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Awareness of Cervical Cancer in Imo State, South-Eastern Nigeria

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Abstract

Cervical cancer remains a leading cause of morbidity and mortality among women globally, especially in low- and middle-income countries like Nigeria. This study assessed the awareness of cervical cancer among women in Imo State, Nigeria. A cross-sectional, descriptive survey was conducted across the three geopolitical zones of Imo State between February and June 2023, involving 257 women aged 30-49 years. Data were collected using structured, pre-tested questionnaires covering socio-demographic characteristics and cervical cancer awareness.

Descriptive statistics and chi-square tests were employed for analysis, with significance set at $p \leq 0.05$.

Results revealed that 66.3% of respondents were aware of cervical cancer, while 33.7% were not.

Urban residents demonstrated significantly higher awareness (86.6%) compared to rural counterparts (30.3%) ($X^2 = 80.497$, $p \leq 0.001$). Higher socioeconomic status, education level, and occupation were strongly associated

with better awareness ($p \leq 0.001$). Marital status also influenced awareness, with married (69.2%) and single (69.0%) women showing greater awareness than separated/widowed women (36.4%) ($X^2 = 9.660$, $p = 0.008$). Age, however, did not significantly affect awareness ($p = 0.084$).

The study highlights the need for targeted public health interventions to improve awareness, particularly among rural, less-educated, and low-income women. Recommendations include community-based education programs, engagement with local leaders, and expanded media campaigns to enhance outreach. Strengthening primary healthcare services in rural areas for routine screening and counseling is essential. Addressing these disparities can promote early detection and contribute to reducing cervical cancer incidence and mortality in Imo State.

Keywords: Awareness, Cervical Cancer, Imo State, Nigeria

Introduction

Cervical cancer is a significant public health concern worldwide, and is worse in women living in low- and middle-income countries^[1]. The primary cause is the persistent infection with high-risk types of human papillomavirus (HPV), a virus that is the commonest, though asymptomatic sexually transmitted infection. Many women continue to face late diagnoses and limited access to preventive care despite the availability of effective screening methods and vaccines, leading to higher mortality rates^[1].

In Nigeria, cervical cancer is the second most common cancer among women, with over 12,000 new cases and approximately 8,000 deaths reported in 2020. The majority of patients present at advanced stages of the disease, resulting in poor outcomes. Challenges such as the absence of routine population-based screening programs and limited integration of HPV vaccination into national immunization schedules has contributed to the high burden of cervical cancer in the country^[2].

Raising awareness about cervical cancer is crucial to promoting early detection, timely treatment, and ultimately reducing the burden of this disease. Education about risk factors, symptoms, and preventive measures — including HPV vaccination and routine screening such as Pap smears and HPV tests — empowers individuals to take proactive steps in safeguarding their health. Furthermore, addressing cultural barriers, misinformation, and healthcare inequalities plays a pivotal role in improving

outcomes [4].

Effective awareness strategies include community outreach programs, school-based education initiatives, and media campaigns.

Community outreach programs can engage local leaders, healthcare workers, and volunteers to disseminate information and encourage women to attend screenings. School-based initiatives targeting adolescents can promote HPV vaccination, emphasizing its role in preventing cervical cancer later in life.

Media campaigns — through television, radio, social media, and printed materials — can amplify messages about the importance of early detection and preventive measures, reaching a broader audience [5].

Collaborations between governments, non-governmental organizations (NGOs), and healthcare institutions are essential to ensure sustained efforts in awareness and accessibility to services. Additionally, culturally sensitive approaches tailored to specific communities can help overcome barriers related to stigma, misinformation, and fear [6].

This paper explores the importance of cervical cancer awareness. By fostering a more informed and proactive population, the goal is to contribute to the global effort of reducing cervical cancer incidence and mortality rates, promoting better health outcomes for women worldwide. This study is an excerpt from a component of a larger study.

Methodology

This is a cross-sectional, descriptive study to assess the level of awareness of cervical cancer among women in Imo State, Nigeria. This study took place in the three geopolitical zones of the state between February and June 2023. Inclusion criteria included women aged between 30 and 49 years, residing in Imo State, who consented to participate while exclusion criteria were women who have a known diagnosis of cervical cancer or who decline participation. The sample size was 257 women between 30 and 49 years of age based on a Cochran formula for cross sectional studies. A structured, pre-tested questionnaire was developed to capture age, education level, socio economic status, occupation, and marital status and administered by an interviewer. Analysis was with descriptive statistics and chi square for test of association and significance was set at $p < 0.05$.

Ethical approval was obtained from the institutional ethics review board of the Federal Medical Centre Owerri, Privacy and confidentiality of responses were strictly maintained.

Result

Sociodemographic Factors Affecting Awareness of Cervical Cancer

Awareness of Cervical Cancer

The majority, 166 (66.3%) of respondents are aware, while 83 (33.7%) are not aware of cervical cancer (Fig 1).

