Awareness and knowledge of cervical cancer and its screening methods among women attending primary healthcare centers in Zaria, North-Western, Nigeria

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ABSTRACT

Background: Cervical cancer is a leading cause of cancer death in many developing countries. Cervical cancer can be prevented by screening and treatment of premalignant lesions of the cervix. Primary healthcare centers are the health centers closest to the grassroots in Nigeria and thus may be appropriate for population-based cervical cancer screening programs. This study sought to assess awareness of cervical cancer and its screening methods among women attending primary healthcare centers in Zaria, Nigeria.

Methodology: It was a cross-sectional study. Participants were women accessing healthcare in primary healthcare centers in Zaria. Eight primary healthcare centers in Zaria were purposively selected for the study. Data were obtained by focus group discussions (FGDs). The FGDs were tape-recorded and transcribed verbatim. The transcripts obtained were analyzed into themes based on the objectives of the study.

Results: The mean age of respondents was 26 years (standard deviation 4.9 years). Many participants were aware of symptoms of cervical cancer; however, they were not aware of the risk factors. Pap smear was the only screening method known to participants.

Conclusion: Awareness of cervical cancer and cervical screening did not reflect adequate knowledge about cervical cancer and screening methods. There is a need for healthcare providers to offer adequate health education about the disease and screening methods.

Key words: Cervical cancer awareness; cervical cancer screening; primary healthcare attendees.

Introduction

Cervical cancer is the fourth most common cancer among women worldwide. In 2018, an estimated 570,000 new cases and 311,000 deaths from cervical cancer were reported worldwide.[1] However, there is wide variation in incidence and mortality from cervical cancer across different geographical locations worldwide. The highest regional rates and mortality are seen in Africa.[1] The rates are 7–10 times lower in North America, Australia/New Zealand, and Western Asia.[1] In Nigeria, cervical cancer is the second most common cancer among women with 14,943 new cases and 10,407 deaths in 2018.[1] Cervical cancer accounted for 23% of all malignancies seen at Ahmadu Bello University Teaching Hospital, Zaria, in 2018.

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Access this article online	
Website: www.tjogonline.com	**Quick Response Code**
DOI: 10.4103/TJOG.TJOG_26_19	

Human papilloma virus (HPV) has been identified as a virtually necessary cause of cervical cancer.[2] HPV serotypes 16 and 18 which are known as the high-risk types are responsible for more than 70% of cases of cervical cancer worldwide.[3] HPV infection leads to the development of premalignant lesions on the cervix. These premalignant lesions have the potential to transform into malignancy when left untreated over a period of time. Population-based screening and treatment of the premalignant lesions of the cervix have led to a significant decrease in the incidence and mortality due to cervical cancer in the developed regions of the world.[3] More recently, HPV vaccination of young girls has been adopted as a primary prevention strategy for cervical cancer.[4]

Low awareness and poor knowledge on cervical cancer and cervical cancer screening methods have been identified as major barriers to effective cervical cancer prevention in the developing nations.[5] Lack of effective screening programs has also been identified as a major barrier to effective cervical cancer control.[6,7]

Nigeria lacks a national population-based cervical cancer screening program. Primary healthcare centers are close to the grassroots and thus provide healthcare services to the majority of the population worldwide.[8] Women within the reproductive age patronise primary healthcare facilities for their various reproductive health needs such as antenatal care and contraceptive services. Thus, primary healthcare centers can serve as centers for population-based cervical cancer screening program.

The Society of Gynaecology and Obstetrics of Nigeria (SOGON) recently developed a guideline for the prevention of cervical cancer in Nigeria.[9] This guideline can help in reducing the burden of cervical cancer when operationalized at the primary healthcare level. However, there is a need to assess awareness of cervical cancer and cervical cancer screening methods among women attending these facilities. This will help in identifying existing gaps in cervical cancer prevention at the grassroots in our environment.

The aim of this study was to assess the awareness and knowledge of cervical cancer and cervical cancer screening methods among women attending primary healthcare centers in Zaria.

