CERVICAL CANCER SCREENING KNOWLEDGE AND UTILISATION AMONG RURAL WOMEN IN IFE EAST LOCAL GOVERNMENT AREA OF OSUN STATE IN NIGERIA

A.E. Olowokere, MSc. Nursing
Department of Nursing Science,
Obafemi Awolowo University, Ile-Ife, Nigeria
Corresponding author: ayaolowo@yahoo.com

M.I. Ojo, BNsc Nursing
Department of Nursing Science
Obafemi Awolowo University, Ile-Ife, Nigeria

ABSTRACT

Cervical cancer is a deadly disease claiming the lives of many women in developing countries due to late presentation which might be influenced by a lack of knowledge of the disease and its prevention. This descriptive study examined the knowledge of rural women about cervical cancer and its prevention, and their utilisation of Pap smear screening, using a convenience sample of 426 women in Ife East Local Government Area of Osun State, Nigeria.

Women voluntarily completed an unstructured questionnaire through trained research assistants. Results showed that women who participated in the study were aware of cervical cancer (77%; n=328) but many (62.9%; n= 268) were unaware of Pap smears as the screening tests for cervical cancer. Although 41.3% (n=176) were knowledgeable about cervical cancer, risk factors and prevention, only 9.4% (n=40) had Pap smear tests done.

Health care professionals, especially community health nurses, need to intensify efforts to increase awareness about cervical cancer screening, and encourage women through the different clinics to use these services. The benefits of screening and early diagnosis of cervical cancer should be emphasized to enhance the utilization of cervical cancer screening services.

KEYWORDS: cervical cancer awareness in Nigeria, knowledge of screening for cervical cancer, utilization of cervical cancer screening services, women's reproductive health

© ISSN 1682-5055

INTRODUCTION AND BACKGROUND INFORMATION

Cancer is a major public health problem throughout the world (Ayinde et al., 2004:68), and it is the world's second biggest killer after cardiovascular disease but one of the most preventable non-communicable chronic diseases (WHO, 2007:3). Cancer killed 7.6 million people during 2005, three quarters of whom were in low and middle income countries. By 2015, that number is expected to rise to 9 million and increase further to 11.5 million by 2030 (WHO, 2007: 3). One of the common cancers that affects women is cervical cancer. The greatest burden of the disease is in developing countries, where cervical cancer is often the most frequent female malignancy, and may constitute up to one quarter of all female cancers (Harro et al., 2001:284). About half a million new cases are diagnosed worldwide each year, mostly occurring in developing countries where women often present late during the inoperable phases of cervical cancer (Jimoh & Abdul, 2004:56). Previous studies reported cervical cancer to be the leading gynaecological cancer-related cause of death, especially in the developing countries (Kader, 2008:111; Morrison, 2012:1) despite the fact that cervical cancer is preventable through early screening, treatment of precancerous and early cancerous lesions and vaccination against the causative agent, Human Papilloma Virus (HPV).

According to Leung and Leung (2010:221), cervical cancer screening has reduced the cervical cancer mortality rates. However, cervical screening attendance rates remain low in many countries. In Nigeria, cervical cancer screening services are available but underutilised. The incidence of cervical cancer reduced in developed nations due to early detection of cell changes by Pap smears. This would not have been possible if available screening services had not been utilised by women in these countries.

Deaths from cervical cancer in developing countries could be attributed to a lack of awareness and knowledge about the disease, late identification and poor prognosis. Women's enhanced awareness of and knowledge about the disease and risk factors could promote positive health seeking behaviours and participation in screening from time to time, thus reducing the rate of occurrence of invasive cancer and associated mortality. This study examined the awareness, knowledge and screening practices of rural Nigerian women. This information would be useful for the initiation, planning and implementation of health education programmes in the rural communities, which could assist in increasing the uptake of cervical screening in these rural areas.

