental	Cultural factors	89	37.6
	Health education	53	22.4
	Access to healthcare	48	20.3
	Social support	47	19.8

Source: Field Survey, 2024

Among knowledge indicators, 42% were "very aware" of cervical cancer prevalence, but 58% were only somewhat aware, slightly aware, or not aware at all. Concerningly, 70% of participants either slightly recognized or did not recognize the severity of the disease, with only 30% expressing strong concern.

Information trust was reported as partial or absent by 49% of respondents, with 6% reporting never relying on credible sources. Symptom recognition varied: severe pelvic pain (14%), abnormal vaginal bleeding (13%), pelvic pain (12%), and heavy menstrual bleeding (12%) were the most identified symptoms, while weight loss and leg pain/swelling were least recognized (1% each).

4.3 Perceived Risk Factors

Table 3 presents the categorization and frequency of perceived risk factors.

Table 3

Perceived risk factors for cervical cancer by category (N = 237)

Category	Specific Risk Factor	n	%
Infection-related (total 26%)	Human Papillomavirus (HPV)	33	13.9
	Persistent HPV infection	45	19.0
Lifestyle (total 23%)	Multiple sexual partners	25	10.5
	Early age at first intercourse	23	9.7
	Smoking	17	7.2
	Poor diet	8	3.4
Medical/Health (total 21%)	Weakened immune system (HIV/AIDS)	24	10.1
	Long-term oral contraceptive use	10	4.2
Genetic (total 8%)	Family history of cervical cancer	18	7.6
Environmental/Preventive (total 14%)	Lack of screening (Pap smear, HPV test)	34	14.3

Percentages reflect proportion of respondents selecting each specific factor.

Source: Field Survey, 2024

Infection-related factors were most frequently cited (26% of all attributions), with persistent HPV infection identified by 19% and HPV generally by 14% of respondents. Lifestyle factors accounted for 23%, led by multiple sexual partners (11%) and early age at first intercourse (10%). Medical factors (21%) were dominated by weakened immune system/HIV-AIDS (10%) and long-term oral contraceptive use (4%). Genetic predisposition (family history) accounted for 8%, and lack of screening as an environmental/preventive risk was cited by 14%. Using Likert-scale responses, 86% affirmed HPV-related infection risk (51% strongly agreed), 82% endorsed lifestyle risk factors (48% strongly agreed), 86% agreed on medical risk factors, 84% on genetic factors, and 85% on lack of screening as a risk factor.

4.4 Supportive Attitudes and Environment

Respondents demonstrated broadly positive attitudes towards cervical cancer support.

Table 4

Supportive attitude and environmental dimensions as perceived by respondents (N = 237)

Support Dimension	Indicator	SA (%)	A (%)	D (%)	SD (%)
Positive attitude	Empathy, encouragement, hope & respect	42	34	16	8
Emotional support	Be present, listen, validate & counsel	41	36	15	8
Social support	Groups, online communities, family & friends	44	35	17	4
Medical support	Palliative care, treatment adherence, check-ups	52	38	9	1

SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree.

Source: Field Survey, 2024

As detailed in Table 4, 76% agreed that showing empathy, encouragement, hope, and respect constitutes a supportive attitude towards affected women. Medical support including regular check-ups, palliative care, and treatment adherence was endorsed by 90%. Emotional support (counselling, active listening and validation) was supported by 77%, and social support through community groups, online platforms, and family networks was endorsed by 79%.

Medical support was rated the most important category of supportive environment (26%), followed by positive attitude (22%), emotional support (20%), social support (18%), and practical support (14%). Notably, 72% of respondents confirmed the absence of a routine cervical cancer prevention programme at FUHSTHO.

4.5 Knowledge and Utilization of Prevention Methods

The majority of respondents identified effective cervical cancer prevention strategies (Table 5).

