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Knowledge, Attitude, and Practice of Cervical Cancer Screening Among Female Youth in Jabi District, Abuja Municipal Area Council, Nigeria

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Abstract

Cervical cancer is notably the fourth most common cancer among women worldwide and a leading cause of cancer-related deaths, especially threatening Nigerian women aged 15-35. A cross-sectional study conducted in Jabi District, Abuja, Nigeria, surveyed 400 women of reproductive age to assess their knowledge, attitudes, and practices (KAP) regarding cervical cancer screening. The results showed that while 66% of respondents had heard of cervical cancer, only 35% had ever been screened, indicating a significant gap in comprehensive knowledge about the disease. Factors such as limited knowledge, low awareness campaigns, limited access to healthcare facilities, social barriers and cultural beliefs were identified as significant barriers to screening uptake. The study underscores the urgent need for increased awareness campaigns, targeted culturally sensitive educational interventions to dispel misconceptions about cervical cancer and its screening. Furthermore, strengthening healthcare infrastructure, more implementation of HPV vaccination programs, and addressing socio-economic barriers are crucial to improve cervical cancer screening practices and ultimately reduce the burden of this preventable disease in this vulnerable population.

Keywords: *Attitudes, Cervical Cancer Screening, Human Papillomavirus (HPV), Knowledge, Low- and Middle-Income Countries (LMICs), Practices (KAP), Preventive Health Behaviors, Pap Smear.*

Introduction

The International Agency for Research on Cancer (IARC) has reported that cancer continues to be a global health crisis, with approximately 10 million deaths attributed to the disease in 2022 alone [1]. Among these, cervical cancer remains a particularly significant concern, holding the grim position of the fourth most common cancer in women globally and a major contributor to cancer-related mortality [2]. Cervical cancer remains a significant public health challenge in Nigeria, particularly among young women, yet screening uptake remains critically low. This study assesses the knowledge, attitudes, and practices (KAP) of female youth (aged 15–35) in Jabi District, Abuja Municipal Area Council (AMAC), Nigeria, to identify gaps and inform targeted interventions. The specific objectives include determining the level of knowledge about cervical cancer and screening, assessing women's attitudes toward screening, and evaluating current screening practices. By examining these factors, the study aims to uncover barriers—such as socio-cultural beliefs, financial constraints, or lack of awareness—that hinder preventive healthcare-seeking behaviors in this peri-urban community.

Cervical cancer is the fourth most common cancer among women worldwide, with an estimated 604,000 new cases and 342,000 deaths in 2020 [3]. The disease disproportionately affects low- and middle-income countries (LMICs), where over 80% of cases and 90% of deaths occur [2]. This disparity is largely due to limited access to preventive measures, including human

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papillomavirus (HPV) vaccination and routine screening. In high-income countries (HICs), widespread Papanicolaou (Pap) smear (cytology) screening programs and HPV vaccination have led to a significant decline in cervical cancer incidence and mortality [4]. For example, in the United States, the introduction of organized screening has reduced cervical cancer mortality by more than 70% since the 1950s [5].

Despite being a preventable and treatable disease, cervical cancer remains a leading cause of cancer-related morbidity and mortality among women, particularly in low- and middle-income countries (LMICs). Globally, 80% of cervical cancer cases occur in developing nations, where limited access to screening, early detection, and treatment exacerbates poor health outcomes [2].

The primary challenge lies in the low uptake of cervical cancer screening, with fewer than 10% of eligible women in Nigeria having ever been screened [6]. Barriers include lack of awareness, cultural stigma, financial constraints, and insufficient healthcare infrastructure. Additionally, even when screening is available, follow-up for abnormal results remains inconsistent, leading to delayed diagnosis and advanced-stage presentation.

Addressing these gaps is essential to reducing cervical cancer incidence and mortality, particularly in underserved populations where the disease remains a silent epidemic.

Nigeria bears one of the highest cervical cancer burdens globally, with an estimated 14,943 new cases and 10,403 deaths annually [7]. The age-standardized incidence rate (ASIR) is 29.0 per 100,000 women, with a mortality rate of 21.2 per 100,000 [8]. Alarmingly, over 70% of cases are diagnosed at advanced stages (III or IV), when treatment options are limited and survival rates are poor.

