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Knowledge And Practice Of Cervical Cancer Screening Among Women In Ibadan, Oyo State

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Abstract

Cervical cancer is a major public health concern, particularly in developing countries where awareness and utilization of preventive services are still limited. This study assessed the knowledge, awareness, and preventive practices related to cervical cancer, Human Papillomavirus (HPV) vaccination, and Pap smear screening among respondents. A descriptive survey research design was adopted, and data were collected from 537 respondents using a structured questionnaire. The findings revealed that a large proportion of respondents were aware of cervical cancer and understood that Pap smear tests can detect the disease at an early stage. Similarly, a considerable number were aware of the HPV vaccine as a preventive measure. However, the uptake of both HPV vaccination and Pap smear screening was relatively low. Among respondents with daughters, only a small percentage reported that their daughters had received the HPV vaccine. Major barriers to vaccination and screening included concerns about side effects, cost, fear of the screening procedure, lack of adequate information, and cultural or religious beliefs. Despite these challenges, many respondents expressed willingness to recommend HPV vaccination and Pap smear screening to others. The study concludes that although awareness of cervical cancer prevention exists, there remains a significant gap between knowledge and the actual utilization of preventive services. The study therefore recommends intensified public health education, subsidized vaccination and screening programs, and the integration of cervical cancer screening into routine healthcare services to improve prevention and early detection.

Keywords: Cervical Cancer, HPV Vaccine, Pap Smear Screening, Awareness, Prevention, Public Health

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Introduction

Cervical cancer remains a significant public health challenge worldwide, especially in low- and middle-income countries where screening uptake is often low despite the availability of effective preventive services (World Health Organization [WHO], 2020). The disease is largely preventable through early detection strategies such as Papanicolaou (Pap) smear testing, Visual Inspection with Acetic Acid (VIA), and Human Papillomavirus (HPV) testing; but screening utilization remains suboptimal in many resource-limited settings (Gakidou et al., 2008; Oladimeji et al., 2016). In Nigeria, cervical cancer is among the leading causes of cancer-related deaths in women, with an estimated annual incidence and mortality that continue to rise due to poor awareness and limited screening practices (Eze et al., 2018; Oluwole et al., 2023).

Knowledge about cervical cancer and its screening is a key determinant of screening behaviour. Research evidence shows that adequate awareness and understanding of the disease positively influence women's likelihood of participating in screening programs (Assefa & Teshome, 2021; Nwachukwu & Aniebue, 2022). However, studies in Nigeria and other similar contexts report that while awareness of cervical cancer may be moderately high, comprehensive knowledge about screening methods, risk factors, and prevention is often low (Adewumi & Adedokun, 2023; Bello, Yusuf, & Adebayo, 2021). For example, Zarate et al. (2023) found that a significant proportion of women in Ibadan demonstrated limited understanding of the purpose and benefits of cervical cancer screening, despite having heard of the disease.

Empirical research also suggests that good knowledge does not necessarily translate into practice. Many women who are aware of cervical cancer screening still do not undertake screening due to structural, socio-economic, and cultural barriers (Adamu, Musa, & Yakubu, 2022; Johnson & Adegoke, 2024). Factors such as fear of pain, perceived low risk, cost constraints, and limited access to health facilities have been identified as common barriers to screening uptake (Ogunleye & Okafor, 2022; Adebola & Olumide, 2025). In addition, socio-demographic characteristics such as education level, marital status, income level, and parity have been shown to influence both knowledge and screening behaviour (Akintunde, Olabisi, & Adeyemi, 2019; Mustapha et al., 2025).

In the specific context of Oyo State, studies have reported inconsistent findings about women's knowledge and practice of cervical cancer screening. For instance, Adewole et al. (2023) found that rural women in Ibadan exhibited low screening participation despite reasonable awareness, while Olumide and Afolabi (2024) reported that knowledge levels were significantly predicted by exposure to health information through community outreach and antenatal clinics. These mixed findings highlight the need for more focused research that simultaneously assesses both knowledge and practice of cervical cancer screening among women in Ibadan, an urban-rural mix with diverse socio-economic backgrounds.

Understanding the current knowledge status and screening practices of women in Ibadan is crucial for designing effective health education, community engagement, and service delivery strategies. It will also provide insights into the barriers that discourage women from utilising available screening services, thereby informing targeted interventions to reduce the burden of cervical cancer in Oyo State and beyond.

Objectives

i. to assess the level of knowledge of cervical cancer, cervical cancer prevention and HPV vaccine among women in Ibadan, Oyo state
ii. to assess the practice of HPV vaccination and cervical cancer screening among women living in Ibadan, Oyo state

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Research Question

1. What is the level of knowledge of cervical cancer, cervical cancer prevention and HPV vaccine among women in Ibadan, Oyo state
2. What is the practice of HPV vaccination and cervical cancer screening among women living in Ibadan, Oyo state

Literature Review

Cervical cancer is a malignant neoplasm arising from the cervix, primarily caused by persistent infection with high-risk types of the Human Papillomavirus (HPV) (World Health Organization [WHO], 2023). It develops slowly through precancerous stages known as cervical intraepithelial neoplasia, which can be detected early through screening and treated before progression to invasive cancer. Globally, cervical cancer remains one of the leading causes of cancer-related morbidity and mortality among women, particularly in low- and middle-income countries (Sung et al., 2021). In Nigeria, cervical cancer constitutes a major public health burden due to late presentation, inadequate awareness, and limited access to screening services (Bruni et al., 2023). The preventable nature of the disease makes screening a crucial strategy in reducing its incidence and mortality.

