Knowledge, Perception and Acceptance of Cervical Cancer Screening Among Women of Reproductive Age in Health Facilities in Ekiti State, Nigeria

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ABSTRACT: *This study aims to examine the knowledge, perception, and acceptance of cervical cancer screening among reproductive-age women in health facilities in Ado Ekiti, Ekiti State. The objectives include determining sources of information, assessing knowledge, acceptance, and perception, as well as investigating factors influencing acceptance. A descriptive research design was employed, with a sample size of 198 women divided across primary, secondary, and tertiary health care facilities in Ado Ekiti. Data were collected using a self-structured questionnaire, validated through expert assessment and a pilot study. Results indicate that 41% of participants have a high level of knowledge, 45% have a moderate level, and 14% have a low level. Acceptance rates for screening are 49.5% for "yes" and 50.5% for "no," with 92% expressing an unfavorable perception and 8% a favourable one. These findings suggest limited understanding, awareness, and willingness to undergo cervical cancer screening among women of reproductive age. The study emphasizes a strong correlation between knowledge, awareness, and willingness to undergo screening. In conclusion, the majority of reproductive-age women in Ado Ekiti exhibit low knowledge, perception, and acceptance of cervical cancer screening. Recommendations include increasing awareness and sensitization among patients and medical personnel, providing printed materials in major languages, establishing government-sponsored screening centers, and organizing workshops for nurses on cervical cancer, screening, and treatment modalities. These initiatives aim to enhance knowledge, improve perceptions, and increase acceptance of cervical cancer screening among women in the study area*
KEYWORDS: Knowledge, Perception, Acceptance, Cervical Cancer Screening, Reproductive Age Women

INTRODUCTION

Cervical cancer is a type of non-communicable illness that has the potential to be prevented (Amu et al., 2019). Cervical cancer (CC) continues to be a significant problem and a worldwide concern. Cervical cancer (CC) is a disease that advances gradually, beginning as an abnormal growth inside the epithelial tissue. It often takes up to 10 years for this first growth to develop into a precancerous lesion (Kirubarajan et al., 2021). Cervical cancer is a significant public health issue that affects numerous women and contributes to preventable high rates of cancer-related deaths in Nigeria. Cervical cancer is mostly caused by the infection of human papilloma virus (HPV) (Olubodun et al., 2022). Several strategies can be employed to mitigate the likelihood of acquiring cervical cancer, such as adopting healthier habits, receiving Human Papilloma Virus (HPV) immunisation, and undergoing screening to detect precancerous alterations. Implementing lifestyle modifications such as limiting the number of sexual partners and refraining from engaging in early sexual activity can effectively minimise exposure to the Human Papilloma Virus (HPV), the established etiological factor for cervical cancer (Owolabi & Adejumo, 2021).

The low incidence of cervical cancer screening in Nigeria can be attributed to several causes, including a weak healthcare system, lack of information, low perception of risk, social barriers, fear of receiving a positive result, poverty, and limited acceptance of the screening alternatives that are currently available (Okolie et al., 2022). In Nigeria, both the government and non-governmental organisations have made efforts to provide screening services, namely pap smears. However, the number of available centres for this screening is still limited (Amu et al., 2019). During the last two decades, industrialised nations have shown a decreased occurrence of Cervical Cancer. However, resource-constrained countries like Nigeria have been unable to achieve similar progress due to inadequate access to screening tests and insufficient utilisation of the available choices (Olajumoke et al., 2022).