Methodology

Study area, population, and design
The study was conducted in Zaria local government area of Kaduna state in North-Western Nigeria. Zaria local government occupies a total of 563 km^2 of land and has a total of 408,198 population with a population density of 730/km^2. There are urban, semi-urban, and rural settlements within Zaria. Zaria's economy is primarily based on agriculture. There are 11 primary, 2 secondary, and 1 tertiary healthcare facilities in Zaria. There are also several private healthcare facilities within Zaria. Services for cervical cancer screening and treatment of premalignant cervical lesions are available in the tertiary healthcare center in Zaria.

The study was a qualitative cross-sectional study. A quantitative approach was adopted in obtaining data where necessary.

Sampling
Eight primary healthcare centers that cut across urban, semi-urban, and rural settlements were purposively selected for the study. A total of 98 women participated in the study. Focus group discussions (FGDs) were conducted with women who were within the reproductive age group attending the chosen facilities for healthcare needs. One FGD was conducted in each of the selected primary healthcare centers. Women who were within the reproductive age group who presented to the health facilities for any healthcare need were recruited for the study. Women were informed about the study and allowed to choose whether or not to participate in the study. Discussions were done after the healthcare needs of the women have been addressed.

Data collection
Each discussion was conducted within the primary healthcare centers. These sites were chosen by the healthcare providers in each center. The discussions involved the lead researcher, research assistant, note taker, and participants. The research team has vast experience in qualitative research and the research topic. A tape recorder was also used to record all discussions.

Each discussion session began with an introduction of the research team to the participants. The participants also introduced themselves. Consent was obtained from the participants. Rapport was created between the research team and the study participants. Participants were also encouraged to participate freely in the discussions.

The FGD guide was in Hausa language which is the most widely spoken language in Zaria. It was translated to English, proofread, and translated back to Hausa. The research team speaks both languages fluently. The FDGs had an average of 12 participants and lasted between 75 and 90 min per discussion session including the duration of obtaining consent for the study. The sociodemographic characteristics of participants were obtained after consent was taken before the discussions were commenced.

Data management and analysis

The sociodemographic characteristics of participants were analyzed using SPSS version 20.0 software. The data obtained were transcribed verbatim. The transcripts were analyzed into themes.

- Common reasons for accessing care in the center
- Awareness of cervical cancer as a disease entity
- Knowledge about cervical cancer
- Awareness of cervical cancer screening methods
- Knowledge about cervical cancer screening methods
- Uptake of cervical cancer screening
- Suggestions on how to prevent cervical cancer.

Results

Common reasons for accessing care in the primary healthcare centers

The common reasons for accessing healthcare in the primary healthcare centers include fever, abdominal pain, vaginal bleeding, and vaginal discharge. Others include antenatal care, family planning services, and malnutrition among their children.

> "We seek care in this facility during pregnancy, delivery and when our children develop fever or malnutrition" (FGD 1, Participant 5, 23 years).
> "We present when we have a complaint of diarrhoea and vomiting' (FGD 2, Participant 1, 18 years).
> "We bring our children for immunization" (FGD 4, Participant 4, 36 years).

Awareness of cervical cancer

We explored awareness of cervical cancer among participants irrespective of knowledge about its cause and clinical presentation. Participants were asked whether they have ever heard about a disease entity known as cervical cancer. Many respondents were aware of cervical cancer and the media was their main source of information. Some respondents were informed about the disease in health facilities. Some have seen patients who were diagnosed with the disease.

> "I knew about cervical cancer when my brother's wife was diagnosed with the disease" (FGD 4, Participant 3, 32 years).

Knowledge about cervical cancer

This explored participants' awareness of clinical presentation and risk factors for cervical cancer.

Participants who were aware of cervical cancer were asked about the clinical presentation of the disease. Most of them mentioned abnormal vaginal bleeding, lower abdominal pain, and foul-smelling vaginal discharge as symptoms of cervical cancer. Few mentioned weight loss, rashes, infertility, hypertension, and body swelling as symptoms of cervical cancer.

> "Women with cervical cancer develop vaginal bleeding and weight loss" (FGD 3, Participant 6, 30 years).
> "Cervical cancer causes women to have prolonged bleeding, rashes and infertility" (FGD 7, Participant 4, 22 years).

Toilet infection, herbal concoctions, and poor personal and environmental hygiene were mentioned as risk factors for the development of cervical cancer by a majority of participants. Some mentioned that it is a disease from God and thus there are no risk factors. Others said it is a familial disease.