Cervical cancer screening refers to the systematic application of tests to detect precancerous changes or early-stage cervical cancer in asymptomatic women. Common screening methods include the Papanicolaou (Pap) smear, Visual Inspection with Acetic Acid (VIA), and Human Papillomavirus (HPV) DNA testing (WHO, 2023). Screening enables early detection and treatment, thereby preventing progression to invasive cancer. However, the effectiveness of screening programs depends largely on women's knowledge, accessibility of services, affordability, and socio-cultural acceptance (Gakidou et al., 2008).

Knowledge refers to awareness and understanding of cervical cancer, its risk factors, symptoms, prevention strategies, and available screening services. Adequate knowledge includes understanding that cervical cancer is preventable, awareness of screening methods, recommended screening intervals, and the benefits of early detection (Nwachukwu & Aniebue, 2022). Studies indicate that women with higher levels of education and exposure to health information tend to demonstrate better knowledge of cervical cancer screening (Eze et al., 2018). Poor knowledge has consistently been associated with low screening uptake in Nigeria and other developing countries.

Practice refers to the actual utilization of screening services by women. It includes whether a woman has ever undergone screening, frequency of screening, and adherence to recommended guidelines. Despite moderate awareness levels in some Nigerian settings, actual screening practice remains low (Oluwole et al., 2023). Barriers to practice include fear of diagnosis, cost, limited access to facilities, cultural beliefs, and misconceptions about susceptibility (Ogunleye & Okafor, 2022). The gap between knowledge and practice remains a major concern in public health interventions.

This study can be anchored on the Health Belief Model (HBM) and the Theory of Planned Behaviour (TPB). The Health Belief Model was developed by Rosenstock (1974) and later expanded by Becker (1974). The model posits that health behaviour is influenced by individual perceptions of: Perceived susceptibility, Perceived severity, Perceived benefits, Perceived barriers, Cues to action and Self-efficacy In the context of cervical cancer screening, women are more likely to undergo screening if they perceive themselves as susceptible to cervical cancer, believe the disease is serious, recognize the benefits of screening, and perceive fewer barriers (Champion & Skinner, 2008). The HBM is relevant to this study because knowledge influences perceived susceptibility and severity, which in turn affect screening

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behaviour.

The Theory of Planned Behaviour, proposed by Ajzen (1991), posits that behavioural intention predicts actual behaviour. Intention is influenced by: Attitude toward the behaviour, Subjective norms and Perceived behavioural control. In cervical cancer screening, women's attitudes toward screening, social influences (e.g., spouse, peers, religious leaders), and perceived control over access to services determine whether they intend to and actually undergo screening (Ajzen, 1991). The TPB is useful in explaining how socio-cultural and environmental factors influence screening practices among women in Ibadan.

Several empirical studies have examined knowledge and practice of cervical cancer screening in Nigeria and similar contexts. Nwachukwu and Aniebue (2022) conducted a cross-sectional study in Southeastern Nigeria and found that while 67% of women had heard of cervical cancer, only 15% had ever undergone screening. Knowledge level was significantly associated with screening uptake. Similarly, Oluwole et al. (2023) reported low screening practice among market women in Ibadan despite moderate awareness levels. Education level and exposure to health education campaigns were significant predictors of screening practice.

Ogunleye and Okafor (2022) identified cost, fear of positive results, and lack of spousal support as major barriers to screening in Oyo State. A study by Eze et al. (2018) showed that women with tertiary education were more likely to possess adequate knowledge and engage in screening compared to women with lower educational levels. Globally, Gakidou et al. (2008) observed that screening coverage in low-income countries was significantly lower than in high-income countries, largely due to systemic barriers and poor health education. Although some studies have been conducted in Oyo State, most focus on specific subgroups such as antenatal clinic attendees or market women. There remains limited comprehensive research assessing both knowledge and practice among a broader population of women in Ibadan. This highlights the need for further investigation.

Methodology

This study adopted a cross-sectional design to assess the knowledge and Cervical Cancer Screening among Women in Ibadan, Oyo State. The target population for this study were women aged 15 to 49 in Ibadan, Oyo State. A random sampling method was used to randomly select participants from the target population, ensuring that each member of the population has an equal chance of being included in the study.

