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Knowledge on cervical cancer and screening tests among women at two reference hospitals in Yaounde, Cameroon

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ABSTRACT

Cervical cancer is the second cause of women cancer in Cameroon. This study was conducted to assess the knowledge on cervical cancer and screening tests among women at two reference hospitals in Yaoundé, which will contribute to reinforce cervical cancer prevention. A cross-sectional study conducted in two reference hospitals in Yaoundé included 523 sexually active women aged 25-65 years. Each consenting woman filled a self-administered questionnaire and data on socio-demographic characteristics, knowledge on cervical cancer and screening tests collected. Data obtained were analysed using descriptive statistics. A total of 508/523(97.1%) participants had heard of cervical cancer. According to 167/523(31.9%) participants, *Human papilloma virus* was the causative agent. The media was the main source of information as reported by336/523(64.2%) participants. Also 209/523(40.0%) participants had previously been screened and in 135/523(25.8%) cases, the lack of information was the main barriers for screening. We found 490/523(93.7%) participants with poor a knowledge of the disease. Poor knowledge on cervical cancer was observed in this study. Educational programmes and media information should be used to improve women's knowledge and awareness of the disease for a successful cervical cancer screening and prevention.

Keywords: Cervical cancer, awareness, screening tests, barriers, knowledge score.

INTRODUCTION

Cervical cancer is the fourth cancer of women world-wide with an estimated 570 000 new cases in 2018, representing 6.6% incidence and 7.5% mortality (WHO, 2018). It is estimated that about 83% of the cases occur in low income countries, representing 15% of female deaths annually (Ekane et al., 2015). According to the Information Centre /International Agency for Research on Cancer (ICO/IARC) in Cameroon, 1993 women are diagnosed every year and 1120 die from cervical cancer ranking it as the second most frequent cancer in the country (Bruni et al., 2017).

Human papilloma virus (HPV) infection is the primary cause of cervical cancer. It is documented that the majority of

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sexually active women acquire HPV soon after sexual debut and the peak prevalence observed in young women (Mbulawa et al., 2015). HPV infection is often asymptomatic and can regress or progress to invasive cancer depending on the immune system (Ghittoni et al., 2015). HPV is responsible for 99% of cervical cancer and accounts for approximately half of the infection related burden of cancer in women (Kassa, 2018). HPV-16 and 18 types are associated with 87% of the total cervical cancer (Sah et al., 2018).

Cervical cancer is a deadly disease once it reaches the invasive stage. Of all existing female genital tract cancers, cervical cancer is the only preventable cancer if detected in the early stages. Population-based screening with Pap smear is an important secondary preventive measure for cervical cancer that leads to a high-cure rate among cervical cancer patients (Shah et al., 2012). Conventionally, Pap smear, combined with treatment of cervical pre-cancerous lesions and early-stage cancer, has been successful in preventing up to 80% of invasive cervical cancer cases in the developed world (Toye et al., 2017). Unfortunately, cervical cytology is not a feasible method of screening in many African countries given the required level of medical and laboratory infrastructure and trained personnel, multiple return visits with poor patient tracking strategies, and availability of such services are often limited to capital cities (Finocchario-Kessler et al., 2016).

Increasing women's knowledge of cervical cancer and preventive health-seeking behaviour can have a great impact on cervical cancer incidence and mortality (Der et al., 2018). Cameroon has a disproportionately high burden of cervical cancer due to the low awareness that the disease is preventable with prophylactic vaccines, lack of screening and treatment of pre-cancerous lesions, and high prevalence of human immunodeficiency virus (HIV) (Ogembo et al., 2014). This study aimed at assessing the level of knowledge of women on cervical cancer and screening tests that will help improve prevention of the disease in the city of Yaoundé (Cameroon).

MATERIALS AND METHODS

Study design

This was a cross-sectional study conducted in Yaoundé the capital city of Cameroon from October to November 2018. Two reference hospitals were purposely selected namely the Yaoundé University Teaching Hospital (YUTH) and Yaoundé Gynaeco-Obstetric and Paediatric Hospital (YGOPH).

