

## ORIGINAL ARTICLE

# Awareness and knowledge level of cervical cancer among women of reproductive age in Bolgatanga municipality

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This study assessed the awareness and knowledge level of cervical cancer among reproductive women in the Bolgatanga Municipality of the Upper East Region of Ghana. A structured questionnaire was used to gather data from one hundred and fifty (150) women. The participants were recruited using the convenient sampling method. Out of the total number of 150, 50% of the women were between 21 and 29 years old while 14% were aged 15-20 years. The findings suggest that 70.7% of the participants have ever heard of cervical cancer but when they were asked to mention the symptoms of cervical cancer most of these women said they did not know. Those who have heard about cervical cancer mentioned mass media as their source of information (36.7%) while 25.3% indicated health workers as their source of information. In conclusion the study revealed the lack of in depth knowledge on cervical cancer, the need for mass education on the disease and the establishment of cervical cancer control program, screening and treatment centers in order to curb misdiagnosis of the disease to reduce mortality associated with the disease.

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## INTRODUCTION

Cervical cancer (CC) is the second most common cancer in women worldwide and the commonest in developing countries (WHO, 2002). Cervical cancer has been linked with Human Papilloma Virus (HPV) which can be transmitted sexually and can be prevented just as any other sexually transmitted infection (STIs) (Bekkers *et al.*, 2006; Adanu *et al.*, 2010). Worldwide, Cervical cancer constitute approximately 12% of all cancers in women, of which, 80% occur in developing countries (WHO, 2002). In sub-Saharan Africa, approximately 35 new cases of cervical cancer are diagnosed per 100 000 women annually, and about 23 per 100 000 women die from the disease (Bray *et al.*, 2013).

Although there is no formal cancer registry in Ghana, the International Agency for Research on Cancer has estimated that in 2008, 3,038 Ghanaian women

will develop cervical cancer and more than 2,006 will die because of the disease (WHO, 2007). The WHO predicts that by the year 2025, 5,000 new cases of cervical cancer and 3,361 cervical cancer deaths will occur annually in Ghana (WHO, 2007). Several studies have shown low levels of knowledge in cervical cancer across different literacy levels in Africa (Ezem, 2007) and awareness of this disease on the continent is very poor yet mortality remains relatively high. Knowledge of cancer patterns in Africa is woefully inadequate, and population-based epidemiological data on the occurrence of cancer in Sub-Saharan Africa especially, are sparse (Okonofua, 2007). Low levels of awareness and poor knowledge of cervical cancer coupled with the scarce availability and accessibility of cervical cancer screening services have resulted in limited number of women being screened in sub-Saharan Africa. The few available centers are based in secondary and tertiary health care facilities located in few urban towns (Anorlu, 2008).

Even though there exist extremely low rate of cervical cancer screening in Ghanaian urban (3.2%)

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and rural (2.2%) areas, and low levels of knowledge about cervical cancer, Ghana does not have a national CC screening programme (WHO, 2007; Adanu, 2002). The level of knowledge and awareness of CC screening among Ghanaian women of reproductive ages currently unknown and this may have direct impact on the success of cervical cancer screening programs. This study therefore sought to assess the awareness and knowledge level of CC among Ghanaian women of reproductive age.

## MATERIALS AND METHODS

### Study design and population

This cross-sectional study was conducted in the Bolgatanga Municipality of the Upper East region of Ghana from January 2011 to July 2011. The target population for the study was women in their reproductive age (15-49 years) living in the Bolgatanga Municipality. One hundred and fifty (150) women within the age group were randomly selected to participate in the study. Participation of the respondents was voluntary and informed consent was obtained from each participant.

### Study site

Bolgatanga Municipal Assembly is located in the centre of the Upper East Region, and Bolgatanga the capital of the municipality is also the Regional capital. The municipality is bordered to the North by the Bongo District, South and East by Talensi-Nabdam District and Kassena-Nankana District to the West. The Bolgatanga Municipality was established by LI 1797 in the year 2004. Before this period the Talensi-Nabdam district was part of the then Bolgatanga District. The total population of the Bolgatanga Municipality from the 2010 Population and Housing Census is 131,550, with a growth rate of 1.1%. This growth rate is lower than the national growth rate of 2.7%. Females account for 52.3% of this figure while 47.3 represents males.

Bolgatanga Township has a cosmopolitan population although majority of the inhabitants are from the Northern ethnic origins. There has been a huge influx of the major ethnic groupings of Ghana including the Akans, Ewes, and Ga-Adangbes into the

town because of its Regional Capital status. Most of these ethnic groups are organized around Chiefs and Leaders, while others come together as social groupings. The major language spoken in the municipality is Gruuni which is the main language of the people in the Municipality. However due to the cosmopolitan nature of the municipality, other languages such as Dagaare, Ga, Ewe, Adangbe, Twi and Kassem are also spoken in the Municipality. The municipality has a total land area of 729 square kilometers of which approximately 70% representing 51,030 hectares is cultivated.