STATEMENT OF THE RESEARCH PROBLEM

Cancer of the cervix is a major burden on women's health worldwide (Ibekwe et al., 2011:2). It is ranked as the second most frequent cancer among women in Africa and the second most frequent cancer among women aged 15 to 44 (WHO/ICO,2010:iv). Although cervical cancer is preventable, many women continue to die because of

diagnosis at an advanced stage. Cervical cancer screening is a universally accepted early detection strategy that reduces the morbidity and mortality rates associated with the disease. The long transition period from a premalignant cervical lesion to cancer of the cervix affords possibilities for early detection and effective treatment. However, this window of opportunity would be lost if the women do not utilise screening facilities. This study will therefore examine the level of awareness and utilisation of cervical cancer screening in Ife East Local Government of Osun State in Nigeria.

PURPOSE OF THE STUDY

The purpose of the study was to examine knowledge of cervical cancer, its risk factors and prevention among rural women and Pap smear screening utilisation among rural women. This study attempted to provide answers to the following questions:

- Are the rural women aware of and knowledgeable about cervical cancer and screening?
- Do women utilise the screening facilities for the early detection and treatment of cervical cancer?
- What are the perceived barriers affecting the utilisation of cervical cancer screening facilities?

DEFINITIONS OF KEY TERMS

Awareness refers to a state that respondents have heard about cervical cancer and its prevention.

Cervical cancer is an abnormal growth arising from the cells of the cervix.

Cervical screening, for the purpose of this study refers to early detection of pre-cancerous lesions through a Papanicolaou (Pap) smear.

Knowledge implies the understanding the respondents have about carcinoma of the cervix with respect to symptoms, risk factors, prevention and treatment.

Utilisation refers to using cervical cancer screening services (Pap smear) for early detection of precancerous lesions.

Women in this study refer to adult females aged 18 and older who live in the selected rural communities.

RESEARCH METHODOLOGY

Design

This study utilised a descriptive cross-sectional survey design. Participants were Yoruba women, aged 18 and older, residing in Ife east Local government area of Osun State in Nigeria who consented to take part in the study.

Research site

Ife East Local Government Area (LGA) had an area of 172km² and a population of 188 087 at the 2006 census. It is made up of twenty small rural communities. The primary occupation of the women in this area is farming. Local products are cross traded with neighbouring cities. Food products include yams, cocoa and maize.

Sample and sampling techniques

The sample size for this study was determined using a standard formula n=N/[1+N (e) ^{2}] for a cross sectional study (Heavey, 2011:97), where n= sample size of adjusted population, N= population size and e=accepted level of error taking alpha as 0.05. The total number of women in the LGA, based on Nigeria's National Census (2006) was 96 106. Substituting this figure in the formula, a total of sample 398 was obtained. This was increased to 450 since convenience sampling was used to identify the respondents.

For this study, four of the rural communities in the LGA were selected by simple balloting. The houses in each selected community were numbered and systematic random sampling was adopted to select households where women, who were 18 years of age or older and who consented, were interviewed until the sample size had been reached. A total of 452 women were met in the selected households, out of which 426 who consented to participate in the study were interviewed during January 2013. This constituted a 94.2% response rate.

Research instrument

A semi-structured questionnaire was developed by the researchers in English and translated into the local language. The questionnaire comprised five parts, which gathered information about respondents'

- socio-demographic information
- awareness of cervical cancer and screening tests
- knowledge about cervical cancer and screening tests

- access to and utilisation of cervical screening tests and
- perceived barriers influencing the uptake of cervical screening services.

The validity of the questionnaires was established through face and content validity criteria. The questionnaire was given to experts in nursing, public health and obstetrics and gynaecology, to assess the relevance of the instrument to the subject matter and its appropriateness to measure what it intended to measure. The reliability of the instrument was determined through test-retest method, which yielded a correlation coefficient of .76.

Data collection procedure

Prior to data collection, a pretest was carried out among 20 respondents to assess the clarity of the instructions for completing the questionnaires, estimate the time needed for responding to the questionnaire, and the feasibility of administering the questionnaire. Following the pretest, questions were modified to avoid repetitions, and to delete irrelevant questions. Data were collected by research assistants who went from house to house for a period of three weeks during January 2013. The research assistants used the local language to assist respondents who encountered difficulties to read or write, while those respondents who could read and write completed the questionnaires by themselves.

Data analysis

Data was analysed using the statistical package for social sciences, SPSS version 17 software, for both descriptive and statistical analyses. The results of participants' demographic characteristics were summarised using frequencies and percentages. Chi-square tests were used to find associations between categorical variables. All statistical tests were performed at a 0.05 level of significance.

