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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE, PRACTICE AND ACCEPTABILITY OF CERVICAL CANCER SCREENING AMONG WOMEN IN FCT, ABUJA: A STUDY OF WOMEN ATTENDING GYNECOLOGICAL CLINIC IN UATH, PHC DOBI AND TOWN CLINIC, GWAGWALADA AREA COUNCIL, FCT, ABUJA

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Abstract

Background and aims: Cervical cancer is the second most common cause of death from cancer among women in Nigeria. Various international studies indicate that the knowledge level of cervical cancer and its preventive measures are low among the women as well as general population. This study is aimed to assess the level of Knowledge, Attitude, Practice and Acceptability of cervical cancer screening among women in FCT, Abuja.
Methods: A cross-sectional descriptive study design was used and data were collected from respondents using self-administered structured questionnaire. Socio-demographic data were collected from three hundred and fifty-seven (357) respondents whose ages range from 20 to 60^{+} years. The data collected was analyzed using Statistical Package for Social Sciences (SPSS), version 26.0.
Results: The result showed that the women had a good knowledge (90.0%) and a positive attitude (90.0%) with a poor practice (44.0%) of cervical cancer screening. The acceptability among the women was reasonably good (60.0%) and the most preventive measure against cervical cancer infection was Human Papilloma Virus vaccination before sexual debut (98.0%, p=0.001), followed by regular PAP smear test (92.0, p=0.003). Fear of diagnosis (p=0.032), embarrassment (p=0.021), financial constraints (p=0.001), stigma (p=0.001) and staff attitude (p=0.036) were the barriers to cervical cancer screening among the study population.
Conclusions: Study conclude that there is need for enlightenment campaign towards increasing the involvement of more women in participating in the cervical cancer screening programmes that will enable and encourage them to participate more in the screening exercises.
Keywords: attitude, cervical cancer, HPV, knowledge, screening, women.

INTRODUCTION

Cancer is a disease characterized by the uncontrolled growth of abnormal cells in the body and these can invade and destroy surrounding healthy tissues, including organs. Some of the cancers cause visible growths called tumors, while others do not. They can as well spread throughout the body, a process known as metastasis[1]. Genital (gynecologic) cancer is formed when malignant (cancerous) cells develop in the tissue of the reproductive organ. Examples of genital (gynecologic) cancers are cervical, ovarian, uterine, vaginal and vulva. Of all these, only cervical cancer which is as a result of Human Papilloma Virus (HPV) infection in 99.8% cases has screening tests that can detect it early when treatment can be effective. It is, however, rare for cancer to begin in the vagina, most often, cancers that begin in other parts of the body spread to the vagina, those that spread to the vagina most commonly begin in the cervix (cervical cancer) or the lining of the uterus (uterine cancer) and this usually develops slowly over time and occurs, when normal cells in the cervix change into cancer cells[2].

Human Papilloma Virus (HPV) infection, which is the most causative agent of cervical cancer, is a necessary factor in the development of nearly all cases of cervical cancer and the infection leads to the development of cervical intraepithelial neoplasia and cervical cancer, thisspreads through sexual contact. Although most women's bodies can fight the infection, most times the virus leads to the development of cervical cancer[3]. The major risk factor for the development of pre-invasive

or invasive cervical carcinoma is infection with the HPV, which is sexually transmitted[4], and can be detected in 99.7% of cervical cancers. Over50.0% of sexually active women acquires the virus by 50 years of age[5], and is the most common malignancies among females worldwide, especially in women of 20–39 years of age. Globally there are over 500,000 new cases of cervical cancer annually and in excess of 270,000 deaths, accounting for 9% of female cancer deaths. 85% of cases occur in developing countries and in Africa[6] and remained the second leading cause of cancer deaths after breast cancer and the fifth most deadly cancer in women, accounting for approximately 10% of cancer deaths[7]. During persistent HPV infection, precancerous changes may be detected in the cervix, therefore, early detection and treatment of these changes is an effective strategy for the prevention of cervical cancer and forms the basis of cervical cancer screening programmes. World Health Organization in 2019 reported that women with many sexual partners, and those whose partners have had many sexual consorts, or have been previously exposed to the virus, are mostly at the risk of developing the disease[8].