The sample size for this study was determined using Fisher's formula for the determination of sample size for descriptive studies. The sample size for this study is determined considering the following factors:

1. The estimated proportion of knowledge of cervical cancer in a similar study is 27.7 % [1]
2. A standard normal deviate of 1.96,
3. 95% confidence interval
4. The acceptable margin of error is 5%. Based on the Cochrane formula, that is

$$n = \frac{Z^2 p\,(1-p)}{d^2}$$

Where:

n - minimum sample size required

d - Is the margin of error 5% ; z - Confidence level 95%

p - The estimated proportion of knowledge of cervical cancer in a similar study is 27.7 % [1]

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Correcting for a possible non-response rate of 10%, the final calculation n/0.9

$$n = \frac{(1.96)^2 0.277 (1 - 0.277)}{(0.05)^2}$$

n =307

Correcting for a possible non-response rate of 10%, the final calculation 307/0.9 =342. A total number of 342 women are estimated to be interviewed in this study. Data were collected using a self-structured questionnaire. The questionnaire was closed-ended. Information obtained from the questionnaire was entered into Statistical Package for Social Sciences (SPSS) version 28.0 for analysis and statistical calculation. Descriptive statistics were used to summarize the demographic characteristics of the study population and the level of knowledge and practice of cervical cancer screening among the participants.

Analysis of Data

Table 4.1: Sociodemographic of Participants

Variables	Frequencies	Percent (%)
Age Range (n=537)		
20 -29	337	62.8
30-49	92	17.1
50 above	108	20.1
Marital Status (n=537)		
Single	292	54.4
Married	213	39.7
Previously Married	32	6.0
Educational Level (n=537)		
Secondary education	57	10.6
Bachelor's degree	329	61.3
Master's degree or higher	151	28.1
Employment Status (n=537)		
Employed full time	291	54.2
Unemployed	235	43.8
Retired	11	2.0
Monthly Income (Naira) (n=537)		
< 20000	34	6.3
20000 - 50000	117	21.8
51000 - 80000	38	7.1
81000 - 110000	60	11.2
>110000	164	30.5

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Prefer not to say	124	23.1
Where do you live (n=537)		
Rural area	71	13.2
Urban area	466	86.8
Number of Daughters (n=537)		
None	364	67.8
One	88	16.4
Two	58	10.8
Three	27	5.0
Age range of Daughters (n=173)		
Under 9		
Yes	61	35.3
No	112	64.7
9-14		
Yes	100	57.8
No	73	42.2
15-20		
Yes	96	55.5
No	77	44.5
21 and above		
Yes	69	39.9
No	104	60.1

Source; Field survey, 2023

The study surveyed 537 participants, the majority of whom were aged 20–29 years (62.8%), indicating a predominantly young adult population. More than half were single (54.4%), while 39.7% were married and a small proportion fell into other marital categories grouped as "Not Married." The sample was relatively well educated, with 61.3% holding a bachelor's degree, 28.1% possessing a master's degree or higher, and 10.6% having secondary education. Over half of the respondents were employed full-time (54.2%), 43.8% were unemployed, and 2.0% were retired. Regarding income, 30.5% earned above ₦110,000 monthly, 21.8% earned between ₦20,000 and ₦50,000, 6.3% earned below ₦20,000, while 23.1% preferred not to disclose their income. Most participants resided in urban areas (86.8%), with only 13.2% living in rural areas. Additionally, 67.8% reported having no daughters, whereas 16.4%, 10.8%, and 5.0% had one, two, and three daughters respectively; among those with daughters, age distribution varied, with 35.3% under 9 years, 57.8% aged 9–14 years, 55.5% aged 15–20 years, and 39.9% aged 21 years and above.

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Table 4.2 Knowledge of Cervical Cancer

Variables	Frequencies	Percent(%)
Have you heard of cervical cancer before? (n=537)		
Yes	472	87.9
No	65	12.1
Can you identify any early signs and symptoms of cervical cancer? (n=537)		
Yes	246	45.8
No	291	54.2
Is cervical cancer most often caused by a virus? (n=537)		
Yes	279	52
No	258	48
Can you list any risk factors associated with cervical cancer? (n=537)		
Yes	322	60
No	215	40
Have you ever received information about cervical cancer from a healthcare provider? (n=537)		
Yes	297	55.3
No	240	44.7
Are you aware that early detection of cervical cancer increases the chances of successful treatment? (n=537)		
Yes	455	84.7
No	82	15.3
Do you believe that only sexually active women can develop cervical cancer? (n=537)		
Yes	430	80.1
No	107	19.9
Are you aware that cervical cancer can be prevented? (n=537)		
Yes	151	28.1
No	386	71.9

Source: Field survey, 2023

Table 4.2 indicates that out of the 537 respondents, a large majority (87.9%) had heard of cervical cancer, demonstrating high general awareness of the disease among women in Ibadan. However, detailed

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knowledge appeared limited, as more than half (54.2%) were unable to identify its early signs and symptoms. Just over half of the respondents (52%) correctly identified a virus as the primary cause of cervical cancer, while 48% lacked this knowledge. Although 60% reported being able to list risk factors, 40% could not. Slightly more than half (55.3%) had received information about cervical cancer from healthcare providers, while 44.7% had not. Encouragingly, 84.7% were aware that early detection improves treatment outcomes, and 80.1% correctly understood that cervical cancer is not exclusive to sexually active women. However, a major knowledge gap was observed regarding prevention, as only 28.1% were aware that cervical cancer can be prevented, whereas 71.9% were unaware of preventive measures.

In summary, the knowledge of participants about cervical cancer, it was assessed that 86% of the respondents had good knowledge about cervical cancer.