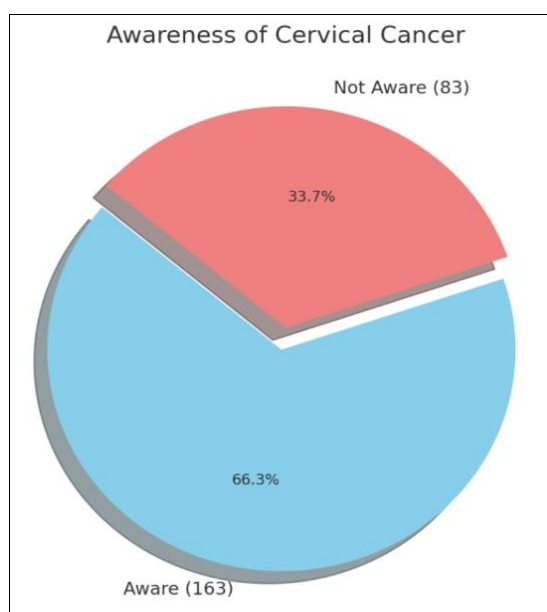


Fig 1: Awareness of Cervical Cancer

Factors affecting the awareness of cervical cancer

Residence and Awareness of Cervical Cancer

Awareness was significantly higher among urban residents (136, 86.6%) compared to rural residents (27, 30.3%) ($X^2 = 80.497$, $p < 0.001$).

This suggests that urban dwellers are more likely to be aware of cervical cancer, possibly due to better access to healthcare services, educational programs, and media exposure.

The lower awareness in rural areas (62, 69.7%) could be attributed to limited healthcare facilities, lower literacy levels, and cultural barriers.

Age of Participants and Awareness of Cervical Cancer

Awareness increased with age: 30-34 years: (27, 52.9%) aware, (24, 47.1%) unaware; 35-39 years: (38, 71.7%) aware, (15, 28.3%) unaware; 40-44 years: (34, 63.0%) aware, (20, 37.0%) unaware; 45-49 years: (64, 72.7%) aware, (24, 27.3%) unaware.

The association was not statistically significant ($X^2 = 6.657$, $p = 0.084$), indicating that age alone may not be a strong determinant of cervical cancer awareness. However, older participants, particularly those in their late 30s and 40s, might have greater exposure to health information through life experiences, routine medical visits, or increased health concerns.

Socioeconomic Status and Awareness of Cervical Cancer

Awareness varied significantly across socioeconomic groups: Class 1: (0, 0.0%) aware, (3, 100.0%) unaware; Class 2: (15, 100.0%) aware, (0, 0.0%) unaware; Class 3: (112, 86.8%) aware, (17, 13.2%) unaware; Class 4: (34, 45.3%) aware, (41, 54.7%) unaware, Class 5: (2, 8.3%) aware, (22, 91.7%) unaware.

The association was highly significant (LR = 96.888, $p < 0.001$), indicating that higher socioeconomic status correlates with better health knowledge, possibly due to increased access to education, healthcare, and media exposure. Those in lower socioeconomic groups may have financial constraints that limit access to health information and preventive care.

Marital Status and Awareness of Cervical Cancer

Awareness was highest among married (135, 69.2%) and single participants (20, 69.0%), while separated/widowed participants had the lowest awareness (8, 36.4%) ($X^2 = 9.660, p = 0.008$).

The significant association suggests that marital status may influence awareness, potentially due to spousal support and shared health information in marital relationships.

The lower awareness among widowed or separated individuals (14, 63.6%) could be linked to psychological distress, reduced social interactions, or less access to reproductive health services.

Education Level and Awareness of Cervical Cancer

Awareness varied significantly by education level: No formal education: (0, 0.0%) aware, (2, 100.0%) unaware; Primary education: (0, 0.0%) aware, (12, 100.0%) unaware;

Secondary education: (20, 31.3%) aware, (44, 68.8%) unaware; Tertiary education: (121, 85.8%) aware, (20, 14.2%) unaware; Other education levels: (22, 81.5%) aware, (5, 18.5%) unaware.

The association was highly significant (LR = 94.019, $p < 0.001$), emphasizing that education is a major determinant of cervical cancer awareness.

Individuals with higher education levels may be more likely to seek health information, understand preventive measures, and utilize healthcare services.

Occupation and Awareness of Cervical Cancer

Awareness was highest among public/civil servants (124, 87.9%), apprentices (4, 100.0%), and others (4, 100.0%), while it was lowest among full-time housewives (0, 0.0%), farmers (4, 18.2%), and traders (21, 40.4%) (LR = 104.451, $p < 0.001$).

Breakdown of awareness by occupation: Applicant/Job Seeker: (4, 66.7%) aware, (2, 33.3%) unaware; Full-time Housewife: (0, 0.0%) aware, (9, 100.0%) unaware; Full-time Student: (2, 33.3%) aware, (4, 66.7%) unaware; Public/Civil Servant: (124, 87.9%) aware, (17, 12.1%) unaware; Trader/Business: (21, 40.4%) aware, (31, 59.6%) unaware; Farmer: (4, 18.2%) aware, (18, 81.8%) unaware; Artisan: (0, 0.0%) aware, (2, 100.0%) unaware; Apprentice: (4, 100.0%) aware, (0, 0.0%) unaware; Others: (4, 100.0%) aware, (0, 0.0%) unaware.