In developed countries of Europe and America that have organized national cervical screening programs, early detection and treatment of precancerous cervical lesions have resulted in a dramatic reduction in the incidence of and mortality from cervical cancer[8]. Pap smear screening can identify potentially precancerous changes. This is a major risk in women today especially those within the age of 20 years and above. Awareness of screening programme, vaccination and diet are preventive measures that reduce the incidence of cervical cancer. The incidence and mortality rates have declined substantially in Western countries following the introduction of screening programmes and the ideal ages of women for screening are 30–40 years owing to high risk of precancerous lesions as a result of high sexual activity[1]. Lack of knowledge concerning cervical cancer screening may be one of the reasons why the incidence has not decreased in developing countries, despite the fact that the disease, is one of the most preventable of all cancers through primary and secondary prevention using prophylactic Human Papilloma virus (HPV) vaccination and cervical screening[9]. Possible reasons for a low participation in cervical cancer screening include; ignorance of the existence of such test, ignorance of importance of screening[10]. According to Rositch, *et al*.[11], health literacy is the ability to read, comprehend medical terminology, understand and act on health information such as medication instructions, appointment slips, and complete health-related forms. Thus, to a large extent, knowledge is correlated with health literacy. The more literate a person is, the more knowledgeable the person will be and the more likely he or she is to gain access to socially privileged positions and thereby gain the capacity and the information to influence thoughts, plans and behaviours. Rositch *et al*.[11], while, Sudenga *et al*.[12], showed that lack of knowledge about cervical cancer is one of the barriers to cervical cancer screening. A study conducted in Indian urban women showed that 16.4% of women were aware of cervical cancer screening[13]. Similar study done in the southern part of the same country revealed that majority of the women (81.9%) have poor knowledge about cervical cancer[14]. Another study in Nigeria on HIV-positive women showed that 56.2% and 34.5% respondents were aware of cervical cancer disease and screening/test[11]. In the southeastern part of the same country, less than 37.5% of the women were aware of cervical cancer; as 30% of them knew that it was preventable; 25% were aware of cervical cancer screening, nevertheless, 20% knew the screening center[15]. While, in Gabonese women, only 27.9% had heard about cervical cancer screening[16].

Furthermore, regarding knowledge about cervical cancer screening and perception of risks among women attending outpatient clinic in rural Kenya, out of 419 participants, 327 (78.0%) had heard of cervical cancer screening, 288 (68.7%) women felt at risk for cervical cancer, and 333 (79.5%) stated that they would undergo screening if offered[17], and facility-based study in Ethiopia, Addis Ababa, among women living with HIV indicated that 97 (88.2%) participants believed that the disease is preventable, and 31.4% knew the availability of the screening procedures for the disease[18]. In the same city, a study among reproductive health service clients, said that 478 (91.9%) and 222 (42.7%) women heard about cervical cancer and cervical cancer screening, respectively[16]. In a similar study conducted in Ethiopia, about 71% of participants had ever heard of cervical cancer. Among women who had ever heard of cervical cancer, 49% did not know the cause, while 74% were able to identify at least one risk factor for cervical cancer[19]. In another hospital-based study in Nigeria, report showed that 62.5% of respondents have the willingness to be screened for cervical cancer[15]. Another study in the same country, Nigeria, among HIV-positive women, 79.8% respondents accepted to take cervical cancer screening[11]. While, a study in Uganda indicated that 63.0% of women reported intention to screen for cervical cancer[19]. A study in Burkina Faso, showed that 96.67% of the women would accept to be screened, and 11.07% were screened for cervical cancer[19] and a study in Addis Ababa from reproductive clients, the report showed that, 132 (37.9%) of participants strongly agreed that cervical cancer screening prevents cervical cancer, and 158 (45.4%) of them were willing to undergo cervical cancer screening[16], as facility-based study in the same city of Addis Ababa among women living with HIV, showed that 62.7% of the study population were willing to screen for cervical cancer, and a quarter (24.8%) of them decided to be screened in the near future[18]. Meanwhile, a study among HIV-positive Nigerian women showed that cost of the test and religious denial were the most common reasons given for refusal to take the test[11].