ETHICAL CONSIDERATIONS

Permission to conduct the study was obtained from the medical officer of health of Ife East local government area before the commencement of the study. Informed consent was obtained from each participant. The researchers ensured that confidentiality of information was maintained at all times by using codes to identify participants. Participation was voluntary and participants were informed about their right to withdraw from the study at any time without incurring any penalty.

RESULTS

Demographic information

The sample (N=426) was primarily the Yoruba tribe (90.1%; n=384). The respondents were within the age range of 25–50 years with a mean age of 41 and a standard deviation of 5 years. Of the respondents 60.6% (n=258) were married within the age range of 22–26, with a mean age at marriage of 25 and a standard deviation of 3 years. Most respondents (87.8%; n=374) were married, 32.9% (n=140) had two children and just as many, 32.9% (n=140) had three children. Other demographic data is displayed in table 1.

Table 1: Sociodemographic characteristics

Characteristics	Frequency N=426	Percentage (%)
Age		
25-29	6	1.4
30-34	60	14.4
35-39	66	15.5
40-44	152	35.7
45-50	142	33.3
Age at Marriage		
12-16	8	1.9
17-21	34	8.0
22-26	258	60.6
27-31	126	29.6
Duration of marriage		
2-8	38	8.9
9-15	162	38.0
16-22	196	46.0
23-30	30	7.0
Religion		
Christian	208	48.8
Islam	210	49.3
Traditional	8	1.9
Marital status		
Single	6	1.4
Married	374	87.8
Divorced	46	10.8
Widow	0	0.0
Tribe		
Yoruba	384	90.1
Igbo	30	7.0
Hausa	12	2.9

Level of Education		
No formal Education	4	0.9
primary	208	48.8
Secondary	192	45.1
Tertiary	22	5.2
Number of children		
One	58	13.6
Two	140	32.9
Three	140	32.9
Four	70	16.4
Five	18	4.2

Awareness of cervical cancer

Of the respondents, (77.0%; n =328) had heard about cervical cancer. As many as 61.0% (n=166) of the respondents reported that cervical cancer can be prevented, while only 37.1% (n=158) claimed to have heard of Pap smears. Most (72.8%; n=115) of these women who had heard about Pap smears, did so through the media, while 17.7% (n=28) heard about it through the hospital's health care personnel. Only a few respondents (3.8%; n=6) heard about Pap smears from their friends. There was a significant association between awareness of women about cervical cancer screening and the number of children they had (*X2=14.56, df=4, p=0.000*); but there was no significant association between women's awareness of cervical screening and the duration of marriage (*X2=0.26, df=3, P=0.967*) and age at marriage (*X2=2.10, df=3, P= 0.550*).

Respondents' knowledge of cervical cancer

The knowledge of the respondents was measured using 13 questions. Correct options were given a score of 1, while wrong options were given a score of zero. Therefore a total score of thirteen was obtainable. Scores between 1 and 6 were rated as indicating poor knowledge and scores between 7 and 13 were rated as indicating a good level of knowledge, as summarised in table 2. Less than 50.0% (n=202) of the women agreed that cervical cancer is an abnormal growth of the mouth of the uterus that it could spread to other parts of the body if not detected early. Of the women, 66.7% (n=284) disagreed that irregular/heavy vaginal bleeding was a symptom of cervical cancer; 56.8% (n= 242) agreed that multiple sex partners could be a risk factor for developing cervical cancer; 57.3% (n=242) disagreed that a Pap smear is the screening test for cervical cancer. The summary of the knowledge score by the respondents showed that 58.7% (n=250) had poor knowledge, while 41.3% (n=176) had good knowledge about cervical cancer and prevention strategies.