> "It is caused by God, like other illnesses'" (FGD 1, Participant 8, 31 years).
> "It is caused by applying or inserting herbal medicine by some women for sexual enjoyment" (FGD 8, Participant 3, 21 years).

Awareness of cervical cancer screening methods

This theme explored the methods of cervical cancer screening known to the participants. Some participants (13.6%) were aware of Pap smear as a method of cervical cancer screening. None of the participants knew visual inspection and HPV testing as methods of cervical cancer screening.

> "Yes, I have heard about Pap smear on the radio" (FGD 7, Participant 5, 28 years).

Knowledge about cervical cancer screening methods

Knowledge about who should have the test, how often should the tests be repeated, and how the test is interpreted was explored in this theme. Participants who were aware of Pap smear as a screening method for cervical cancer did not know how often it should be done. Most of them did not know who should have the test. Some said that only women who have symptoms should undergo Pap smear.

> "I only heard about the test but I don't know how often it should be done" (FGD 1, Participant 2, 27 years).
> "Only women that have symptoms should have the test done" (FGD 8, Participant 1, 22 years).

Uptake of cervical cancer screening

Only one participant has ever had Pap smear done.

> "I did the test during a visit by some medical personnel for screening in our community" (FGD 5, Participant 5, 25 years).

Reason for non-uptake of screening

Most of the participants who were aware of cervical cancer but have not done the test said they felt that they were not at risk of developing the disease, thus there is no need to screen.

"I don't use any herbal concoction in my private part so I am not at risk of developing the disease" (FGD 8, Participant 3, 21 years).

Few said they had no reason for not being screened. Ignorance was the main reason for the lack of uptake among women who were not aware of any cervical cancer screening method.

Discussion

The mean age of participants was 26 years (standard deviation ± 4.9 years) and most (34.7%) were between 20 and 24 years of age [Table 1]. This implies that most of the participants are in the early stage of their reproductive age and thus have the opportunity to benefit from cervical cancer screening. Also, they have not yet reached the recommended age of starting cervical cancer screening as proposed by World Health Organization (WHO)[3] and the SOGON guideline[9] for the prevention of cervical cancer which is 30 and 25 years, respectively. All participants were married [Table 1], and thus presumably sexually active which is a risk factor for HPV infection. A majority of the participants (87.8%) had some form of western education [Table 1].

A majority (66.7%) of the participants were aware of cervical cancer [Table 2]. Ahmed *et al*.[10] reported the same level of awareness of cervical cancer among market women in Zaria. A lower level of awareness (15%) was reported[11] among women in rural Lagos, Nigeria. Low awareness has also been reported in other developing regions.[12,13] Low awareness about cervical cancer has been identified as a major barrier to cervical cancer screening.[14]

The knowledge about the aetiology and risk factors of cervical cancer was poor among participants who were aware of the disease. Use of herbal concoctions and poor personal and environmental hygiene were mentioned by participants. A similar picture of misconception has been reported among other African population.[10,15-17] This is of significant public health importance because women with such belief may not feel the need to screen for cervical cancer since they do not perceive any risk for developing the disease.[18,19] None of the participants mentioned HPV infection as the etiology of cervical cancer. Participants were also not aware of the risk factors of cervical cancer which include immunosuppression, smoking, multiparity. and use of oralcontraceptives.[20] Awareness of clinical presentation of cervical cancer was fair likely due to the fact that people around them have developed the disease as mentioned by some participants. The fact that awareness of cervical cancer did not reflect good knowledge about the etiology and risk factors of cervical cancer suggests a gap in knowledge about cervical cancer

Table 1: Demographic characteristics of the participants

Characteristics	Frequency	Percentage
Age (years)		
15-19	6	6.1
20-24	34	34.7
25-29	28	28.6
30-34	18	18.4
35-39	12	12.2
Total	98	100.0
Education		
National Certificate of Education	12	12.2
Senior Secondary Certificate of Education	38	38.8
Primary School Leaving Certificate	36	36.7
Islamic Education	12	12.2
Total	98	100.0
Marital status		
Married	98	100
Total	98	100
Religion		
Islam	98	100
Total	98	100
Ethnicity		
Hausa	92	93.9
Yoruba	6	6.1
Total	98	100