METHODS

Research design

The study adopted a cross-sectional descriptive design; it was adopted for effective data collection and descriptive approach to examine the level of

knowledge, attitude, practice and acceptability of cervical cancer screening among women of FCT, Abuja.

Study area

Gwagwalada is a Local Government Area in the Federal Capital Territory in Nigeria. It has an area of 1,043 km^2 and a population of 153,770 at the 2006 census. It is projected to have a 6.26% growth between 2020 and 2025, which is the largest increase on the African continent.

Study population

The study population included all women from ages 20 to 60+ because they are at risk of developing cervical cancer since the risk of invasive cervical cancer increases with age. A study of women attending Gynecological Clinic in University of Abuja Teaching Hospital, PHC Dobi and Town Clinic Gwagwalada, FCT-Abuja.

Study criteria

Inclusion Criteria

The following individuals were included in the study;

- Aged 20 to 60+ years.
- Female individuals, receiving follow-up medical care for uncomplicated cervical cancer screening at the University of Abuja Teaching hospital's outpatient medical clinics and others
- Individuals who had consented to study participation.

Exclusion criteria

The following individuals were excluded from the study;

- Age less than 20 and above 60+ years.
- Individuals diagnosed with cervical cancer and more complications
- Individuals receiving care from hospital departments other than outpatient clinics
- Individuals who did not give consent to participate in the study

Ethical clearance

Ethical approval for this study was obtained from the University of Abuja Teaching Hospital Research Ethics Committee via the hospital clinic matron/patron. Permission for Data Collection was sought and granted from hospital via the Matron and Medical Officer in-charge. Participation in the study was voluntary. Eligible participants were provided with a Participant Information Sheet describing the research, its nature, purpose, and objectives before giving informed consent. Confidentiality was assured throughout the study.

Informed consent

The purpose of the study was described to the respondents. Both verbal and written consents were obtained from the respondents prior to the interview. The respondents were ensured of the confidentiality of information provided.

Sample size determination

A suitable sample size of 348 women (from age 20 to 60+) attending the Gynecological clinics in Gwagwalada Area Council was calculated and chosen using according to below equation-

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

Where: n=the minimum sample size; z=statistical standard (1.96); p=50% (estimated previous population (0.5) was chosen since no study of this nature has been conducted in that area); d=the degree of accuracy or margin of error of 5% (0.05).

Sampling techniques and procedure

Simple random techniques were used in selection of the participants. The number selected served as a representative of the entire population because each respondent was selected randomly. This enabled us to collect data which was a true representation of the study population in order to generalize the result.

Research instrument and administration

The questionnaire was used as the instrument for data collection. The questionnaire consisted of 31 questions with few open-ended questions and a majority of close-ended questions. The questions were constructed in simple English to ensure clarity, unambiguity, neutrality and unimpeded responses as my Research assistants helped in interpreting it in Gbagyi, Yoruba, Igbo and Hausa to some persons who cannot speak English fluently.

Method of data collection

The survey was carried out during the day to the women (from age 20 and 60+) attending the Gynecological Clinic in University Teaching Hospital, Gwagwalada, FCT-Abuja, PHC Dobi and Town Clinic Gwagwalada. The questionnaire was divided into five sections, these include; socio-demographics characteristics, level of awareness, attitude towards cervical cancer screening, practices of cervical cancer screening and prevention and barriers to cervical cancer screening.

Method of data analysis

Data generated from this study was analyzed using Statistical Package for Social Sciences (SPSS), version 26. Both quantitative and qualitative methods were used. Results were interpreted and presented using descriptive statistics of frequency distribution tables.