Included in the current study were sexually active/asymptomatic women aged 25-65 years visiting the gynaecologic clinics of the selected hospitals for free cervical cancer screening, routine gynaecologic check-up, patient relatives or patients admitted on referral from other hospitals. Women with existing precancerous/cancerous lesions, history of gynaecologic malignancies and on cancer therapy were excluded from the study.

Collection tools

A structured, self-administered questionnaire containing multiple-choice questions adapted from Toye et al. (2017) model and frequently asked questions on cervical cancer was designed to contain 4 sections. Section 1 included questions on socio-demographic characteristics, section 2 included questions on awareness and source of information on cervical cancer; section 3 included questions on screening tests and the section 4 asked questions on knowledge of risk factors, symptoms and treatment of cervical cancer. The questionnaire was written in simple French and English in such a way that each participant could independently answer and be administered with the help of two trained research assistants. The questionnaire was pretested using volunteers from different hospital to ensure validity, willingness to participate in the study afterwards necessary corrections were made.

Data collection procedures

The aim of the study was clearly explained to the participants who were invited to take part in the study. Participants fulfilling the inclusion criteria were requested to fill an informed consent sheet. An identification

code was given to ensure confidentiality. Participation was voluntary and enrolled women could withdraw at any time during the study without losing their right to medical care. No woman was allowed to participate more than once. Data collected were daily checked for completeness by the researcher.

Sample size calculation

Purposive sampling technique was used to recruit all eligible participants within 2 weeks in the respective hospitals. We recruited 252 participants from the YUTH and 271 from the YGOPH. Consenting women were consecutively recruited for the study.

Data management and analysis

Data obtained were entered into Microsoft Excel, clean up and analysed using SPSS version 20. Descriptive statistics: mean and standard deviation were used for continuous variables and frequency and percentages for categorical variables.

Questions regarding specific knowledge on cervical cancer risk factors, symptoms, prevention and treatment were considered to create the specific knowledge score. One mark was attributed to each correct answer and 0 for a wrong one. The specific knowledge score was considered poor for less than 50% correct answers, satisfactory for 51-79% correct answers, good for 80-99% correct answers and excellent for all correct answers. The specific knowledge questions were later grouped to determine the overall knowledge score of participants. Modified Bloom's cut off points was used for assessment with a score of 80-100% of correct responses equivalent to a good knowledge, a score of 50-79% equivalent to a satisfactory knowledge and a poor knowledge for a score of less than 50% of the correct responses. For this study, the respective knowledge levels were: 0-17 for poor, 18- 28 for satisfactory, 29- 35 for good (Abdullahi et al., 2016).

Ethical considerations

The aim of the study was clearly explained to participants; each woman was invited to sign a written informed consent form and data obtained from them kept secret. The study was approved by the ethical committee of the Faculty of Heath Sciences-Institutional Review Board of the University of Buea, Cameroon (N°: 2018/0254/UB/SG/IRB/FHS) and the administrative authorization obtained from the respective hospital Directors.

RESULTS

We recorded for this study 252/523(48.2%) participants from the YUTH and 271/523(51.8%) others from the YGOPH. They were 25-65 years old (mean 41.3+/-10.7 SD). The socio-demographic characteristics shown on Table 1 reveals that 248/523(47.5%) participants were aged 25-38 years, 320/523 (61.2%) were married, 177/523(33.8%) had no formal activity and 234/523(44.7%) had attended the secondary school.

The awareness and barriers to cervical cancer is shown on Table 2. A total of 508/523(97.1%) participants were aware of the cervical cancer and 167/523(31.9%) could identify HPV as the causative agent. The main source of information was, the media in 336/523(64.2%) cases followed by the medical personnel in 170/523(32.5%) cases. About 314/523(60.0%) participants had never been screened while 209/523(40.0%) other had previously been screened. According to the participants' view on barriers to cervical cancer screening, 135/523(25.8%) cited lack of information, 88/523(16.8%) mentioned no medical request and 75/523(14.3%) complained of poverty (Table 2).