Furthermore, it is worth noting that around 85% of Cervical Cancer incidences worldwide are concentrated in underdeveloped nations (Shrestha et al., 2019). Cervical Cancer is often regarded as a highly preventable kind of cancer. It ranks as the second most prevalent cancer among women, with over 500,000 new cases and 274,000 fatalities reported in 2017 according to the World Health Organisation (WHO). In 2018, there were an estimated 570,000 incidents of cervical cancer and 311,000 fatalities attributed to the illness (Olubodun et al, 2022). According to Okolie et al. (2022), cervical cancer is the most common gynecologic cancer in Nigeria. Cervical cancer, although highly preventable with screening, ranks as the second most significant cause of both illness and death from cancer in Nigeria (Okolie et al., 2022). In order to alleviate the impact of cervical cancer in Nigeria, it is crucial for health workers to assume a pivotal role in spearheading the adoption of screening practices and facilitating the availability of cervical cancer education and screening services (Okolie et al., 2022).

Cervical cancer is the predominant form of genital cancer and a significant contributor to mortality in the female population. Thankfully, this type of cancer may be avoided by conducting screenings

to detect early signs of cancerous growths (Amu et al., 2022). The occurrence and death rates of cervical cancer in Nigeria underscore the significant discrepancies between industrialised and poor nations. According to an analysis of data from the Global Cancer Observatory 2018 database, countries with a very high human development index (HDI) had an age-standardized incidence rate (ASIR) of 9.6 per 1000 000 women and an age-standardized mortality rate (ASMR) of 3.0 per 100 000. In contrast, countries with a low HDI had an ASIR of 26.7 per 100 000 and an ASMR of 20.0 per 100 000 (Olubodun et al., 2022). The prevalence of cervical cancer in the age group of 0-74 years is 1.9%, and a mere 11% of eligible women have had screening in the past five years. However, the majority of individuals who receive a diagnosis often exhibit symptoms at the advanced stages of the disease (Amu et al., 2022). Cervical cancer is a malignancy that affects the cervix and is characterised by distinct pre-malignant and malignant phases (Amu et al., 2019)

Within the Sub-Saharan Africa region, the prevalence of this type of cancer among women accounts for around 20 to 25% of all cancer cases, which is roughly double the global rate for women. The cervical cancer incidence rate in sub-Saharan nations varies between 30 and 40 per 100,000 women. In Nigeria, cervical cancer is the second most frequent cancer in women and is responsible for 63% of genital cancers and 30-40% of uterine malignancies in women aged 15 and above. According to a study conducted in 2012 by the World Health Organisation, it was estimated that about 14,089 women in Nigeria were diagnosed with cervical cancer based on data from the Ibadan and Abuja population-based cancer registries. Out of these cases, 8,240 women unfortunately lost their lives due to the disease (Amu et al., 2019). Nigerian women, particularly those in the reproductive age group, encounter several obstacles including social, cultural, and health domains. Nevertheless, The drop in incidence and death of cervical cancer in high-income countries can be linked to the presence of well-structured screening programmes and infrastructure that provide proper follow-up and treatment (Olubodun et al., 2022). Nigeria has a population over 50 million women aged 15 years and above who are susceptible to acquiring cervical cancer. According to recent data, around 14,943 women receive a diagnosis of cervical cancer year, and 10,403 women lose their lives due to this disease (Dozie et al., 2021). These data indicate that this condition is accountable for a significantly higher reduction in life-years and social cost (Dozie et al., 2021). Furthermore, women harbour unfavourable beliefs and perceptions around cervical screening (Amu et al., 2019). A research conducted by Abiodun et al in Ogun state Nigeria has disclosed a significant lack of awareness and information regarding cervical cancer and its screening among women (Amu et al., 2023). The most prevalent reason for non-participation in cervical cancer screening activities among respondents in Ilorin, located in the north central region of Nigeria, was a low perception of risk. This finding was also observed in southwest Nigeria, namely in Ibadan, where 35% of respondents reported the same reason (Amu et al., 2019).

According to data obtained from the Ife-Ijesha cancer registry between 2010 and 2014, a total of 2,042 instances of cervical cancer were documented. Among these cases, 18% were found to be located in the reproductive site (Owolabi & Adejumo, 2021). Data obtained from the cancer registry centre of the federal medical centre in Ido Ekiti between 2010-2015 indicates that the most

frequent location of infection is the breast (29.9%), followed by the cervix (17.5%). It has been observed that there is a low utilisation of cervical screening services among women in the Ikere local government area of Ekiti state (Owolabi & Adejumo, 2021).