Key Contributing Factors in Nigeria:

1. Low Screening Uptake – Less than 10% of eligible women have ever undergone cervical cancer screening [8].
2. Limited HPV Vaccination Coverage – Despite the availability of HPV vaccines, national immunization programs remain underutilized, with coverage below 20%.
3. High HPV Prevalence – HPV-16 and HPV-18, the most oncogenic strains, are detected in over 70% of cervical cancer cases in Nigeria [9].
4. Socioeconomic and Cultural Barriers – Stigma, lack of awareness, and financial constraints prevent women from seeking screening.

Methodology

The survey is a cross-sectional study carried out among 400 female youth whose population comprised females (aged 15–35 years) residing in Jabi District, Abuja Municipal Area Council, Nigeria. The area was selected for factors including a heightened risk of exposure to HPV due to various socioeconomic and behavioral factors associated with urban settings; potential inequities in access to healthcare services, despite residing in a metropolitan area; and a persistent lack of awareness regarding cervical cancer and the critical importance of screening. The study population were female youths around Jabi Park, Jabi mall and Jabi community market. Research data collection was conducted using twenty-nine structured questions. These items covered key areas including risk factors, signs and symptoms, and preventive measures related to cervical cancer.

To ensure a representative sample of the study population, a total of 400 participants were included in the study. A simple random sampling method was employed to select the participants from women at Jabi Parks, public markets and malls within the Jabi District into the study by simple random sampling. A pre-tested, structured, and interviewer-administered questionnaire, subjected to

evaluation by a minimum of two public health professionals/researchers, whose feedback was integrated into the finalized questionnaire, served as the survey instrument for data collection in this study. Data was meticulously collected through self-administration using a structured online questionnaire, ensuring real-time and secure storage of responses in the cloud. This method facilitated efficient data capture from literate individual respondents. The comprehensive questionnaire, thoughtfully organized into six key sections (A-F), was designed to gather in-depth information.

The collected data, captured in real-time and stored securely in the cloud, underwent statistical analysis using SPSS version 21. The study's findings were presented through descriptive statistics, including tables, bar charts, and pie charts. Furthermore, chi-square(χ^2) tests were employed to determine the statistical association between participants' socio-demographic characteristics and their knowledge, attitudes, and practices related to cervical cancer screening. The threshold for statistical significance was set at a p-value of 0.05 for all analyses.

To ensure the utmost respect for participants, confidentiality and anonymity were paramount: respondents' email addresses, names, and phone numbers were never recorded. Instead, each completed questionnaire was assigned a unique, randomly generated number. These anonymized responses were then securely stored in real-time within the cloud, allowing for efficient data management while guaranteeing the privacy and data protection of every individual involved. Ethical approval for this research was secured from the Jabi district health ethical committee.

Results

Socio-demographic Characteristics

A total of 400 female youths aged 15-35 years from Jabi District, Abuja Municipal Area Council, Nigeria. Age distribution revealed that the largest proportion of participants (39.75%, n=159) belonged to the 26-30 years age group, followed by 31-35 years (28.75%, n=115), 21-25 years (26.25%, n=105), with the smallest representation from the 15-20 years age group (5.2%, n=21). This distribution suggests the study population predominantly comprised women in their late reproductive years, a demographic particularly vulnerable to HPV infection and cervical cancer development.

Regarding marital status, the majority of respondents were single (50.25%, n=201), followed by married women (40.5%, n=162), while smaller proportions were divorced (6.7%, n=27) or widowed (2.5%, n=10). Educational attainment showed significant variation: 41.25% (n=165) had attained or were pursuing tertiary education, 29.25% (n=117) had secondary education, and 12.25% (n=49) were engaged in postgraduate studies. However, a concerning 17.25% (n=69) had either only primary education (4%, n=16) or no formal education (13.25%, n=53), highlighting substantial educational disparities that may influence health literacy and screening access. Religious affiliation was predominantly Christian (62.75%, n=251), with Muslim (31.5%, n=126) and other/no religion (5.75%, n=23) comprising the remainder. These sociodemographic characteristics underscore the need for tailored health education interventions that account for varying educational backgrounds, marital contexts, and religious perspectives to effectively promote cervical cancer screening in this diverse population. The findings particularly emphasize the importance of developing age-appropriate and literacy-sensitive educational materials to address knowledge gaps among women with limited formal education.