RESULTS

The Table 1 showed that those within 40-44 years were 144 (40%) and 40 (11%) were between the age of above 35-39 years. Table 2 showed that 323(90.5%) have the knowledge of cervical cancer, 328(92.0%) have had about it. 191(53.5%) of the study do not know the predisposing factors of cervical cancer, while, 190(53.2%) do not know the signs and symptoms. There was a positive attitude towards cervical cancer screening among female groups by majority of the respondents, as most of the participants (90.0%) indicated that women should go for screening. Out of 357 participants, 157 representing 44.0% have practiced or done the screening, while, 200 of them representing 56.0% have not. Table 3 showed that HPV vaccination before sexual debut (98.0%; p=0.001) is the most effective preventive measure against Cervical cancer. Cervical cancer screening is mostly at child bearing age grouping. Table 4 showed that fear of diagnosis (p=0.032); embarrasssment (p=0.021); financial constraints (p=0.011); limited availability (p=0.042); stigma

(p=0.001); staff attitude (p=0.036); and location (p=0.042) were found to be the barriers to cancer screening among the study population.

DISCUSSION

Cancer of the cervix is a serious burden on the reproductive health of women worldwide, despite the fact that it is preventable. It is the most second common cause of cancer-related deaths among adult women globally. In this survey, the findings revealed that the women under study had good knowledge (90.0%) regarding cervical cancer and Rositch *et al.*[11], in their assessment revealed that health literacy is the ability to read and comprehend medical terminology, understand and act on health information such as medication instructions, appointment slips, and complete health-related forms.

Table 1: Socio-demographic characteristics of respondents in Gwagwalada Area Council (n=357).

Variables	Frequency (%)	Variables	Frequency (%)
Age in years		**Employment status**	
20−24	20 (6)	Employed	196 (55)
25−30	36 (10)	Unemployed	82 (23)
31−34	53 (15)	Pensioner	61 (17)
35−39	40 (11)	Employee	18 (5)
40−44	144 (40)	**Occupation**	
45−50	18 (5)	Civil/public servant	143 (40)
51−54	15 (4)	Business	47 (13)
55− 59	20 (6)	Artisan	78 (22)
60 and above	9 (3)	Students	28 (8)
Marital status		Others	61 (17)
Single	46 (13)	**Working experience**	
Co-habiting	18 (5)	None	52 (15)
Married	180 (50)	≤ 2 years	30 (8)
Divorced	61 (17)	3 – 5 years	60 (17)
Separated	15 (4)	6 – 10 years	110 (31)
Widowed	37 (11)	11 – 15 years	90 (25)
Highest level of education		16 years and above	15 (4)
None	30 (30)	**Religion**	
Primary	57 (16)	Christianity	196 (55)
Secondary	115 (32)	Islam	104 (29)
Tertiary	155 (44)	Others	57 (16)

Table 2: Level of knowledge among women in FCT, Abuja attending Gynecological Clinic in Gwagwalada Area Council about cervical cancer screening.

Questions	Yes (%)	No (%)
Aware/knowledge of cervical cancer?	323(90.5)	34(9.5)
Heard of cervical cancer?	328(92.0)	29(8.0)
Know of the predisposing factors like?	166(46.5)	191(53.5)
Knowledge of cervical cancer signs and symptoms?	167(46.8)	190(53.2)

They noted that higher education is associated with health literacy. Thus, to a large extent, knowledge is correlated with health literacy. The more literate a person is, the more knowledgeable the person will be and the more likely he or she is to gain access to socially privileged positions and thereby gain the capacity and the information to influence thoughts, plans and behaviors. Moreso, the authors reported that low health literacy correlated with less knowledge about cervical cancer screening. Sudenga *et al.*[12], in theirs stated that lack of knowledge about cervical cancer is one of barriers to cervical cancer screening. The outcome of this study, when compared with results from other studies on knowledge and awareness, it is high. For instance, a study in India showed that 16.4% of women were aware of Cervical cancer[13], a similar study in southern part of the same country, India, revealed that majority of the women (81.9%) have poor knowledge of Cervical cancer[14]. Moreso, in Gabonees, only 27.9% had heard about screening[16], and in a study in Nigeria on HIV-positive women showed that 56.2% and 34.5% respondents were aware of cervical cancer disease and screening tests respectively[11]. Equally in southern part of Nigeria, less than 37.5% of the women were aware of cervical cancer screening[15]. Sankaranarayanan *et al.*[17], on knowledge about Cervical cancer screening and perceptions of risks among women attending outpatient clinic in rural Kenya, reported that out of 419 participants, 327(78.0%) had heard of cervical cancer screening, 288(68.7%) women felt at risk for cervical cancer and 333(79.5%) stated that they would undergo screening if offered. Several pilot projects in India found that 99.0% of respondents have never been screened despite the massive efforts to implement cytological screening[20-22]. Many women in Nigeria, remain unaware of cervical cancer screening and have no access to cervical cancer screening services[12] and this is alarming and requires urgent attention.

