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Awareness and utilization of cervical cancer and Pap smear services among market women in north-central Nigeria

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ABSTRACT

Aims: Cervical cancer is the most common female genital tract carcinoma worldwide. Studies in Nigeria consistently show late presentation of cases with poor prognosis. This study aimed to determine awareness of market women about cervical cancer and their utilization of Pap smear test. **Methods:** This was a cross-sectional study conducted in selected markets. Multi stage sampling technique was used for recruiting study participants. The SPSS statistical software was used for data entry, editing and analysis. **Results:** Respondents' were aged between 18 and 60 years with mean age 40.34±10.09 years. Most respondents (89.9%) were married and about two-thirds (62.8%) had no formal education. Only 18.1% of respondents had ever heard about cervical cancer, one-third (35.3%) of those were informed by their friends and only 1.1% had done a screening test previously. **Conclusion:** Awareness about cervical cancer was poor and utilization of its screening services was worse. There is a need to create awareness about cervical cancer and demand for its screening services among the women populace.

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INTRODUCTION

Cervical cancer is one of the most common malignancies among women worldwide. It is increasingly becoming the leading carcinoma seen among females in the developing world [1–4]. Cervical cancer causes about eight times more deaths in developing countries compared to developed countries [5]. Many factors have been implicated in the development of cervical cancer. They include infection with high risk human papilloma virus (HPV type 16 & 18), early sexual debut, high parity, multiple sexual partners, co-infection with human immunodeficiency virus type-2, immunosuppressants, and certain dietary deficiencies [6]. Human papilloma virus (HPV) has been shown to be responsible for more than 90% of the cases of invasive cervical cancer worldwide, and it is related to 80% of pre-cancerous changes in the cervix [7, 8].

Human papilloma virus infection is usually insidious, asymptomatic and difficult to treat, therefore, making primary prevention of cervical cancer more challenging

[9]. Vaccines (cervarix and gardasil) have been developed and used with encouraging results in some developed countries, but vaccination as a means of primary prevention appears several years away especially in developing countries due to certain considerations policymakers will need to make. Considerations such as building capacity for initiating and sustaining an immunization program for adolescents, affordability (cervarix costs about $360 (more than 100,000 Naira for full dose per person) and cost effectiveness of vaccination relative to other programmes competing for resources and the likelihood of cultural acceptability, political will and public support [9]. Secondary prevention involves using highly sensitive and specific cost effective interventions to detect pre-cancerous cervical changes and is still the preferred control strategy especially in developing countries [10].

Eighty percent of cancer of the cervix may be prevented by early diagnosis and treatment of these premalignant states [1]. Systematically organized population based programmes have been found useful in preventing cervical cancer [10].

Pap smear test is an essential screening tool for early diagnosis of cervical cancer and has been found to be one of the most effective preventive measure [11]. In many of the developed countries the annual incidence and mortality from this cancer has gone down by 50–70% since the introduction of population based cytological screening test [1, 7].

There is a wide disparity in the proportion of women screened annually for cervical cancer in developing countries compared to developed countries owing to the lack of well-planned screening programs [12, 13]. In Nigeria, a fully functional national screening program is lacking except institutional based screening services which are only utilized by patients referred there. The aim of our study was to determine market women awareness about cervical cancer and its screening services in Niger state, Northcentral Nigeria.

MATERIALS AND METHODS

Niger state is situated in the Northcentral region of Nigeria. The river Niger from which it derives its name runs across the entire southern boundary of the state. Fishing is an important occupation especially along the vast riverine network in the state. The state is also blessed with one of the largest and most fertile agriculture lands in the country making farming a viable occupation and the state producing most of Nigeria's staple crops. It also has vast cattle grazing lands. The state has a rich network of markets in all the LGAs because of the fishing activities, bountiful agricultural produce yearly and its situation to the North of the national capital, Abuja.

A cross-sectional study conducted among market women to assess the awareness of cervical cancer and uptake of Pap smear test among registered market women in selected markets in Niger state, Northcentral Nigeria. Sample size was determined based on a previous study on the Pap smear test in Nigeria.

Multi stage sampling technique was used for recruiting the study participants into the study. Two health zones were selected from the three in the state using simple random sampling. One LGA was selected from each of the selected health zones using simple random sampling. Three wards with markets were eventually selected from each selected LGA. Subsequently, participants were recruited using systematic random sampling into the study.