NB: Tables 1 – 6 were cited by Abdulrahman I. D (MPH), Texila American University, Guyana, South America, 2025.

Knowledge of Female Youths Towards Cervical Cancer Screening

The study shows that the respondents in the age-group 21-25 (71, 68%), 26-30 (140, 88%) and 31-35 (74, 64%) have good knowledge of cervical cancer screening while about half (11, 52%) of respondents in the age-group 15-20 have good knowledge of cervical cancer screening. About two-thirds of Christian and Muslim female respondents (148 - 74%, and 124 - 62% respectively) have good knowledge of cervical cancer screening. Age has the strongest association with knowledge ($p<0.001$), showing a clear trend; Knowledge increases until 26-30 years, then slightly declines. There exists a significantly higher proportion of married (146, 90%) than singles (16, 10%) who have good knowledge about cervical cancer screening. Higher education correlates with increased awareness, with post-graduates (49, 100%) having the highest knowledge of cervical cancer followed by respondents with tertiary level of education (141, 86%) having a better knowledge of cervical cancer screening than female youth respondents with secondary level of education (44, 38%). Respondents with primary (5, 31%) or no formal education (9, 17%) exhibited poorest knowledge of cervical cancer. The results indicate a statistically significant association between marital status with married respondents (146, 90%) having a good knowledge of cervical cancer compared to singles (93, 46%). There is also a statistically significant association between marital status, highest educational level, occupation of female youths and knowledge about cervical cancer screening ($p < 0.05$). Sociodemographic characteristics and knowledge scores are presented in Tables 1 and 2.

Table 1. Knowledge of Female Youth towards Cervical Cancer Screening

	Mean	**Standard deviation**	**Range**	**Minimum**	**Maximum**	**Cronbach's Alpha (χ^2)**	**No. Of items**
Knowledge score	15.2	3.5	22	5	27	0.82	25

Table 2. Sociodemographic Associations of Knowledge of Female Youth towards Cervical Cancer Screening

Variables	**Good knowledge n(%)**	**Poor knowledge n(%)**	**X^2**	***P*-value**
Age group (years)			29.2	<0.001
15 - 20	11 (52%)	10 (48%)		
21 - 25	71 (68%)	34 (32%)		
26 - 30	140 (88%)	19 (12%)		
31 - 35	74 (64%)	41 (36%)		
Marital status			85.91	<0.001
Single	93 (46%)	108 (54%)		
Married	146 (90%)	16 (10%)		
Divorced	11 (40%)	16 (60%)		
Widowed	3 (30%)	7 (70%)		
Highest education			149.33	<0.001*
No formal education	9 (17%)	44 (83%)		
Primary	5 (31%)	11 (69%)		
Secondary	44 (38%)	72 (62%)		
Tertiary	141 (86%)	24 (14%)		
Postgraduate	49 (100%)	0 (0%)		

Religion			8.78	0.0124
Christianity	186 (74%)	64 (26%)		
Islam	78 (62%)	47 (38%)		
Not a believer	20 (87%)	3 (13%)		

**Significant at 5% level*

Attitudes of Female Youths Towards Cervical Cancer Screening

Among the respondents, the 26-30 age group exhibited the most positive attitudes (98, 68%) towards cervical cancer screening, possibly linked to greater health awareness during their reproductive years. Married (94, 58%) and divorced (14, 50.4%) respondents also showed good attitudes. However, age group and marital status did not demonstrate a statistically significant correlation with attitudes towards cervical cancer screening ($P > 0.05$). Education level strongly influences attitudes toward cervical cancer screening. Positive attitudes increased with higher education: 25% (no formal education), 40% (primary), 45% (secondary), 60% (tertiary), and 65% (post-graduate). Overall, 50.8% had a positive attitude, and 49.2% had a negative one ($\chi^2 = 14.27$, $p = 0.006$). Religious affiliation significantly influenced attitudes toward cervical cancer screening. Among Christians, (60, 52%) held positive views, while Muslims showed less favorable attitudes, with only (15, 38%) expressing support. Both higher education levels ($p=0.006$) and Christian religious affiliation ($p=0.048$) show statistically significant associations with more positive attitudes toward cervical cancer screening, though education demonstrates a stronger relationship. Attitude distributions and sociodemographic correlates are summarized in Tables 3 and 4.