The significant association suggests that employment status and work environment influence health awareness.

Public/civil servants likely have access to workplace health programs and insurance, while housewives and farmers may have limited exposure to health campaigns.

Table 1: Sociodemographic Factors Affecting Awareness of Cervical Cancer

Variable	Category	Aware of Cervical Cancer (Yes)	%	Aware of Cervical Cancer (No)	%	Total	% Test Statistic P-Value
Residence	Rural	27	30.3%	62	69.7%	89	100.0% 80.497(X^2) <0.001
	Urban	136	86.6%	21	13.4%	157	100.0%
	Total	163	66.3%	83	33.7%	246	100.0%
Age of Participants	30-34	27	52.9%	24	47.1%	51	100.0% 6.657(X^2) 0.084
	35-39	38	71.7%	15	28.3%	53	100.0%
	40-44	34	63.0%	20	37.0%	54	100.0%
	45-49	64	72.7%	24	27.3%	88	100.0%
	Total	163	66.3%	83	33.7%	246	100.0%
Socioeconomic Status	1	0	0.0%	3	100.0%	3	100.0% 96.888(LR) <0.001
	2	15	100.0%	0	0.0%	15	100.0%
	3	112	86.8%	17	13.2%	129	100.0%
	4	34	45.3%	41	54.7%	75	100.0%
	5	2	8.3%	22	91.7%	24	100.0%
	Total	163	66.3%	83	33.7%	246	100.0%
Marital Status	Married	135	69.2%	60	30.8%	195	100.0% 9.660(X^2) 0.008
	Single	20	69.0%	9	31.0%	29	100.0%
	Separated/Widowed	8	36.4%	14	63.6%	22	100.0%
	Total	163	66.3%	83	33.7%	246	100.0%
Highest Level of Education	No Formal Education	0	0.0%	2	100.0%	2	100.0% 94.019(LR) <0.001
	Primary	0	0.0%	12	100.0%	12	100.0%
	Secondary	20	31.3%	44	68.8%	64	100.0%
	Tertiary	121	85.8%	20	14.2%	141	100.0%
	Others	22	81.5%	5	18.5%	27	100.0%
	Total	163	66.3%	83	33.7%	246	100.0%
Occupation of Participants	Applicant/Job Seeker	4	66.7%	2	33.3%	6	100.0% 104.451(LR) <0.001
	Full-time Housewife	0	0.0%	9	100.0%	9	100.0%
	Full-time Student	2	33.3%	4	66.7%	6	100.0%

	Public/Civil Servant	124	87.9%	17	12.1%	141	100.0%
	Trader/Business	21	40.4%	31	59.6%	52	100.0%
	Farmer	4	18.2%	18	81.8%	22	100.0%
	Artisan	0	0.0%	2	100.0%	2	100.0%
	Apprentice	4	100.0%	0	0.0%	4	100.0%
	Others	4	100.0%	0	0.0%	4	100.0%
	Total	163	66.3%	83	33.7%	246	100.0%

X²(Pearson's Chi Square); LR(Likelihood Ratio)

Discussion

The study highlighted a moderate level of cervical cancer awareness among women in Imo State. Similar to a study done in southern Karnataka, India where about 67% of the participants had heard the term "cervical cancer" [7]. Residence, socioeconomic status, marital status, education level, and occupation all showed strong associations with cervical cancer awareness ($p < 0.001$) while age was not significantly associated with awareness ($p = 0.084$).

Among female students in a tertiary institution in Imo state, 87.9%) have heard of cervical cancer [8] Higher education and healthcare access emerged as key determinants of awareness. Rural dwellers, those with low education, unemployed, and lower-income groups had significantly lower awareness.

Recommendations: Targeted health education programs, particularly for rural women, those with low education, and lower-income groups, are crucial for improving cervical cancer awareness and prevention. Tailored community-based education programs are necessary, especially targeting less-educated women and strengthening the role of healthcare workers in counseling and information dissemination. There is need for enhanced media utilization. The study however has limitation as the self-reported data may be saddled with recall bias, cultural sensitivity and there may be limited rural reach to rural areas.

Conclusion

The study underscores the need for intensified public health efforts to enhance cervical cancer awareness in Imo State. Strongly significant factors influencing awareness included residence, socioeconomic status, marital status, education level, and occupation ($p < 0.001$). Age, however, was not significantly associated with awareness ($p = 0.084$). Rural dwellers, individuals with lower education, unemployed women, and those from lower-income groups demonstrated significantly lower awareness levels.

There is need to design and implement educational campaigns specifically addressing rural communities, women with lower educational levels, and low-income groups, Engage local leaders, churches, and market associations to support and promote cervical cancer awareness and strengthen primary healthcare facilities in rural areas to offer routine cervical cancer screening and counseling. Expanding the reach of educational content via widely accessible platforms such as radio, community programs, and mobile health services is also needed.

By addressing these disparities and implementing targeted interventions, awareness levels can improve, promoting early detection and reducing cervical cancer morbidity and mortality in Imo State.

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