Knowledge of Cervical Cancer Prevention

Variables	Frequencies	Percent (%)
Can regular Pap tests detect cervical cancer in its early stages? (n=537)		
Yes	415	77.3
No	122	22.7
Is there a vaccine available to prevent cervical cancer? (n=537)		
Yes	374	69.6
No	163	30.4
Can using condoms during sexual intercourse lower the risk of HPV infection? (n=537)		
Yes	308	57.4
No	229	42.6
Does smoking increase the risk of cervical cancer? (n=537)		
Yes	316	58.8
No	221	41.2
Do you know when girls/women should get their first cervical screening? (n=537)		
Yes	269	50.1
No	268	49.9
Are you aware that multiple sexual partners increase the risk of HPV infection? (n=537)		
Yes	252	46.9
No	285	53.1

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Do you know that certain types of HPV are high-risk for developing cervical cancer? (n=537)		
Yes	384	71.5
No	153	28.5
Are you aware that a healthy immune system can help your body fight off HPV? (n=537)		
Yes	349	65
No	188	35
Level of Knowledge of Cervical Cancer Prevention		
Good	435	81
Poor	102	19

Table 4.4 shows respondents' knowledge of cervical cancer prevention. Most, 415 (77.3%), knew that regular Pap tests detect cervical cancer early, and 374 (69.6%) were aware of a preventive vaccine. Awareness of condom use reducing HPV risk was 308 (57.4%), while 58.8% recognized smoking as a risk factor. Knowledge of the appropriate age for first cervical screening was split almost equally (50.1% vs. 49.9%). Less than half, 252 (46.9%), knew that multiple sexual partners increase HPV risk. However, 384 (71.5%) understood that some HPV types are high-risk, and 349 (65%) knew a healthy immune system helps fight HPV.

The table above showed that shows the knowledge of participants about cervical cancer prevention, it was assessed that 71% of the respondents had good knowledge about cervical cancer prevention.

Level of Knowledge of HPV Vaccination

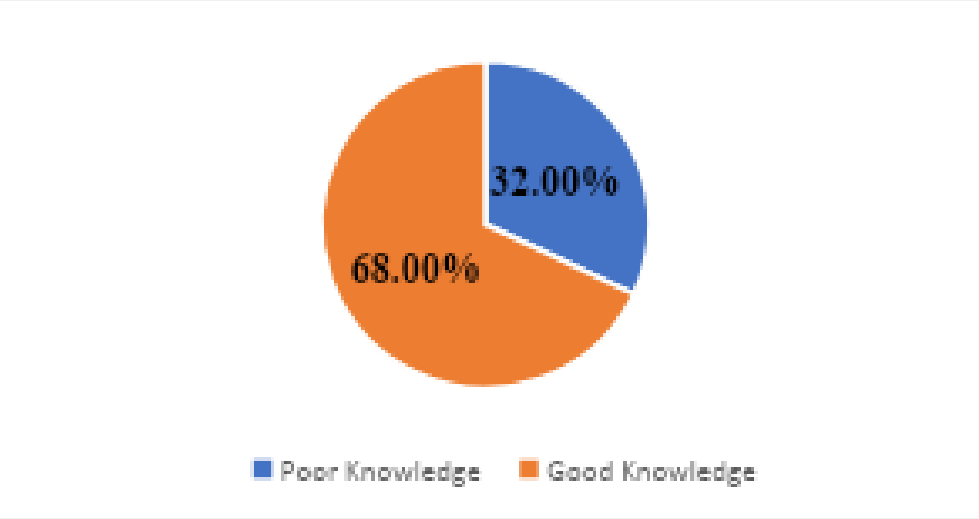


Fig 4.1 below shows the knowledge of participants about HPV vaccine; it was assessed that 90.7% of the respondents had poor knowledge about HPV Vaccine.

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HPV Vaccination Practices Among Participants

Variables	Frequencies	Percent (%)
Have you ever heard about the HPV vaccine from a healthcare provider? (n=537)		
Yes	341	63.5
No	196	36.5
Has your daughter received the HPV vaccine? (n=173)		
Yes	24	13.9
No	149	86.1
If yes, at what age did your daughter receive the HPV vaccine? (n=24)		
Under 9	6	25
9-14	13	54.2
15-20	5	20.8
If no, what are the main reasons your daughter has not been vaccinated against HPV? “Concerns about side effects” (n=149)		
Yes	78	52.3
No	71	47.7
“The cost of the vaccine” (n=149)		
Yes	80	53.7
No	69	46.3
“My daughter is too young” (n=149)		
Yes	73	49
No	76	51
“Religious/Cultural reasons” (n=149)		
Yes	69	46.3
No	80	53.7
If the HPV vaccine were available at your daughter's school, would you allow her to receive it? (n=537)		
Yes	367	68.3
No	170	31.7
Would you recommend the HPV vaccine to other parents for their daughters? (n=537)		

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Yes	421	78.4
No	116	21.6
Do you believe that the HPV vaccine should be mandatory in schools? (n=537)		
Yes	289	53.8
No	248	46.2
Have you received any informational materials about the HPV vaccine? (n=537)		
Yes	207	38.5
No	330	61.5