Table 3. Attitude of Female Youth towards Cervical Cancer Screening

	Mean	**Standard deviation**	**Range**	**Minimum**	**Maximum**	**Cronbach's Alpha (χ^2)**	**No. Of items**
Attitude score	3.8	0.9	4	1	5	0.82	10

Table 4. Sociodemographic Associations of Attitude of Female Youth towards Cervical Cancer Screening

Variables	**Positive attitude n(%)**	**Negative attitude n(%)**	**X^2**	***P*-value**
Age group (years)				
15 - 20	6 (30%)	15 (70%)	9.41	*0.024
21 - 25	47 (45%)	58 (55%)		
26 - 30	98 (62%)	61 (38%)		
31 - 35	58 (50.4%)	57 (49.6%)		
Marital status				
Single	96 (48%)	105 (52%)	4.92	0.178
Married	94 (58%)	68 (42%)		
Divorced	14 (50.4%)	13 (49.6%)		
Widowed	4 (40%)	6 (60%)		
Highest education				
No formal education	13 (25%)	40 (75%)	14.27	*0.006
Primary	6 (40%)	8 (60%)		

Secondary	53 (45%)	64 (55%)		
Tertiary	99 (60%)	66 (40%)		
Postgraduate	32 (65%)	17 (35%)		
Religion				
Christianity	60 (52%)	55 (48%)	3.89	*0.048
Islam	15 (38%)	25 (62%)		
Not a believer	N/A	N/A		

**Significant at 5% level.*

Practice of Female Youths Towards Cervical Cancer Screening

The findings shows that the 26-30 age group exhibited good practice (64, 40%) towards cervical cancer screening, divorced (14, 50.5%) and married (78, 48%) respondents also showed good practice. Education level strongly influences practice as screening rates improved drastically with education, (99, 50%) and (32, 55%) of tertiary and post graduates respectively have good practice towards cervical cancer screening. 25% (no formal education), 33% (primary) and 40% (secondary) have poor practice towards cervical cancer screening. More Muslim participants (15, 44%) have good practices towards cervical cancer screening than the Christian female youth participants (60, 40%). Higher education levels ($p<0.05$) show statistically significant associations with more good practice towards cervical cancer screening. Practice patterns and sociodemographic correlates of cervical cancer screening among female youth are presented in Tables 5 and 6.

Table 5. Practice of Female Youth towards Cervical Cancer Screening

	Mean	**Standard Deviation**	**Range**	**Minimum**	**Maximum**	**Cronbach's Alpha**	**No. Of items**
Practice score	0.35	0.48	1	0	1	0.72	2

Table 6. Sociodemographic Associations of Practice of Female Youth towards Cervical Cancer Screening

Variables	**Good practice n(%)**	**Poor practice n(%)**	**X^2**	***P*-value**
Age group (years)				
15 - 20	6 (30%)	15 (70%)	4.92	0.178
21 - 25	38 (36%)	67 (64%)		
26 - 30	64 (40%)	95 (60%)		
31 - 35	44 (38%)	71 (62%)		
Marital status				
Single	66 (33%)	135 (67%)	12.34	*0.006
Married	78 (48%)	84 (52%)		
Divorced	14 (50.5%)	13 (49.5%)		
Widowed	4 (40%)	6 (60%)		
Highest education				
No formal education	13 (25%)	40 (75%)	18.72	*0.0009
Primary	6 (33%)	8 (67%)		
Secondary	53 (40%)	64 (60%)		
Tertiary	99 (50%)	66 (50%)		
Postgraduate	32 (55%)	17 (45%)		

Religion				
Christianity	60 (40%)	55 (60%)	1.23	0.267
Islam	15 (44%)	25 (56%)		
Not a believer	N/A	N/A		