Table 2: Respondents' knowledge about cervical cancer, risk factors and prevention (N=426)

Statements	Correct Response	Agree	Disagree	Total
Cervical cancer is a disease that affects the cervix which is the mouth of the uterus	Agree	266[62.4%]	160[37.6%]	426[100%]
Cervical cancer is an abnormal growth of the mouth of the uterus (cervix) that could spread to other part of the body if not detected early	Agree	202[47.4%]	224[52.6%]	426[100%]
Irregular/heavy per vaginal bleeding when not menstruating, after intercourse or after menopause is one of the symptoms of cervical cancer	Agree	142[33.3%]	284[66.7%]	426[100%]
Multiple sexual partners is one of the risk factors for cervical cancer	Agree	242[56.8%]	184[43.2%]	426[100%]
Cervical cancer is mainly caused by a virus (Human Papiloma Virus)	Agree	244[57.3%]	182[42.7%]	426[100%]
Cervical cancer can affect any sexually active female	Agree	238[55.9%]	188[44.1%]	426[100%]
Early sexual intercourse is one of the risk factors for cervical cancer	Agree	188[44.1%]	238[55.9%]	426[100%]
Women with risk for cervical cancer can be identified through blood and saliva test	Disagree	178[41.8%]	248[58.2%]	426[100%]
Limiting sexual partners to one predisposes to cervical cancer	Disagree	254[59.6%]	172[40.6%]	426[100%]
Pap smear is the screening test for cervical cancer	Agree	194[45.5%]	232[54.5%]	426[100%]
Pap smear should be done every two years	Disagree	178[39.4%]	248[60.6%]	426[100%]
Cervical cancer can be prevented through early screening and treatment	Agree	178[39.4%]	248[60.6%]	426[100%]
Cervical cancer could be prevented by a vaccine	Agree	244[57.3%]	182[42.7%]	426[100%]

*Response Options: Agree, Disagree

There was a significant association between the age of women and their level of knowledge about cervical cancer (*X2=26.02, df=4, P=0.000*). The younger women were more knowledgeable than the older women. This study therefore concluded that the age of women influenced their knowledge about cervical cancer and participation in screening services. That is, the younger women were more knowledgeable about cervical cancer and screening than the older ones.

Access and utilisation of screening facilities

Table 3 presents information on respondents' access to and utilisation of screening facilities. Approximately half of the respondents (54.5%; n= 232) reported being unaware of any cervical cancer screening centre. Nearly half of them (45.5%; n =194) knew about a screening centre, out of which 45.4% (n= 88) reported that the screening centre was 2km to 5km away from their residences.

Table 3: Access and Utilisation of Cervical Cancer Screening Services

Respondents' utilisation of screening facilities	Frequency N=426	Percentage
Awareness of cervical cancer screening centre		
Yes	194	45.5
No	232	54.5
Distance of screening centre to participants' residence		
< 2km	32	17.6
2 – 5km	88	48.4
6 – 10 km	42	23.1
> 10km	20	11.0
Have you ever been screened for cervical cancer before		
Yes	40	9.4
No	386	90.6
If yes, how many times		
Once	4	10
Twice	32	80
Three – Five times	0	0
More than five times	4	10
How much did it cost to do the test (Naira)		
500	6	15
1000	16	40
1200	4	10
5000	8	20
5500	2	5
6000	4	10
7000	2	5
	40	100

Most respondents (90.6%; n= 386) had reportedly never been screened for cervical cancer, implying that only 9.4% (n=40) of the respondents had been screened and out of these women, 80.0% (n=32) had been screened twice. Out of the screened women, 40.0% (n=16) indicated that they paid 1 000 naira (approximately $6) for the Pap smear.

Barriers to cervical cancer screening

Of the respondents, 70.0% (n=298) agreed that cervical cancer screening could be embarrassing, while 50.2% (n=214) agreed that a lack of information about the screening centre was one of the reasons why women did not use cervical screening services. Health workers' attitudes posed a major barrier to screening for 54.9% (n=234) of the respondents. Misconceptions might have been a barrier to screening as 54.9% (n=234) of the respondents were of the opinion that cervical screening should only be done by women who had given birth. The cost of cervical screening was identified by 42.2% (n=180) of the respondents as a barrier, while 46.0% (n =196) reported pain to be a barrier and the lack of the partner's support to participate in cervical screening posed a barrier to 43.7% (n=186).