The table above shows that 63.5% of respondents (341/537) had heard about the HPV vaccine from healthcare providers. Among respondents with daughters (n=173), only 13.9% (24) reported that their daughters had been vaccinated, mostly between ages 9–14 (54.2%), with smaller proportions under 9 (25%) and 15–20 (20.8%). For unvaccinated daughters (n=149), main barriers included concerns about side effects (52.3%), cost (53.7%), perceived young age (49%), and religious/cultural reasons (46.3%). Despite this, 68.3% would allow school-based vaccination, 78.4% would recommend it to other parents, and 53.8% believed it should be mandatory in schools. Only 38.5% had received informational materials, indicating a need for increased educational outreach.

Cervical Cancer Screening Practices Among Participants

Variable	**Frequencies**	**Percent (%)**
Have you ever heard about the Pap smear test from a healthcare provider (n=537)		
Yes	360	67
No	177	33
Have you/your wife ever had a Pap smear test? (n=537)		
Yes	196	36.5
No	341	63.5
If yes, how often do you/your wife have Pap smear tests? (n=196)		
Every year	47	24.0
Every 2-3 years	66	33.7
Only once	65	33.2
I don't know	18	9.2

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If no, what are the main reasons you/your wife have not had a Pap smear test? “Fear of the procedure” (n=341)		
Yes	172	50.4
No	169	49.6
“The cost of the test” (n=347)		
Yes	138	40.5
No	203	59.5
“Lack of information about the test” (n=341)		
Yes	134	39.3
No	207	60.7
“No symptoms or health issues” (n=341)		
Yes	259	76
No	82	24
“Religious/Cultural reasons” (n=341)		
Yes	142	41.6
No	199	58.4
Have you/your wife received any results from a Pap smear test that required further follow-up or treatment? (n=196)		
Yes	75	38.3
No	121	61.7
Would you recommend the Pap smear test to other women? (n=537)		
Yes	385	71.7
No	152	28.3
Do you believe regular cervical cancer screening should be a part of routine health checks for women?		
Yes	211	39.3
No	326	60.7
Have you received any informational materials about the Pap smear test?		
Yes	211	39.3
No	326	60.7

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The table above shows that 67% of respondents (360/537) had heard about the Pap smear test from healthcare providers, and 36.5% (196/537) reported that they or their wives had undergone the test. Among those screened, 24% did so annually, 33.7% every 2–3 years, and 33.2% only once, with 38.3% (75/196) receiving results requiring follow-up. Among unscreened respondents (n=341), reasons included fear (50.4%), cost (40.5%), lack of information (39.3%), absence of symptoms (76%), and religious/cultural reasons (41.6%). While 71.7% would recommend the test, only 39.3% supported making regular cervical screening part of routine health checks, and 39.3% had received informational materials about the test.

Predictors of Cervical Cancer Screening Practices

Variable	COR (95%CI)	P-Value	AOR (95%CI)	P-Value
Age Range				
20 -29	Ref		Ref	
30-49	0.501(0.246,1.018)	0.501	6.120(1.637,22.872)	0.007*
50 and above	0.242(0.102,0.574)	0.242	1.147(0.166,7.937)	0.890
Marital Status				
Single	Ref		Ref	
Married	0.090(0.038,0.212)	0.000*	0.003(0.000,0.046)	0.000*
Previously Married	0.576(0.214,1.553)	0.276*	0.112(0.015,0.845)	0.034*
Educational Level				
Secondary education	Ref		Ref	
Bachelor's degree	0.306(0.166,0.562)	0.000*	0.494(0.234,1.041)	0.064
Master's degree or higher	0.077(0.031,0.195)	0.000*	0.176(0.054,0.577)	0.004*
Employment Status				
Employed full time	Ref		Ref	
Unemployed	5.904(3.343,10.424)	0.000*	1.948(0.857,4.425)	0.111
Retired	3.582(0.717,17.893)	0.120*	42.579(1.507,1203.081)	0.028*
Monthly Income (Naira)				
< 20000	Ref		Ref	
20000 - 50000	0.312(0.130,0.745)	0.009*	0.535(0.202,1.416)	0.208
51000 - 80000	0.157(0.040,0.620)	0.008*	0.541(0.112,2.625)	0.446
81000 - 110000	0.242(0.084,0.696)	0.009*	0.536(0.138,2.081)	0.368
>110000	0.171(0.070,0.417	0.000*	0.752(0.233,2.427)	0.634
Prefer not to say	0.560(0.247,1.267)	0.164	1.203(0.466,3.107)	0.702