Table 2: Awareness of cervical cancer and cervical cancer screening methods among participants

Awareness	Yes	No
Cervical cancer (*n*=98)	66 (67.3%)	32 (32.7%)
Cervical cancer screening (*n*=66)		
Pap smear	9 (13.6%)	57 (86.4%)
Visual inspection	0	66 (100%)
HPV test	0	66 (100%)
Screening uptake (*n*=66)	1 (1.5%)	65 (98.4%)

among the population. Lack of adequate information on cervical cancer and screening among women has also been reported.[14] Several factors may be responsible for this gap. Most participants got information from the media and thus some details may be omitted. Also, avenues for questions and answers may not be readily available in some media outlets. This buttresses the fact that there is need for healthcare providers to be actively involved in educating the general public about cervical cancer.[21]

Even though 67.7% of participants were aware of cervical cancer, only 13.6% of them knew about any form of cervical cancer screening methods [Table 2]. The level of awareness of cervical cancer screening methods was much higher in the work reported by Ahmed *et al*.[10] in Zaria when compared to this study even though the level of awareness of the disease was similar. This may be due to the fact that the study by Ahmed *et al*. was conducted in the market where population

is more heterogeneous. A study among women in Onitsha, South-East Nigeria,[22] reported that 35.56% of these women were aware of Pap smear. In a community-based study in Ilorin North-Central Nigeria,[18] it was reported that 67% of women were aware of cervical cancer screening. Pap smear was the only cervical cancer screening method known to the participants in this study. The WHO recommended the use of visual inspection with acetic acid (VIA) and visual inspection with Lugol's Iodine (VILI) as the screening methods for cervical cancer in low-resource settings.[3] However, none of the participants was aware of these methods. This may be due to the fact that there are no programs that implement such screening methods within most communities. Also, cervical cancer screening in Nigeria is mostly opportunistic and limited to tertiary centers where Pap smears are used for screening due to the availability of skills and facilities in such centers. HPV testing was not known to the participants. In a study on cervical cancer awareness and screening uptake among rural women in Lagos, Nigeria,[11] it was reported that 65% of the participants were aware of Pap smear as a screening method for cervical cancer. In the same study,[11] awareness of VIA, VILI, and HPV test as screening methods for cervical cancer was 28.3%, 1.7%, and 5%, respectively. This finding is significant because SOGON guideline recommends the use of the HPV test as the screening method for cervical cancer in Nigeria, yet awareness of this screening method is poor among women in our community.[9] Therefore, there is a need for creating awareness on this method of cervical cancer screening in our communities.

Knowledge of Pap smear was poor among participants who were aware of Pap smear. Participants who were aware of Pap smear as a screening method for cervical cancer were not aware of who should be screened, when, and how often screening should be done. This implies that even though they were aware of Pap smear, lack of adequate knowledge may prevent uptake.

Uptake of Pap smear among participants was low. This reflects the general low uptake of cervical cancer screening in many developing nations.[5,11,12,18] Many factors have been associated with low uptake of cervical cancer screening. These include low awareness and lack of adequate knowledge about cervical cancer and cervical cancer screening methods as seen in this study. Participants' suggestions on measures that can be adopted in cervical cancer prevention were mainly centered on creating awareness about the disease at grassroot level [Table 3].

The major limitation of this work is the fact that it was a qualitative study done in only one region of the country and

Table 3: Suggestions on how to prevent cervical cancer

	Suggestions
Suggestions on how to prevent cervical cancer	Use of media
	Involvement of community and religious leaders
	Should be part of the female secondary schools curriculum
	Home visits by health personnel
	Health talks in clinics
	Islamic schools
	During ceremonies like naming ceremonies and weddings

thus might not be representative of what obtains in other parts of the country.

Conclusion

Knowledge about cervical cancer and cervical cancer screening methods was poor among the participants. There is a need to bridge the gap between awareness of cervical cancer and the knowledge about the cause of cervical cancer and cervical cancer screening methods among women in our communities. Implementing cervical cancer prevention strategies at the primary healthcare level may improve uptake of cervical cancer prevention services especially in regions with high incidence of the disease.

Conflicts of interest

There are no conflicts of interest.

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