Table 5

Knowledge and uptake of cervical cancer prevention methods (N = 237)

Prevention Strategy	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
Lifestyle changes (safe sex, limited partners, no smoking)	49	33	14	4
HPV vaccination	48	35	12	5
Regular screening (Pap smear, HPV test)	53	33	10	4
Good hygiene & adequate vitamin D	38	32	23	7

Source: Field Survey, 2024

Table 6

Self-reported HPV vaccination and cervical cancer screening uptake (N = 237)

Behaviour	Yes (%)	No (%)	Not Sure (%)	Prefer Not to Say (%)
Ever received HPV vaccine	4.2	83.1	6.8	5.5
Ever undergone cervical cancer screening	3.8	80.6	13.5	2.1

Source: Field Survey, 2024

Regular screening (Pap smear and HPV testing) was the most strongly endorsed strategy (53% strongly agreed, 33% agreed; total 86%). HPV vaccination was endorsed by 83% (48% strongly agreed), and lifestyle modifications such as safe sex, limited sexual partners, and smoking cessation by 82%. Good hygiene and adequate vitamin D intake were endorsed by fewer respondents (70%). Despite these high endorsement rates, actual preventive health behaviours were strikingly low. Only 4% of respondents had ever received the HPV vaccine (Table 5), while 83% reported never having been vaccinated, and 8% were unsure. Similarly, only 4% had ever undergone cervical cancer screening, compared with 80% who had never been screened.

4.6 DISCUSSION

4.6.1 Level of Cervical Cancer Awareness

This study found that 75% of female healthcare employees at FUHSTHO were aware of cervical cancer as a significant cause of female morbidity and mortality. This finding is broadly comparable with previous Nigerian studies reporting awareness levels of 69–83% (Ayeni et al., 2023; Abugu & Nwagu 2021; Dozie et al., 2021), and aligns with evidence from Nepal (89%) (Baral, Pokharel & Gachhadar 2020), suggesting that general awareness likely propagated by healthcare exposure is relatively widespread even in resource-constrained settings.

However, a more granular analysis reveals significant knowledge deficits. Awareness of disease prevalence was low (42% very aware), and 70% did not perceive the personal severity of the disease as a concern. This pattern is consistent with Social Cognitive Theory: while observational learning in a clinical environment may cultivate general familiarity with cervical cancer, self-efficacy and personal susceptibility appraisal, the mechanisms that translate knowledge into protective action appear underdeveloped (Bandura 2008). The Health Belief Model similarly predicts that perceived severity and perceived susceptibility are necessary antecedents to preventive behaviour (Carpenter 2010); their relative absence in this population may partially explain the profound gap between knowledge and screening/vaccination uptake.

Low information trust (49% partial or absent trust in credible sources) likely compounds this gap, potentially reflecting broader sociocultural scepticism and past experiences with health system inadequacies. These findings underscore the importance of not conflating general awareness with actionable health literacy.

4.6.2 Perceived Risk Factors

Respondents demonstrated comprehensive recognition of the principal risk factor categories for cervical cancer. Infection-related factors particularly HPV were most frequently cited, with 86% endorsing HPV-related risk, a finding consistent with Elikwu et al. (2022) who reported 95.5% HPV awareness among undergraduates in southwest Nigeria. Lifestyle, medical, genetic, and environmental factors were similarly well-recognized (82–86%), indicating that the multifactorial aetiology of cervical cancer is broadly understood within this population.

Notably, lack of screening was itself identified as a significant risk factor by 85% of respondents, a form of systems-level awareness suggesting that participants recognize the preventive function of screening even while failing to access it themselves. This finding echoes Ayeni et al. (2023), who documented that knowledge of risk factors does not automatically translate into screening uptake in Nigerian populations.

4.6.3 Supportive Attitudes and Institutional Environment

A strongly supportive attitude toward cervical cancer patients was reported across all domains, with 76–90% endorsement of empathetic, medical, emotional, and social support. This finding is consistent with Agboola and Bello (2019), who found 76% positive attitude toward cervical cancer-related issues among antenatal attendees. Healthcare workers in clinical settings appear to internalize professionally normative caring attitudes, suggesting that institutional culture may be leveraged to promote patient education and early referral. A critical institutional finding is that 72% of respondents confirmed the absence of a routine cervical cancer prevention programme at FUHSTHO. Given that the institution is a tertiary teaching hospital established specifically to advance health sciences, this gap represents a significant structural deficiency. Research from comparable sub-Saharan African settings consistently identifies organizational support, reminder systems, and accessible onsite screening as key drivers of preventive behaviour uptake (Anyasi & Foss 2021; Akpan et al., 2023). The absence of such infrastructure likely constitutes a powerful distal barrier to screening and vaccination in this cohort.