Trained research assistants were used to collect data from respondents using a structured questionnaire containing mainly close-ended questions. The interviews were done daily in one selected market at a time between the hours of 8–10 am before the active business of the day start which was at 10 am in most of the markets where the study was done. The questionnaires were manually checked for completeness. The SPSS statistical software was used for data entry, editing and analysis. Mean and standard deviation of quantitative variables was done. The proportion of the respondents who knew about the risk factors, symptoms, prevention and diagnosis of cervical cancer and knew about indication for Pap smear were used as indices for the measurement of knowledge of cervical cancer among the respondents. Respondents who knew the correct answer were given a score of one while those who did not know or answered wrongly were given no mark or zero. Chi-square was used to determine the relationship between categorical variables, with level of significance set at $p < 0.05$.

Permission to undertake the study was got from the state Ministry of Health and Commerce and ethical approval from the research and health ethics committee. Respondents gave informed consent before they were enrolled into the study.

RESULTS

Respondents' age ranged from 18–60 years. About 80% of the respondents were within the age groups 25–54 years with a mean age of 40.34±10.09 years. Most (89.9%) of the respondents were married and had on average five children each. Those without any formal education were about two-thirds (62.8%) of the respondents (Table 1). Only 34 (18.1%) of the respondents had ever heard about cervical cancer and 8 (4.3%) had ever heard about Pap smear test (Table 2). About one-third (35.3%) were informed by their friends while one fifth (20.6%) of the respondents were informed by health workers, relatives and the media respectively. Only 2 (1.1%) of the respondents had ever had Pap smear test done previously (Table 3). On the overall lack of awareness about the test was the main reason why most

(89.8%) of the respondents had not done the screening test though among the respondents who had heard about cervical cancer, not feeling at risk of the disease (21.9%), not having time to do the test (18.8%) and not having symptoms of the disease (15.6%) were the other reasons for not doing the test (Table 4).

Table 1: Socio-demographic characteristics of the respondents

Variables	Intervention Group
Age group	
18–24	10 (5.3)
25–34	47 (25.0)
35–44	55 (29.3)
45–54	48 (25.5)
≥ 55	28 (14.9)
Mean age±SD	40.34±10.09 years
Marital Status	
Single	10 (5.3)
Married	169 (89.9)
Widowed/ Divorced	9 (4.8)
Educational status	
No formal education	118 (62.8)
Primary level	39 (20.7)
Secondary level	24 (12.7)
Tertiary level	7 (3.8)
Respondents' living children	
Mean±SD	5±3

Table 2: Awareness about cervical cancer and Pap smear test

Variable (n =188)	Number (%)
Ever heard of cervical cancer	
Aware about cervical cancer	34 (18.1)
Unaware about cervical cancer	154 (81.9)
Ever heard of Pap smear test	
Previously aware of Pap smear test	8 (4.3)
Previously unaware of Pap smear test	180 (95.7)

Table 3: Source of information and utilization of Pap smear test

Variable	Number (%)
Source of information (n = 34)	
Health worker	7 (20.6)
Friends	12 (35.3)
Media	7 (20.6)
Relatives	7 (20.6)
Others	1 (2.9)
Ever done a Pap smear test (n = 188)	
Yes	2 (1.1)
No	186 (98.9)

Table 4: Reasons for lack of uptake of Pap smear test

Reasons for not doing Pap smear test	Aware about cervical cancer (n = 32)	Unaware about cervical cancer (n = 154)	Total (n = 186)
Not feeling at risk of the disease	7 (21.9)	0 (0)	7 (3.8)
Cultural or religious reasons	1 (3.1)	0 (0)	1 (0.5)
Do not have symptoms	5 (15.6)	0 (0)	5 (2.7)
Not aware of the test	13 (40.6)	154 (100)	167 (89.8)
Do not have time to do the test	6 (18.8)	0 (0)	6 (3.2)

DISCUSSION

Most of the respondents were within the reproductive age group which largely coincides with the age range of the productive workforce of any nation. The mean age and age distribution found in our study is similar to that found in another study among market women in Lagos, Nigeria [14] where the peak age group of respondents was the 25–34 years age group closely followed by the 35–44 years age group. Approximately, nine of every ten market women (89.9%) were married. This reflects the importance placed on the marriage institution particularly in this environment. This finding is the same with that of a similar study done in Owerri, South eastern Nigeria where about 87% of women were married [3] but much higher than that from a study in Lagos, South western Nigeria where only about 72% of the respondents were married [14]. The respondents had five children on the average which supports findings in the Nigerian Demographic Health Survey (NDHS 2013) which puts that total fertility rate (TFR) at about six per woman considering that the study subjects have not completed child bearing.