On the attitude of the women towards cervical cancer screening, the study found out that participants have a positive attitude (90.0%).

Table 3: Preventive measures of cervical cancer.

Questions	Yes (%)	No (%)	X^2	*p* value
Abstinence a preventive measure?	278(78.0)	79(22.0)	68.2	0.002
Condom use a preventive measure?	271(76.0)	86(24.0)	71.8	0.004
Single sexual partner a preventive measure?	314(88.0)	43(12.0)	70.5	0.018
Regular PAP smear test?	328(92.0)	28(8.0)	69.3	0.003
HPV vaccination before sexual debut?	350(98.0)	7(2.0)	66.7	0.001

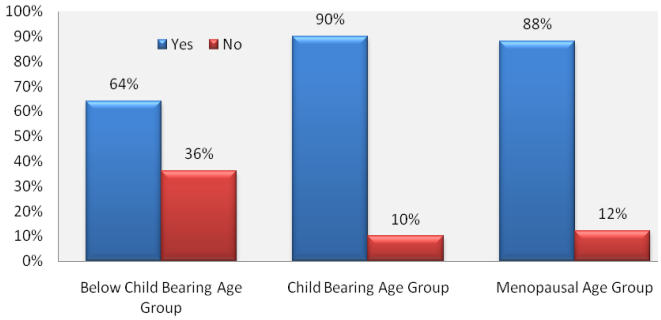


Figure 1: The age at which screening of cervical cancer is most among women attending Gynecological Clinic in Gwagwalada Area Council.

The acceptability of cervical cancer screening among the women was good (60.0%), though, when compared with previous works on knowledge, attitude and practice of cervical cancer screening, it is low, for instance, a hospital based study in Nigeria showed that 62.5% of respondents had the willingness to be screened for cervical cancer[15] and a similar study conducted in different parts of southern Nigeria, among HIV-positive, 79.8% of the participants accepted to take cervical cancer screening[11], and a study in Uganda indicated that 63.0% of women had the intention to be screened for cervical cancer screening. In Burkina Faso, 96.6% of the women would accept to be screened and 11.07% were screened for cervical cancer[19].

Furthermore, on the age at which acceptability of cervical cancer screening is most, the result of the study, showed that cervical cancer screening is mostly at child bearing age group (90.0%), followed by menopausal age group (88.0%) and below child bearing age-group (64.0), which agrees with the age range of 20-45 years according to Population Reference Bureau, (2018) and that of Olamijulo[1], who posited that the ideal ages of women for screening are 30-40 years owing to high risk of precancerous lesions due to being sexually active and according to him, a precancerous lesion is detectable for 10 years or more before cancer develops. Most likely, cervical cancer develops when the women are 60 years of age[21]. This buttressed the statement that cervical cancer is not a disease of old age, the majority of its victims are women who are at the peak of their biological and economically productive stages of life. It is well known that Human Papilloma Virus (HPV) infection is a necessary factor in development of nearly all cases of Cervical cancer. A sexually transmitted HPV infection leads to the development of cervical intraepithelial neoplasia and cervical cancer, and HPV is spread through sexual contact[3]. On the barriers to effective cervical cancer screening, the study revealed fear of diagnosis (p=0.032); Embarrassment (p=0.021); Financial constraints (p=0.011); Limited availability (p=0.042); Stigma (p=0.001); Staff attitude (p=0.036); and Location (p=0.042) as the barriers to cancer screening among the study population. Other possible reasons for a low participation in cervical cancer screening according to Aniebue and Aniebue[10], are ignorance of the existence of such test, ignorance of the importance of screening or lack of risk awareness and the risk factors to the development of cervical cancer, absence of symptoms and lack of awareness of centers where such services are obtained, in addition to lack of motivations. Moreover, other challenges to the cervical cancer screening and treatment are similar to those for other health interventions and competing health needs, lack of political will, access to services, under developed healthcare structures, equipment and human resources, long questions and waiting times[23-25]. These barriers could be lifted if health service delivery will be improved, for instance, through quality improvement of techniques that are available at low cost.