4.6.4 Knowledge-Action Gap in Prevention

The most clinically significant finding of this study is the stark discordance between endorsed preventive knowledge and actual behaviour: 86% recognized screening as an effective prevention strategy, yet only 4% had ever been screened. Similarly, 83% endorsed HPV vaccination, while only 4% had received it. This pattern of acknowledged knowledge without behavioural enactment described variously as the “knowledge-attitude-practice gap” has been documented across Nigeria, Africa, and globally (Ayeni et al., 2021; Abugu & Nwagu 2021; Baral et al., 2020; Omowhara, Ameh & Banjo 2022).

The Theory of Planned Behaviour provides a framework for interpreting this gap: positive attitudes and knowledge may not suffice if perceived behavioural control (access, affordability, time) and subjective norms (peer and institutional expectations) do not reinforce screening intent (Ajzen 1991). In the absence of an institutional screening programme, the structural conditions for translating intent into behavior are lacking. Financial barriers, concerns about privacy and modesty, and limited availability of trained providers have been identified as critical barriers in similar populations (Uchendu et al., 2021; Omowhara et al., 2022)

These findings are particularly concerning given the healthcare worker context. If cervical cancer awareness has not translated into self-protective behaviour among this relatively educated, clinically exposed population, the prospects for community-level behaviour change led by these same workers may be limited without targeted, structured interventions.

4.7 Implications for Nursing and Clinical Practice

Nurses function as frontline advocates for cancer prevention. The documented awareness-behaviour gap suggests that continuing professional development programmes must move beyond knowledge delivery toward skills-based, motivational, and systems-level training. Nursing curricula should incorporate cervical cancer screening simulation, patient counseling competencies, and cultural sensitivity training. At the institutional level, integration of cervical cancer screening into occupational health services, coupled with paid time-off policies for screenings and peer-led awareness campaigns, could meaningfully reduce barriers and set a normative standard that cascades to patient-facing practice.

5. CONCLUSION AND RECOMMENDATIONS

This study reveals a significant knowledge-to-action gap in cervical cancer prevention among female employees at a Nigerian tertiary teaching hospital: while approximately three-quarters of participants demonstrated general awareness of cervical cancer, this awareness has not translated into preventive behaviour, with only 4% having ever been vaccinated or screened. The absence of an institutional cervical cancer prevention programme and low information trust are key modifiable structural barriers.

The following recommendations are proposed for healthcare administrators, policymakers, and nursing educators:

1. Implement a routine, institutionally funded cervical cancer screening programme integrated into occupational health services, with targeted outreach to all female staff regardless of clinical exposure.
2. Establish regular, evidence-based educational programmes addressing the specific knowledge gaps identified: local disease prevalence, personal susceptibility, and the critical importance of early detection.
3. Enact workplace policies providing paid time for cervical cancer screening and HPV vaccination, with institutional reminders and incentive structures to normalize preventive health-seeking behaviour.
4. Partner with national and state public health bodies and cancer advocacy organisations to ensure access to subsidized or free HPV vaccination for female employees.
5. Commission longitudinal and comparative multisite research to evaluate the effectiveness of workplace cervical cancer prevention interventions and to identify socioeconomic, cultural, and logistical barriers at the individual level.

5.1 LIMITATIONS

This study has several limitations that warrant consideration. First, convenience sampling may introduce selection bias, and findings may not be fully representative of all female healthcare employees at the institution. Second, the cross-sectional design precludes causal inference. Third, self-administered questionnaires are susceptible to social desirability bias and recall error. Fourth, the study was conducted at a single tertiary institution in Benue State; generalization to other geographic or institutional contexts should be made cautiously. Finally, the absence of inferential statistical analysis limits the ability to identify independent predictors of awareness and preventive behaviour. Future studies should employ probabilistic sampling, longitudinal designs, and multivariate modeling to address these gaps.

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DECLARATIONS

Ethics, Approval and Consent to Participate

Ethical approval was obtained from the Administration of the Federal University of Health Sciences Teaching Hospital, Otukpo, prior to data collection. Participation was

voluntary and anonymous. Informed consent was implied through completion and return of the questionnaire. Participants were informed of their right to withdraw at any time without consequence.

Competing Interests

The authors declare no competing interests.

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Availability of Data

The dataset supporting the conclusions of this study is available from the corresponding author upon reasonable request. The study was her BNSc research project December, 2024 at the Ahmadu Bello University (ABU) Zaria