A research conducted by Akpor et al. (2021) found that around 65.7% of participants were aware of cervical cancer, 55.4% believed that cervical cancer may be avoided, and 45.1% identified Pap smear as a fundamental screening test for cervical cancer. Regarding lifestyle risk factors, 38.9% of women utilised oral contraceptives while 46.3% reported having a single sexual partner. Just 44.3% of women express willingness to undergo another pap test. The data indicate that the main hurdles to screening were a lack of knowledge (40.6%), limited availability of convenient screening times (37.1%), and concerns related to the screening process (32.0%). The study revealed that participants possessed a significant degree of knowledge, but, their screening techniques did not align with this level of expertise.

Owolabi et al. (2021) found that the majority of nurses, namely 75.8%, had never undergone screening for cervical cancer. Only 24.2% of nurses have been checked, yet a significant proportion of 90.6% expressed their willingness to get screened if given the chance. Nurses' reluctance to undergo cervical screening is attributed to several factors, including time constraints, apprehension about receiving a positive result, discomfort in exposing the vulva to individuals of the opposite sex, financial considerations, and a belief in spiritual protection from cervical cancer. A total of 164 participants, accounting for 59.2% of the total, shown sufficient knowledge regarding cervical cancer screening. Additionally, slightly over half of the respondents, namely 143 individuals (51.6%), exhibited a favourable attitude towards cervical cancer screening. Amu (2019) found that the respondents exhibited a lack of awareness regarding cervical cancer, but displayed a favourable attitude towards its screening.

Esan et al., (2019) conducted a study to evaluate the awareness and utilisation of cervical cancer screening among women from various occupations in Ado-Ekiti, Nigeria. Prior to the poll, around 40% of the respondents were familiar with cervical cancer, whereas only 40.5% had knowledge of cervical screening tests. Out of the individuals who were informed about the screening tests, 16% had previously availed themselves of cervical cancer screening tests.

According to a 2017 research conducted in the poor resource rural area of Ekiti state, Nigeria, the prevalence rates of a certain condition are very high. This is mostly due to the expensive nature of the treatments, making them inaccessible and unaffordable for many women. Cervical screening offers the advantage of facilitating timely identification and treatment of cervical malignancies, hence reducing associated fatalities (Olubodun et al., 2022). Regrettably, the usage of cervical cancer screening services in Nigeria is inadequate, which presents challenges in promptly identifying and treating patients (Falade & Falade, 2021). Therefore, the objective of this study is to investigate the understanding, perspective, and willingness to undergo cervical screening at healthcare institutions in Ado Ekiti. The study offers valuable insights that might assist in customising suitable treatments and policy measures. Additionally, it will aid in identifying areas

that require attention from the education programme, while also establishing a baseline that may be utilised to assess the efficacy of subsequent interventions in this research.

The broad objective of this study is to examine knowledge, perception and acceptance of cervical cancer screening among reproductive age women at the health facilities in Ado Ekiti state. The specific objectives are:

1. determine the sources of information about cervical cancer screening

2. assess the knowledge, acceptance and perception of cervical cancer screening among reproductive age women at health care facilities in Ado Ekiti state

3. Investigate the factor influencing the acceptance of cervical cancer screening among reproductive age women at health care facilities in Ado Ekiti state

Research Hypotheses.

1. There is no significant relationship between the level of knowledge of reproductive age women and their acceptance of cervical cancer screening.