Table 4: Barriers to cervical cancer screening.

Barriers to cervical cancer screening	Yes (%)	No (%)	X^2	*p* value
Fear of the diagnosis	189(53.0)	168(47.0)	43.2	0.032*
Lack of awareness	157(44.0)	200(56.0)	39.0	0.854
Embarrassment	198(55.5)	159(44.5)	52.9	0.021*
Financial constraints	230(64.4)	127(35.6)	44.2	0.011*
Limited availability	185(51.8)	172(48.2)	51.7	0.042*
Stigma	298(83.5)	59(16.5)	64.0	0.001*
Time constraints	148(41.5)	209(58.5)	55.8	0.682
Staff attitude	200(56.0)	157(44.0)	56.7	0.036*
Location	195(54.6)	162(45.4)	51.9	0.042*

Women's anxiety over test results still needs to be further assessed to work out risk communication strategies that consider broader educational frameworks[26-28]. It is also to be noted that such strategies should infuse the way health services are provided for cervical cancer prevention regardless of the specific test used. Bingham and colleagues concluded that a key step to achieving optimal coverage is to gain broad community support. Developing Communication strategies for raising knowledge about services and encouraging participation can have a positive influence on acceptability[29,30].

The study established that the most preventive measure to cervical cancer infection was Human Papilloma Virus vaccination before sexual debut (98.0%, p=0.001), followed by regular PAP smear test (92.0%, p=0.003) (Table 4). This revelation supports the statement made by Stephen, that during persistent HPV infection, precancerous changes may be detected in the cervix, that those changes are readily detectable and occur in the cells lining the surface of the cervix, therefore, early detection and treatment of these changes is an effective strategy for the prevention of cervical cancer, and form the bases of cervical cancer screening programmes. PAP smear screening can identify potentially precancerous changes. Supporting this finding, WHO[8] in their contribution posited that women with many sexual partners and those whose partners have had many sexual consorts, or have previously been exposed to the virus were most at risk of developing the disease[31].

CONCLUSIONS

The study has revealed that the study population has good knowledge of cervical cancer screening, and positive attitude towards cervical cancer screening. The study, however, observed a poor practice of cervical cancer screening among the women, there was a reasonable acceptability of cervical cancer screening services, as the study reported that the most preventive measure against cervical cancer among the study population was HPV vaccination before sexual debut, followed by regular PAP smear test. Fear of diagnosis, embarrassment, financial constraints, stigma, and staff attitude were the barriers to effective cervical cancer screening. There is need for enlightenment campaign towards increasing the involvement of more women in participating in the cervical cancer screening programmes and government, both local and federal authorities organize from time to time programmes that will enable and encourage the women to participate in the screening exercises.

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AUTHOR'S CONTRIBUTIONS

Okoroiwu GIA: formal analysis, conceptualisation, data organisation, writing original draft. **Ubosi NI:** methodology, participant recruitment, data collection, data analysis, data interpretation. **Sambo NY:** study design, data collection, data curation, interpretation of results, literature review. **Obeagu EI:** conceptualization, supervision, methodological guidance, interpretation of findings. Final manuscript was checked and approved by all authors.

DATA AVAILABILITY

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request, subject to applicable ethical and institutional restrictions.

CONFLICT OF INTEREST

There are no conflicts of interest in regard to this project.

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