Our study showed that only 18.1% of respondents had ever heard of cervical cancer. This is very disheartening considering that subset of the population that disease affects do not even know it exists. This is similar to findings in an interventional study among market women in Lagos where only 14.9% of respondents in the intervention group and 21.7% of those in the control group had ever heard of cervical cancer [15] but lower than findings in another study among market women in Ibadan where about 40.8% had heard about cervical cancer [16]. This relatively large proportion was because there was an ongoing awareness campaign about cervical cancer with free Pap smear screening at the time of the study [16]. This means that awareness about cervical cancer is low in general women population groups across the country

and may explain why most cases of cervical cancer seen in the developing countries like Nigeria present late because of ignorance about the disease condition talk less of its preventive measures.

The consideration that about 90% of the market women in this study are married with an average of 5±3 children each means that most if not all of them may have had at least one encounter with a health worker (during antenatal, children's routine immunization, family planning services or other hospital consultations). During such visits it is expected that the health worker would have counseled them on the importance of cervical cancer screening services. The finding that respondents' friends were the most important source of information about cervical cancer which was corroborated by a similar study among market women in Southwestern Nigeria [14] may indicate the need to either include cervical cancer health education messages to the health talk given to women when they visit health care centres or get women to improve their health care seeking behavior.

The proportion of respondents who had ever done Pap smear test was very low. However, it was similar to findings at baseline in an interventional study done among market women in Lagos, Nigeria where only 1.1% of women in the intervention group and 2.9% in the control group had ever done the test at baseline [14]. Another study done among market women in Ibadan revealed an uptake rate for Pap smear test to be 5.2% however this may have been confounded by an ongoing enlightenment campaign and free screening exercise as at the time of the study [17]. A study done among female health workers in Ilorin, Nigeria revealed that only 3% of all respondents had ever been screened at least once previously [18]. Studies done among female health workers in different parts of Nigeria revealed surprisingly low uptake rates of cervical cancer; Nwobodo et al. in Sokoto revealed an uptake of 4.4% [19], Udigwe in Nnewi revealed an uptake of 5.7% [20], Anya et al. in Umuahia revealed an uptake of 9% [21], Addah et al. in Port Harcourt revealed an uptake of 12.8% [22]. All these studies have revealed an abysmally low uptake rate in a subset of the populace who are the most knowledgeable about the disease and in most cases have the screening services at their workplace.

The generally poor uptake of Pap smear test seen in studies involving the general women populace should not be surprising and can be variously explained as follows; firstly the female health workers who are supposed to encourage women to go for Pap smear test at every opportunity that presents itself (family planning clinics, ante-natal care clinics, general out-patient clinics etc.) have not availed themselves of it. Secondly, the process of health education goes from being unaware, to being aware, to being knowledgeable, to getting the right attitude, right behavior, to right habit and right practice. These stages take variable amount of time and is individualized moreover, this set of women who are mostly unaware about cervical cancer and by extension its

screening services are still at the first stage in the process. Thirdly, a consideration that doing the test involves the respondent exposing their genitals when they apparently are not ill may also affect decision to have the test done. This reiterates the need for every woman to go through the process of adequate education about cervical cancer and its screening tests to appreciate the uptake of Pap smear test.

CONCLUSION

This study showed that the awareness about cervical cancer was poor and the uptake of its screening test was even worse. There is a need to introduce awareness creation strategies at various points where women make contacts with health facilities namely; antenatal, immunization, postnatal, family planning and consultation visits.

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Author Contributions
Godwin Jiya Gana – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Mansur Oche Oche – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
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Guarantor
The corresponding author is the guarantor of submission.

Conflict of Interest
Authors declare no conflict of interest.

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