2. There is no significant relationship between socio-demographic characteristics of respondents and perception of cervical cancer screening

Methodology

A descriptive research design was adopted in the study to know the knowledge perception and acceptance of cervical cancer screening among reproductive age women in health facilities in Ado, Ekiti State. Ado-Ekiti is the capital of Ekiti State, southwest Nigeria. It lies in the Yoruba Hills at the intersection roads from Akure, Ilawe, Ilesha, Ila and Ikere. It is located on 7.62 latitude and 5.22 longitude. It is situated 92 miles (148km) east-northeast of Ibadan. Its geographical coordinates are 7^0 38'0" North, 5^0 13'0" East. Ado-Ekiti has a population estimate of about 450,000. The population comprised women of reproductive age (between the ages of 18 and 49) in Ado Local Government Area. The inhabitants largely belong to the Yoruba ethnic group, their major occupation is farming and trading, with few Civil Servants. Sample size was determined using Cochran's Formula and it yielded a sample size of 198. The sample was equally divided across the randomly selected health care facilities (primary, secondary and tertiary) thereby allocating 66 questionnaires to each health care facilities in Ado Ekiti, Ekiti state. The respondents were selected using convenience sampling technique.

The instrument used in this study was a self-structure questionnaire divided into four sections. Section A assessed the socio-demographic data of the respondents. Section B assessed the level of knowledge among reproductive age women on cervical cancer screening There are 15(fifteen) items assessed with multiple choice questions with four (4) options (A-D) in which only one of the options give the correct answer. The score ranges between 0-15, where any respondents with

0-7 has low knowledge, 8-12 moderate knowledge and 13-15 high knowledge. Section C assesed the level of perception using 5 likert scale of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Section D determined the level of acceptance of cervical cancer screening. Section E determined the factors influencing the acceptance of cervical cancer screening using 5 likert scale of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.

 The face validity was ascertained by an expert of tests and measurement while the content validity was ensured by experts of nursing science. The pilot study was conducted among the postpartum women attending clinic at the general hospital, Ilawe Ekiti, Ekiti state, copies of questionnaire were administered to eighteen (18) reproductive age women, being ten percent (10%) of the total population to ascertain the feasibility of the proposed larger study. Data collected were analysed and the reliability coefficient was 0.84

Prior to data collection, the participants were addressed on the purpose of the research and a verbal consent was sorted from each of the participants. The research was carried out on the major clinic days with about 2-3 visits so as to meet up with the target sample size. All data collection was done by the researchers. The copies of the questionnaire were sorted manually after they have been properly filled by the respondents. Analysis was done using Statistical Package for the Social Sciences (SPSS) version 26 and findings were properly represented using percentages and tables, while the hypotheses generated were tested using chi-square at 0.05 level of significance.

RESULTS AND DISCUSSION

Table 1: Socio-demographic characteristics of the respondents (n = 200)

Characteristics	Groups	Frequency	Percentage
Age (years)	≤ 19	9	4.5
	20 – 29	78	39.0
	30 – 39	90	45.0
	40 – 49	23	11.5
Marital status	Single	52	26.0
	Married	148	74.0
	Divorced	0	0.0
	Others	0	0.0
Religion	Christianity	179	89.5
	Islam	20	10.0
	Traditional	1	0.5
	Others	0	0.0
Occupation	Unemployed	41	20.5
	Civil servant	69	34.5
	Self-employed	85	42.5
	Full house wife	3	1.5
	Private employee	2	1.0
Level of education	No formal	3	1.5

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	Primary	2	1.0
	Secondary	26	13.0
	Tertiary	169	84.5
Tribe	Yoruba	168	84.0
	Igbo	20	10.0
	Hausa	3	1.5
	Others	9	4.5
Number of births	0	49	24.5
	1 – 2	101	50.5
	3 – 4	44	22.0
	5 or more	6	3.0

Majority of the of the respondents 90 (45%) of the respondents age lies between (30- 39 years) similar to research carried out by Shrestha et al., (2019) the mean age of participants was 40.07±7.9 years.