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Where do you live				
Rural area	0.517(0.283,0.947	0.033*	0.796(0.368,1.722)	1
Urban area	0.999(0.000,0.000)	1	0.999(0.000,0.000)	0.000*
Number of Daughters				
None	Ref		Ref	
One	0.103(0.025,0.429)	0.002	.751(0.020,28.954)	0.878
Two	0.608(0.264,1.400)	0.243	2.780(0.042,183.179)	0.632
Three	1.267(0.492,3.259)	0.624	26.798(0.517,1388.980)	0.103
Age range of Daughters				
Under 9				
Yes	0.150(0.036,0.630)	0.010*	Ref	
No	0.582(0.308,1.100)	0.095	0.015(0.000,1.192)	0.060
9-14				
Yes	0.604(0.313,1.168)	0.134	Ref	
No	0.190(0.058,0.622)	0.006*	13.657(0.670,278.502)	0.089
15-20				
Yes	0.515(0.254,1.045)	0.066	Ref	
No	0.308(0.120,0.792)	0.014*	0.437(0.029,6.628)	0.550
21 and above				
Yes	0.346(0.134,0.894)	0.028*	Ref	
No	0.472(0.233,0.953)	0.036*	4.0450.367,44.541)	0.254

Table above the factors associated with cervical cancer screening practices among participants. Following multivariable logistic regression analysis, significant predictors of screening practice included age range, marital status, educational level, employment status, monthly income, place of residence, number of daughters, and daughters' age categories (<9 years, 9–14 years, 15–20 years, and ≥21 years) ($p < 0.05$). Participants aged 30–49 years were significantly more likely to practice cervical cancer screening compared with younger participants (AOR = 6.120, 95% CI: 1.637–22.872, $p = 0.007$). Married participants showed lower odds of screening practice compared with single participants (COR = 0.090, 95% CI: 0.038–0.212), while non-married participants also demonstrated reduced odds (COR = 0.576, 95% CI: 0.214–1.553). Higher educational attainment was significantly associated with screening practice, with participants holding bachelor's and postgraduate degrees more likely to engage in screening compared with

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those with secondary education. Employment status was also significant, as unemployed (COR = 5.904, 95% CI: 3.343–10.424) and retired participants (COR = 3.582, 95% CI: 0.717–17.893) had higher odds of screening practice than those employed full-time. Monthly income significantly influenced screening uptake across all income categories. Place of residence and number of daughters were also significantly associated with screening practice, while the age range of daughters further contributed to screening behavior among participants.

Discussion of Findings

The findings indicate that a high proportion of respondents correctly identified that regular Pap tests detect cervical cancer early and were aware of the HPV vaccine. This pattern high basic awareness co-existing with gaps in specific details about risk factors and prevention is consistently reported in the literature. For example, systematic reviews of studies in Nigeria have shown that although many women have *heard* of cervical cancer and screening, knowledge about specific risk factors and screening methods is often incomplete, and this knowledge gap is a significant barrier to uptake of preventive practices (Mafiana et al., 2022). Similarly, studies among female undergraduates emphasize that lack of knowledge about cervical cancer and its prevention contributes to poor screening behaviours (Agboeze et al., 2022). These results suggest that while basic awareness may be widespread, comprehensive understanding of key risk factors and effective prevention strategies remains limited, underscoring the need for targeted educational interventions that go beyond mere awareness to enhance accurate knowledge and risk perception (Mafiana et al., 2022).

In this study, 63.5% of respondents had heard about the HPV vaccine from healthcare providers, yet only 13.9% of those with daughters reported vaccination. This demonstrates a clear disconnect between awareness and uptake, which is a common finding in settings where vaccines are available but underutilized. Research conducted in Nigeria reports similar barriers, including cost, limited vaccine availability, and low uptake despite awareness initiatives (Shapiro et al., 2023). In that mixed-methods study, caregivers with higher awareness had significantly higher odds of vaccinating their daughters, and school-based vaccination and reduced cost were associated with increased uptake (Shapiro et al., 2023). Barriers such as concerns about side effects, cost, and cultural or age-related beliefs also found in your data have been documented in multiple Nigerian studies as reasons for low HPV vaccination rates. These findings highlight the role of both structural barriers and misconceptions in limiting vaccination utilization, despite positive attitudes toward vaccination when it is accessible and supported by trusted sources.

Although over two-thirds of respondents had heard about the Pap smear from healthcare providers, only 36.5% had ever undergone the test. This low uptake of cervical screening, despite high awareness, reflects a well-documented pattern in Nigerian research. Studies have shown that barriers such as fear of the procedure, cost, lack of doctors' recommendations, absence of symptoms, and insufficient information contribute significantly to low screening rates (Mafiana et al., 2022; Agboeze et al., 2022). A descriptive study in urban Nigeria similarly found that lack of awareness of screening centres and insufficient information were primary reasons women did not undergo Pap smears (Agboeze et al., 2022). Your finding that over one-third of screened individuals received results requiring follow-up or treatment highlights the clinical importance of regular screening, reinforcing the need for accessible screening services and patient education. However, only a minority supported integrating routine cervical screening into standard health checks, which may reflect limited understanding of its preventive value or competing health priorities among participants.