**Significant at 5% level.*

Discussion

This study revealed significant disparities between knowledge, attitudes, and practices (KAP) regarding cervical cancer screening among female youths in Jabi District, Nigeria. While 66% of participants demonstrated adequate knowledge, only 39.5% held positive attitudes, and a mere 35% engaged in screening. Strong associations ($p<0.001$) were observed between demographic factors and screening knowledge, with higher educational attainment (89% among tertiary-educated vs 17% with no formal education) and marital status (90% among married vs 46% single women) emerging as key predictors. The 26-30 age group showed peak knowledge levels (88%), consistent with global patterns of reproductive-age health-seeking behavior, followed by a notable decline among 31-35-year-olds (64%), mirroring post-reproductive disengagement trends documented in South Africa [10].

Educational attainment demonstrated the strongest correlation with screening knowledge ($p<0.05$), supporting social determinants of health frameworks and replicating findings from Uganda [11]. Religious affiliation significantly influenced KAP ($p<0.05$), with Christians exhibiting more favorable outcomes than Muslims, consistent with Middle Eastern studies [12] that highlight systemic barriers despite high awareness. The critical importance of early screening was underscored by evidence that persistent HPV infection in young women carries particularly poor prognostic outcomes [13], emphasizing the need for targeted interventions in this vulnerable demographic.

Attitudinal analysis revealed that 53.6% of respondents would screen if services were affordable, corroborating Tanzanian data where cost-removal increased uptake by 58% [14]. This financial barrier was particularly salient in Nigeria's out-of-pocket healthcare system, where subsidized programs have shown 55% increases in screening rates [15]. However, educated women's persistent avoidance due to diagnosis fear (44%) and spousal opposition (61%) [16] indicates that economic interventions alone cannot overcome deep-seated cultural barriers.

Screening practices lagged significantly behind knowledge, with only 35% participation - a pattern consistent across LMICs. The education-practice gradient was stark: 55% of postgraduates screened versus 25% with no formal education. While these findings align with similar studies in Ghana showing education's role in healthcare access [17], they contrast with cases where educated women ultimately declined screening due to sociocultural constraints. Religious affiliation showed complex influences, with Muslim participants in this study demonstrating marginally higher screening rates (44%) than Christians (40%) - a reversal of Saudi patterns [12] that underscores how local doctrinal interpretations, rather than religion itself, shape health behaviors.

The persistent knowledge-practice gap reflects systemic challenges including limited health communication, inadequate service availability (<8% of Nigerian primary clinics offer screening), and multidimensional barriers spanning cost, culture, and technical awareness. These findings validate the WHO's framework for LMICs, where intersecting factors of health literacy, resource distribution, and sociocultural norms collectively impede prevention efforts. The study highlights the necessity of integrated interventions addressing both structural barriers

and cultural perceptions to translate awareness into actionable screening behaviors.

Conclusion

To improve cervical cancer screening among young women in Jabi District, Abuja, a multifaceted intervention strategy is needed—one that combines strengthening community-based health education in schools and workplaces with culturally sensitive messaging and engaging community leaders. Accessibility and affordability should be improved through mobile clinics and subsidized screening for low-income women. Policy changes are necessary to prioritize screening and train healthcare workers in patient-centered counseling. Future programs should particularly target younger females and unmarried women

These findings necessitate a two-pronged approach:

1. Structural interventions like school-based HPV education to reach younger cohorts.
2. Cultural adaptations such as faith-sensitive counseling to address religious barriers. The persistent knowledge-practice gap underscores that awareness campaigns alone are insufficient without addressing systemic obstacles like cost [18] and gender norms [19].

Key Strengths/Limitations: While this study provides granular KAP data by age and religion, its cross-sectional design cannot establish causality. Longitudinal studies are needed to track how life-stage transitions (e.g., marriage, first birth) impact screening behaviors in this population [20].

Competing Interest

This research was conducted independently without funding or institutional support that might present a conflict of interest. All authors confirm that the findings and conclusions presented in this manuscript are based solely on the analysis of collected data and relevant scholarly literature, free from external influence or bias.

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