On Table 3, we assessed the participant's specific knowledge score on cervical cancer screening tests, risk factors, symptoms and prevention and treatment options available. The knowledge score of available screening tests and the reasons for screening were satisfactory. A majority of participants cited at least 50% of correct responses. In contrary, 24/523(4.6%) and 22/523(4.2%) participants had excellent score for the screening tests and reasons for screening respectively. About 298/523(57.0%) participants had poor knowledge score of the

age at first screening for cervical cancer while only 4/523(0.8%) had excellent knowledge score (Table 3). The knowledge score on risk factors and symptoms was similarly distributed with 484(92.5%) and 39/523(7.5%) participants having poor and good knowledge score respectively. Table 3 shows the knowledge score of the preventive measures to be poor in 480/523(91.8%) cases and good in 43/523(8.2%) cases. Similarly, the knowledge score of the treatment options was poor in 379/523(72.5%); satisfactory in 128/523(24.5%) cases and excellent in 16(3.1%) cases (Table 3).

The overall knowledge score on cervical cancer is shown on table 4. A total of 490/523(93.7%) participants had poor knowledge score followed by 32/523(6.1%) with satisfactory score and 1/523(0.2%) with good score.

Table 1: Socio-demographic characteristics of the participants.

Characteristics	**Frequency**	**(n= 523)**	**Percentage (%)**
Age (years)			
25-38	248		47.4
39-52	186		35.6
53-65	89		17.0
Marital status			
Married	320		61.2
Single	148		28.3
Divorced	13		2.5
Widow	42		8.0
Occupation			
Housewife	175		33.5
Formal work	177		33.8
Business	88		16.8
No formal work	83		15.9
Education			
No formal	177		33.8
Primary	95		18.2
Secondary	234		44.7
Tertiary	17		3.3

Table 2: Assessment of participants' awareness and barriers to cervical cancer.

Determinants	**Frequency (n = 523)**	**Percentage (100 %)**
Awareness of cervical cancer	508	97.1
A family member with cancer	103	19.7
Causative agent of cervical cancer	167	31.9
Source of information about cervical cancer *		75.9
From medical practitioner	170	32.5
From a friend	124	23.7
From the radio/television/internet	336	64.2
Ever screened for cervical cancer		
It is my first time	314	60.0
More than once	209	40.0
Barriers to cervical cancer screening *		
Lack of information	135	25.8
Test procedure embarrassing	16	3.1
Fear of the result	25	4.8
Test procedure painful	11	2.1
My doctor did not request	88	16.8
Poverty	75	14.3

*The total does not make up to 523(100%)

Table 3: Specific knowledge score of the participants.

Characteristics	**Frequency (n=523)**	**Percentage (100 %)**
Knowledge of screening tests (score/3)		
Poor (score 0/3)	238	45.5
Satisfactory (score 1-2/3)	261	49.9
Good (score 3/3)	24	4.6
Knowledge of reason for screening (score/3)		
Poor (score 0/3)	143	27.3
Satisfactory (score 1-2/3)	358	68.5
Excellent (score 3/3)	22	4.2
Knowledge of risk factors (score /7)		
Poor (score <4/7)	484	92.5

Good (score ≥ 4/7)	39	7.5
Knowledge of the age at first screening (score/2)		
Poor (score 0/2)	298	57.0
Satisfactory (score 1/2)	221	42.3
Excellent (score 2/2)	4	0.8
Knowledge of symptoms (score/9		
Poor (score 0-4/9)	484	92.5
Good (score 5-9/9)	39	7.5
Knowledge of prevention		
Poor (score < 4)	480	91.8
Good (score ≥ 4)	43	8.2
Knowledge of treatment measures (score/3)		
Poor (score 0/3)	379	72.5
Satisfactory (score 1-2/3)	128	24.5
Excellent (score 3/3)	16	3.1

Table 4: The overall knowledge score of cervical cancer among participants.

Total knowledge score	**Frequency**	**Percentage**
Poor	490	93.7
Satisfactory	32	6.1
Good	1	0.2
Total	523	100

DISCUSSION

The current study aimed at assessing the knowledge on cervical cancer and screening tests among women in the city of Yaoundé (Cameroon). The majority of participants were aged 25-38 years, married, with secondary school level of education and had formal activity. Similar study in Nepal reported a majority of participants in the age group of 20-29 years who were married and had a secondary level of education or more (Thapa et al., 2018). Most of the participants were at the reproductive age which might be a reason for the large participation in this study. Variation in age groups in both studies might be attributed to the inclusion criteria; in the current study we excluded women less than 25 years.