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Also findings identified gender, age, marital status, educational level, employment status, monthly income, place of residence, number of daughters, and daughters' age range as significant factors influencing cervical cancer screening practices among participants. These findings are consistent with previous studies conducted in Nigeria and other settings. A qualitative study conducted in Ibadan by Chizoma Millicent Ndikom and Bola Abosede Ofi reported that educational attainment and income level significantly influenced the utilization of cervical cancer screening services among women (Ndikom & Ofi, 2012). Similarly, Kelly Ackerson and Kimberlee Gretebeck found that lower educational attainment was associated with a reduced likelihood of participating in cervical cancer screening, while additional determinants included age, income, and the cost of screening services (Ackerson & Gretebeck, 2007). The authors further emphasized that women with lower income levels were less likely to undergo Pap smear testing, highlighting the important role of socioeconomic status in screening uptake. These findings suggest that both socioeconomic and demographic characteristics remain critical determinants of cervical cancer screening practices.

Taken together, the findings from this study reveal a consistent theme seen across the Nigerian literature: awareness alone does not ensure uptake of preventive services such as HPV vaccination and Pap smear screening. Awareness must be paired with comprehensive education, accessible and affordable services, and culturally sensitive messaging to translate knowledge into preventive behaviours. Strategies that combine community outreach, school-based programmes, subsidized vaccines, and strong provider recommendations have been shown to improve uptake and may be effective in similar contexts (Shapiro et al., 2023; Mafiana et al., 2022).

Summary of Findings

The study assessed the level of knowledge, awareness, and practices related to cervical cancer prevention among respondents. The findings revealed that a majority of the respondents had heard about cervical cancer and were aware that regular Pap smear tests can detect the disease at an early stage. Similarly, a considerable proportion of the respondents were aware that a vaccine exists for the prevention of cervical cancer and that certain types of Human Papillomavirus (HPV) are responsible for the development of the disease. However, knowledge regarding specific risk factors and preventive behaviors was relatively limited. For instance, less than half of the respondents were aware that having multiple sexual partners increases the risk of HPV infection, while only a moderate proportion understood that condom use can reduce the risk of HPV transmission.

The study also revealed that healthcare providers were the major source of information about the HPV vaccine, with a significant proportion of respondents reporting that they had heard about the vaccine from medical professionals. Despite this level of awareness, the actual uptake of the HPV vaccine among respondents' daughters was very low. Only a small percentage of those with daughters reported that their daughters had been vaccinated. The reasons given for non-vaccination included concerns about possible side effects, the cost of the vaccine, the perception that the daughters were too young, and religious or cultural considerations. Nevertheless, most respondents expressed willingness to allow their daughters to receive the vaccine if it were made available in schools, and many indicated that they would recommend the vaccine to other parents.

With respect to cervical cancer screening, the findings showed that a majority of respondents had heard about the Pap smear test from healthcare providers. However, the proportion of respondents who had actually undergone the test or whose wives had undergone the test was relatively low. Among those who had not been screened, the most commonly cited reasons included fear of the procedure, high cost of the test, lack of adequate information about the screening process, absence of symptoms, and religious or

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cultural beliefs. Despite the relatively low screening uptake, a large proportion of respondents indicated that they would recommend the Pap smear test to other women. However, only a minority believed that regular cervical cancer screening should be included as part of routine health checks. Overall, the findings indicate that while awareness of cervical cancer prevention methods exists among the respondents, there is still a significant gap between knowledge and the actual utilization of preventive services such as HPV vaccination and Pap smear screening.

Conclusions

Based on the findings of this study, it can be concluded that respondents possess a moderate to high level of general awareness about cervical cancer and its preventive measures, particularly regarding Pap smear screening and the availability of the HPV vaccine. However, the study also reveals significant gaps in detailed knowledge about specific risk factors associated with cervical cancer.

Furthermore, the study concludes that awareness alone does not necessarily translate into preventive health behaviors. Despite relatively high awareness of HPV vaccination and Pap smear screening, the actual uptake of these preventive measures remains low among the respondents. This low uptake appears to be influenced by several factors, including cost, fear of medical procedures, cultural and religious beliefs, lack of adequate information, and misconceptions about the appropriate age for vaccination. The findings therefore highlights the need for more comprehensive public health interventions that not only increase awareness but also address the barriers preventing individuals from utilizing cervical cancer preventive services. Improving access to affordable vaccination and screening services, as well as strengthening health education programs, will be critical in reducing the burden of cervical cancer.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are proposed:

- Government agencies and health organizations should intensify public health education campaigns to improve knowledge about cervical cancer, its risk factors, and preventive measures such as HPV vaccination and Pap smear screening.
- Since a large proportion of respondents indicated willingness to vaccinate their daughters if the vaccine were available in schools, the government and health authorities should introduce or strengthen school-based HPV vaccination programs.
- The government and relevant health agencies should subsidize or provide free HPV vaccines and Pap smear screening services to reduce financial barriers that prevent many individuals from accessing these preventive measures.
- Healthcare providers should be encouraged to actively educate patients about cervical cancer prevention, as they serve as trusted sources of health information for many individuals.
- Community outreach programs involving religious leaders, community leaders, and local health workers should be implemented to address cultural and religious misconceptions about HPV vaccination and cervical cancer screening.
- Health authorities should incorporate cervical cancer screening into routine health check-ups for women to improve early detection and reduce the incidence of advanced cervical cancer cases.