DISCUSSION

The level of awareness of cervical cancer displayed by women in this study was in line with the work of Awodele et al. (2011:501) who found that most women were aware of cervical cancer and risk factors. The results, however, do not support those of Ayinde and Omigbodun (2003:60) and Balogun et al. (2012:79), who reported low levels of awareness of cervical cancer and risk factors. The low level of awareness of the Pap smear as a screening method reported in this study agreed with those of Adanu's (2002:487). This study's findings supported reports by Al Thani et al. (2012:18) and Parkin et al. (2008:689) that mass media remained the major source of information on cervical cancer prevention in Honduras.

Most respondents lacked knowledge about cervical cancer and its prevention, agreeing with findings reported in Nigeria by Nwankwo et al. (2010:365) and those of **Al Thani et al.** (2012:13) in Qatar, who reported that women had poor knowledge about cervical cancer, screening services and HPV. The level of knowledge shown by women in this study, however, disagreed with the findings of Mutyaba et al. (2006:1), who found that 83% of the women had satisfactory knowledge about cervical cancer screening. Most women in this study had never being screened for cervical cancer and about half of them did not know of a cervical cancer screening centre. This finding supports the study finding reported by Ezem (2007:97) in Owerri in Nigeria, where 52.8% of participants were aware of screening facilities. This result was similar to the findings of Ayinde and Omigbodun (2003:60), Al Thani et al. (2012: 13) and Lyimo and Beran (2012), whose

studies showed that the level of awareness of cervical screening and the level of uptake among respondents were low.

This study identified some barriers that might influence the utilisation of cervical cancer screening services. Some women in this study reported cervical cancer screening to be embarrassing, in contrast to the report of Ibekwe et al. (2011:5) that 68% of women believed that cervical cancer screening was not embarrassing. The finding on lack of awareness of cervical screening as one of the major barriers to uptake of screening in this study had also been reported by Kamphinda-Banda (2009:58), who reported that the main barrier to cervical cancer screening was women's lack of knowledge and information about cervical cancer and screening and these service sites.

The significant association found between the women's knowledge of cervical cancer and prevention and their age disagrees with that reported by Al Thani et al.'s. (2012: 17) findings that older women were more knowledgeable about cervical cancer and screening services than younger women. Also this study disagreed with findings that screening was higher among women aged 40 and older compared with younger women as reported by Al Thani et al. (2012:17), who reported that more women aged 40 and older used Pap smear services than younger women. The findings are, however, at par with Leung and Leung's (2010:225) findings that females aged 37 years or younger were more likely to attend cervical cancer screening. The report of some of the respondents on their partners' refusal to allow them to participate in screening confirmed the finding reported by Lyimo and Beran (2012) that men's attitudes towards cervical screening and treatment of cervical cancer are factors contributing to poor uptake of cervical cancer screening services.

CONCLUSION

Rural women in Nigeria required more information on cervical cancer and its prevention. Mass media was the major source of cervical screening information, followed by health care workers. Health professionals should provide preventive information at various clinics. Continuous reinforcement of educational information on cervical cancer and screening is a priority to increase uptake of cervical cancer screening services, early detection of cervical lesions and effective treatment.

RECOMMENDATIONS

Community health nurses are one of the key health care providers in rural Nigeria. Based on the findings of this study, community health nurses should:

- advocate and lead community focused educational programmes to raise awareness about cervical cancer and its prevention through all available avenues such as clinics and religious gatherings
- canvass for the establishment of screening facilities in the rural areas at a subsidised rate to encourage women at these levels to participate in screening
- enhance their capacity to do Pap smear tests at the primary health care levels
- encourage the uptake of cervical cancer screening among women
- create awareness among men about the benefits of cervical screening
- address the barriers raised in this study to encourage women to utilise cervical screening services, including respecting women's privacy and reducing the embarrassment associated with cervical cancer screening.

LIMITATIONS OF THE STUDY

This study was conducted in four rural communities in a state in Nigeria and the findings may not be generalisable to the whole state or country. Therefore, inferences from the findings should be made with caution. The women might have responded in a socially desirable way rather than presenting their true experiences. This study did not confirm the availability of screening facilities and their accessibility (distance and affordability) to rural dwellers as stated by the respondents.

ACKNOWLEDGEMENTS

The authors thank the Medical Officer of Health, public health nurses working in Ife East Local Government Area and all the women who participated in the study for their support.

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