Table 2: Sources of information about cervical cancer screening

Source	Frequency	Percentage
Health personnel	135	64.3
Friend	25	11.9
TV/Radio	24	11.4
Internet	26	12.4

The main sources of information about cervical cancer screening were health care workers (64.3%), friends (11.9%), television (11.4%) and internet (12.4%). A similar study carried out by Akpor et al., 2021 on Knowledge of Cervical Cancer, Lifestyle Risks and Screening Practices among Women Attending Selected Health Care Facilities in Ekiti State, Nigeria show that the main sources of information about cervical cancer were health care workers (33.7%), friends (15.4%) and television (11.4%).

Table 3: Knowledge, acceptance of cervical cancer screening and perception of the respondents regarding the methods

	Groups	Frequency	Percentage
Knowledge	Good	82	41.0
	Fair	90	45.0
	Poor	28	14.0
Acceptance	Yes	99	49.5
	No	101	50.5
Perception	Positive	16	8.0
	Negative	184	92.0

From table 3, it was revealed that 41% had good knowledge, 45% fair knowledge, 14% had poor knowledge. This is similar to a research done by Owolabi and Adejuwon (2021) on the Utilization of Cervical Cancer Screening Service among Nurses in Ekiti State, which show that 59.2% of the participants had adequate knowledge about cervical cancer screening. Also Amu et al., 2019, a research carried out on Knowledge, perceptions and Attitude of women about cervical cancer and its screening in Iyin Ekiti, Ekiti State, Nigeria show that 78 (42.9%) had poor knowledge. The research carried out by Shrestha et al., (2019), 247 (58.1%) had good knowledge in cervical cancer screening

The respondent's perception shows that 8% had positive and 92% had negative perception. A previous study which does not supported this research was carried out by Amu et al., 2019 on the research that reviewed 85 (46.7%) had both poor perception and negative attitude toward cervical cancer screening. Likewise a research carried out by Owolabi and Adejuwon (2021), a research reviewing the Utilization of Cervical Cancer Screening Service among Nurses in Ekiti State reviewed that slightly more than half 143 (51.6%) of the respondent had positive attitude towards cervical cancer screening which is not similar to my study although participant were nurses.

This study show the level of acceptance of respondents 50.5% were no, 49.5% were yes. The precious study carried out by Shresth (2019), a research on Knowledge and Acceptability of Cervical Cancer Screening among Adult Women Visiting in Gynecological OPD at 1Bharatpur Nursing College, Bharatpur, Chitwan, Nepal reviewed that 66.4% of the respondent accepted Pap smear test.

Table 4: Reasons for failure to undergo cervical cancer screening (n = 200)

REASONS	FREQUENCY	%
Lack of awareness	60	30.0
Healthcare provider did not recommend it	44	22.0
Others:	39	19.5
1. I have done the procedure previously	15/39	
2. I am not interested in having the procedure	12/39	
3. I do not have any symptoms that need screening	11/39	
4. I do not have time for the screening	1/39	
Fear or anxiety about the procedure	26	13.0
Lack of access to screening facilities	19	9.5
Embarrassment or discomfort from the procedure	12	6.0

In this study reason for not been screen were lack of awareness 30%, Healthcare provider did not recommend it 22%, Fear or anxiety about the procedure 13%, Lack of access to screening facilities 9.5%, Embarrassment or discomfort from the procedure 6%, others 19.5%. This support the previous study done by Akpor et al., (2021) on Knowledge of Cervical Cancer, Lifestyle Risks and Screening Practices among Women Attending Selected Health Care Facilities in Ekiti State,

Nigeria, this study which shows that the major barriers to cervical cancer screening were lack of information (40.6%), lack of convenient screening time (37.1%) and anxiety/fear associated with screening (32.0%). Likewise, a study carried out by Amu et al (2019), on research Cervical Cancer Screening Uptake and Barriers to Screening among Females in Somolu, South Western Nigeria show that 234 (90.0%) never had accessed screening. The most important reasons for not accessing screening were insufficient medical advice 162 (69.2%), lack of health education 154 (65.8%), difficulty in accessing screening 152 (65.0%) and high cost of screening 151 (64.5%).