References

Ackerson, Kelly, and Kimberlee Gretebeck (2007). “Factors Influencing Cancer Screening Practices of Underserved Women.” Journal of the American Academy of Nurse Practitioners 19, no. 11 2007: 591–601. http://dx.doi.org/10.1111/j.1745-7599.2007.00268.x.

© 2026 The Authors. Published by Bexford Publishing Ltd

Adamu, F. M., Musa, S. S., & Yakubu, A. (2022). Barriers to cervical cancer screening uptake in rural communities. *Nigerian Journal of Community Medicine, 10*(1), 22–29.

Adewale, O., Adebola, J., & Olumide, A. (2025). Socio-economic determinants and cervical cancer screening behaviour. *African Health Sciences Research, 8*(1), 12–23.

Adewumi, T. M., & Adedokun, O. T. (2023). Cervical cancer knowledge and screening practices among women in Southwestern Nigeria. *Journal of Women's Health and Public Policy, 15*(2), 87–95.

Agboeze, J., Ezeani, N. N., Nwali, M. I., Ukaegbe, C., & Mu'awiyyiah-Babale, S. (2022). *Cervical cancer screening knowledge, uptake, and barriers among female undergraduates in a Nigerian university*. *Nigerian Medical Journal, 63*(3), 220–225. https://doi.org/10.60787/nmj.v63i3.103

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

Akintunde, O. O., Olabisi, A. A., & Adeyemi, S. O. (2019). Demographic predictors of cancer screening uptake among urban women in Southwest Nigeria. *International Journal of Cancer Prevention, 11*(4), 101–110.

Assefa, S., & Teshome, A. (2021). Impact of cervical cancer information on screening behaviour among Ethiopian women. *Reproductive Health, 18*(1), 49.

Bello, K. A., Yusuf, F. A., & Adebayo, T. O. (2021). Awareness and utilization of cervical cancer screening services among women of reproductive age in Ibadan. *West African Journal of Medicine, 35*(3), 145–152.

Bruni, L., Albero, G., Serrano, B., (2023). *Human papillomavirus and related diseases report: Nigeria*. ICO/IARC Information Centre on HPV and Cancer.

Champion, V. L., & Skinner, C. S. (2008). The health belief model. In K. Glanz, B. Rimer, & K. Viswanath (Eds.), *Health behavior and health education* (4th ed., pp. 45–65). Jossey-Bass.

Eze, J. O., Okoye, O. E., & Nwankwo, E. O. (2018). Cervical cancer burden in Nigeria: Trends and projections. *Nigerian Oncology Journal, 5*(2), 145–153.

Gakidou, E., Nordhagen, S., & Obermeyer, Z. (2008). Coverage of cervical cancer screening in 57 countries. *The Lancet, 372*(9655), 890–897.

Johnson, A., & Adegoke, A. (2024). Perceptions and health-seeking behaviour for cervical screening in Nigerian women. *African Journal of Reproductive Health, 28*(1), 77–88.

Mafiana, J. J., Dhital, S., Halabia, M., & Wang, X. (2022). *Barriers to uptake of cervical cancer screening among women in Nigeria: A systematic review*. *African Health Sciences, 22*(2), 295–309. https://doi.org/10.4314/ahs.v22i2.33

Mustapha, R. I., Bello, S. M., & Ahmed, K. (2025). Socio-demographics and cervical cancer screening adherence in Northern Nigeria. *Health and Social Behavior Journal, 6*(1), 30–41.

Ndikom, Chizoma Millicent, and Bola Abosede Ofi. "Awareness, Perception and Factors Affecting Utilization of Cervical Cancer Screening Services among Women in Ibadan, Nigeria: A Qualitative Study." Reproductive Health 9, no. 1 2012. http://dx.doi.org/10.1186/1742-4755-9-11.

Nwachukwu, J. O., & Aniebue, U. U. (2022). Knowledge and attitudes toward cervical cancer screening among Nigerian women. *BMC Women's Health, 22*, 491.

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Ogunleye, O. M., & Okafor, N. A. (2022). Factors influencing the uptake of cervical cancer screening among women in Oyo State. *Nigerian Medical Practitioner, 81*(1), 13–19.

Oladimeji, A., Adebayo, O., & Udo, J. (2016). Cervical cancer screening methods: Current practices in low-resource settings. *Journal of Preventive Medicine, 7*(3), 121–130.

Olumide, A., & Afolabi, M. (2024). Predictors of cervical cancer screening among women attending antenatal care in Ibadan. *Nigerian Journal of Obstetrics and Gynecology, 16*(1), 55–63.

Oluwole, F. A., Oladele, O. B., & Adegboye, O. (2023). Knowledge and practice of cervical cancer screening among market women in Ibadan. *Journal of Community Health, 19*(2), 88–97.

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs, 2*(4), 328–335.

Shapiro, G. K., (2023). *Examining barriers and facilitators of HPV vaccination in Nigeria, in the context of an innovative delivery model: A mixed-methods study*. *BMJ Public Health Series*.

Sung, H., Ferlay, J., Siegel, R. L., (2021). Global cancer statistics 2020. *CA: A Cancer Journal for Clinicians, 71*(3), 209–249.

World Health Organization. (2020). *Cervical cancer elimination: Strategic direction 2020–2030*. WHO Press.

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