The majority of our participants were aware of cervical cancer mainly from the media. There are regional variations in the awareness and source of information of cervical cancer. Good level of awareness was reported in Ethiopia (Dulla et al., 2017). In Ghana, more than half women had never heard of cervical cancer and the risk factors (Ebu et al., 2015). Toye et al. (2017) reported the commonest source of information about cervical cancer in Nigeria to be from the medical personnel, media, family members, internet and friends. The current study was conducted in an urban area where media/internet facilities are available which might have influenced the level of awareness about the disease.

Cervical cancer screening is not a routine test recommended by medical personnel in Yaoundé. Few health care centres occasionally offer screening campaigns. In the present study, few women knew the recommended age and the usefulness of cervical cancer screening. Still in the current study, more than half (60.0%) participants had never been screened with the main reasons being: lack of awareness, no medical request and poverty. In Kenya, only 16.4% respondents had been screened for cervical cancer (Ng'ang'a et al., 2018). The commonest reasons for not undergoing the screening test in some studies were mainly personal factors such as fear of the procedure, cultural or religious reasons, were not ill (Hoque and Hoque, 2009), negligence, fear of discovering a serious disease and deeming it unimportant(Assoumou et al., 2015).

A majority of the participants mentioned at least one test for cervical cancer with the most cited being Pap test (50.7%). Our finding was in discordance with a study in Uganda which found more than half the respondents (54.3%) with no knowledge of any methods of testing (Mukama et al., 2017). In our setting, few health-care centres offer cervical cancer screening services which might be a reason for low participation in the screening procedures despite good knowledge of the Pap test.

The overall knowledge on cervical cancer in this study was good among 0.2% women, lower than 3.6% found by Ekane et al. (2015) in Buea (Cameroon). Assessment of specific knowledge of risk factors, symptoms and prevention methods of cervical cancer in this study was also poor. Another study in Nigeria reported a good knowledge of women symptoms and risk factors of cervical cancer (Okunowo et al., 2018). Poor knowledge of risk factors, symptoms and prevention might be attributed to a poor national policy on cervical cancer. Mukama et al. (2017) suggested that cervical cancer awareness campaigns should focus on increasing knowledge of signs and symptoms and risk perception of the disease to encourage screening and facilitate early diagnosis of abnormal cases.

The proportion of women with a good knowledge of cervical cancer risk factors and symptoms differ between studies and could be related to social status and level of education. In the current study, frequently cited risk factors were HPV infection and early sexual activity which was in line with a study among University students in Tamale- Ghana (Der et al., 2018). We also found from the current study that bleeding during sexual intercourse and inter-menstrual bleeding were the most known symptoms. Shah et al. (2012) found menstrual abnormalities and abnormal vaginal discharge as common symptoms known by women in India. Cervical cancer symptoms are similar to other common gynaecologic symptoms of women and may contribute to misdiagnosed cases. Good knowledge of risk factors might be an important step towards primary prevention while knowledge of symptoms might be necessary for seeking medical advice.

The knowledge of preventive measures of cervical cancer in this study was also poor and could be due to poor information about the disease in our community. It is documented that cervical cancer can be prevented using HPV vaccine (Chan and Sidibé, 2016). For better prevention coverage, the Advisory Committee on Immunization Practices (ACIP) had recommended routine vaccination at age 11 or 12 years for females and for males (Meites et al., 2016). In the current study, we found low knowledge of HPV vaccine which is in agreement with Assoumou et al. (2015). HPV vaccination is not well implemented in our setting. Low level of knowledge about the vaccine might be attributed to poor educational information.

Conclusion

This study suggests a high awareness and poor knowledge on cervical cancer. The media was the main source of information. Less than half of the participants could identify HPV as the causative agent. A majority of the participants had never been screened due to lack of information on the available screening tests. We recommend health education using the media to educate

women on cervical cancer and the available screening tests.

COMPETING INTERESTS

The authors declare no competing interests.

AUTHORS' CONTRIBUTIONS

BW conceived the protocol, interviewed the participants and wrote the manuscript; DBTP participated in the write up, statistical analysis and reviewed the manuscript; PWG participated in the interview of the participants and statistical analysis; JCND study design, reviewed the manuscript; FGN, NDS and NT reviewed the article.

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