Hypothesis 1: There is no significant relationship between the level of knowledge of reproductive age women and their acceptance of cervical cancer screening

Table 5: Level of knowledge versus Acceptance of cervical cancer screening

Knowledge	Acceptance		χ^2	p-value
	Yes (%)	No (%)		
Good	35 (35.4)	47 (46.5)	5.867	0.053
Fair	53 (53.5)	37 (36.6)		
Poor	11 (11.1)	17 (16.8)		

Not significant at p < 0.05

Hypothesis 2: There is no significant relationship between socio-demographic characteristics of respondents and perception of cervical cancer screening

Table 6: Perception of cervical cancer screening versus Socio-demographic characteristics of the respondents

Characteristics	Categories	Perception of screening		χ^2	p-value
		Positive (%)	Negative (%)		
Age (years)	≤ 19	0 (0)	9 (4.9)	2.744	0.433
	20 – 29	9 (56.3)	69 (37.5)		
	30 – 39	6 (37.5)	84 (45.7)		
	40 – 49	1 (6.3)	22 (12.0)		
Marital status	Single	10 (62.5)	42 (22.8)	12.042	0.001*
	Married	6 (37.5)	142 (77.2)		
Religion	Christianity	14 (87.5)	165 (89.7)	11.752	0.003*
	Islam	1 (6.3)	19 (10.3)		
	Traditional	1 (6.3)	0 (0)		
Occupation	Unemployed	4 (25.0)	37 (20.1)	3.117	0.538
	Civil servant	5 (31.3)	64 (34.8)		
	Self-employed	5 (3.3)	145 (96.7)		
	Full house wife	1 (6.3)	2 (1.1)		

	Private employee	0 (0)	2 (1.1)		
Education	No formal	0 (0)	3 (1.6)	1.220	0.748
	Primary	0 (0)	2 (1.1)		
	Secondary	1 (6.3)	25 (13.6)		
	Tertiary	15 (93.8)	154 (83.7)		
Tribe	Yoruba	11 (68.8)	157 (85.3)	4.774	0.189
	Igbo	4 (25.0)	16 (8.7)		
	Hausa	0 (0)	3 (1.6)		
	Others	1 (6.3)	8 (4.3)		
Number of births	0	4 (25.0)	97 (52.7)	13.725	0.003*
	1 – 2	2 (12.5)	42 (22.8)		
	3 – 4	0 (0)	6 (3.3)		
	≥ 5	10 (62.5)	39 (21.2)		
$\chi2$ = Chi-square; * = significant at $p < 0.05$					

Summary of Findings

It was shown that 41% of the participants possess a high level of knowledge, 45% possess a moderate level of knowledge, and 14% possess a low level of knowledge. The acceptance rate for the screening is 49.5% for "yes" and 50.5% for "no". The perception is predominantly unfavourable, with 92% of responses reflecting this sentiment, while just 8% express a good perception. However, this indicates a limited understanding, awareness, and willingness to embrace the screening process. Consequently, there exists a strong correlation between the understanding, the awareness, and the willingness to undergo cervical cancer screening among women of reproductive age.

CONCLUSION

The finding from this study show that majority of women of reproductive age women have little knowledge, little perception and acceptance of cervical cancer screening.

Recommendations

Based on the findings of this research, the following recommendations are thereby made:

1. Awareness and sensitization of the condition should be increased among the patients and the medical person.

2. Printed materials should be made available in major languages so that people can be aware about it.

3. Cervical cancer screening centers should be made available by government and women should be sensitized to go for cervical screening every 2 – 5 year.

4. Workshop and seminars should be organized for nurses about cervical cancer, its screening exercise and treatment modalities.

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