As at 2010, the municipality has a doctor population of 5 and 205 nurses, representing Doctor-to-Patient ratio of 1: 30,932 and Nurse-to-Patient ratio of 1:755. All the doctors in the Municipality are found in the Regional Hospital and usually do private work for the private hospitals in the municipality. Eighty-three percent (83%) of all nurses in the municipality are found in the regional hospital. The rest (17%) are found manning the Clinics and Health Centre's in the municipality. This is evident in the Apart from the regional hospital, the municipality has two private health centers, seven government clinics, a police clinic (quasi) and six functional CHPS centers.

### Data collection and analysis

A detailed, semi-structured questionnaire consisting of both open and closed ended questions was administered to each consented study participant for socio-demographic information such as age, marital status, educational background, and parity. Age of first pregnancy, age of first delivery, and age of sexual initiation were also collected. The questionnaire also explored the knowledge and the awareness of the women about cervical cancer.

The questionnaires were read, interpreted and explained in the language the respondents understood and the appropriate response ticked or written for those who could not read and understand the English language. For those who could read and write, the questionnaires were given to them to fill out their responses as appropriate by themselves. The statistical package for social science (SPSS) for win-

dows (version 12.0) was used to analyze the data collected. Data were presented as proportion.

## RESULTS

Table 1 displays the demographic characteristics of study participants (n=150). Majority (64.7%) of the participants were between the ages of 15 and 29 years. Most participants had some form of formal education: 63 (42%) and 48 (32%) had tertiary education and senior high school education respectively. Three (2.0%) of the participants had no formal education while three (3) others declined to respond to their educational status. Most of the participants were either married 78 (52%) or single 67 (44.7%).

**Table 1: Demographic characteristics of the study population**

Variables	n(%)
<b>Age of participants (years)</b>	
15-20	21(14.0)
21-29	76(50.7)
30-39	39(26.0)
>40	14(9.3)
<b>Highest educational level</b>	
Non respondents	3(2.0)
JHS	7(4.7)
SSS	48(32.0)
Vocational/Technical training	26(17.3)
Tertiary	63(42.0)
No education	3(2.0)
<b>Marital status</b>	
Single	67(44.7)
Married	78(52.0)
Divorced	2(1.3)
Widow	1(0.7)
Separated	2(1.3)

**Table 3: Respondents' level of education and their awareness of cervical cancer**

Level of education	Have you heard of cervical cancer?			Total
	Yes	No	No response	
No education	0(0.00%)	2(100%)		2(100%)
Junior Secondary School	0(0.00%)	10(100%)		10(100%)
Vocational And Technical	8(30.77%)	18(69.23%)		26(100%)
Senior Secondary School	25(51.02%)	22(44.90%)	2(4.08%)	49(100%)
Tertiary	51(80.95%)	12(19.05%)		63(100%)
Total	84(56%)	64(42.67%)	2(1.33%)	150(100%)

Table 2 shows participants' exposure to some risk factors associated with cervical cancer. Most (49.3%) participants had their first sexual encounter between the ages of 21-30 years followed by those within the age bracket 15-20 years. However, 65 (43.3%) participants had their first pregnancy between the ages of 21-29 while 75 (50%) had at least one live-born childbirth experience.

**Table 2: Exposure of the study population to possible risk factors of cervical cancer**

Risk factors	n(%)
<b>Age of sexual initiation (years)</b>	
Non respondent	32(21.3)
< 15	3(2.0)
15-20	40(26.7)
21-30	74(49.3)
31-40	1(0.7)
<b>Age of first pregnancy</b>	
Non respondents	49(32.7)
15-20	30(20.0)
21-29	65(43.3)
30-39	6(4.0)
≥40	0(0.0)
<b>Parity</b>	
Non respondents	3(2.0)
0	72(48.0)
1	39(26.0)
2	14(9.3)
3	15(10.0)
≥4	7(4.7)

Table 3 shows a cross tabulation of the highest level of education of respondents and their awareness of cervical cancer. The study revealed that out of 63 women who had had tertiary education, 51(80.95%) had heard of cervical cancer. The results also showed that for people who terminated at the junior secondary school or did not have any form of formal education at all, none had heard of cervical cancer.

Table 4 shows the respondents knowledge of cervical cancer. The results show that majority of respondents (70.7%) had never heard about cervical cancer. Similarly, close to 90% of the respondents in this study did not know their cervical cancer status or had never been screened. When asked about known symptoms of cervical cancer, respondents mentioned vaginal bleeding (28.7%), vaginal discharge (15.3%) among others. However, about a third (30%) of the respondents did not know any symptoms. Respondents also mentioned recurrent STDs (36.7%), multiple sex partners (34%), early

initiation of sex (32%) and others as the risk factors for cervical cancer. The barriers to cervical cancer screening as revealed in this study are mainly Accessibility (37.3%), financial (34.7%) and Transportation (15.3%) problems, as shown in Table 4.

**Table 4: Respondents' knowledge of cervical cancer**

Variables	Response n(%)
<b>Heard about CC?</b>	
Yes	42(28.0)
No	106(70.7)
No response	2(1.3)
<b>Know your CC status?</b>	
Yes	8(5.3)
No	132(88.0)
No response	10(6.7)
<b>Know symptoms of CC?</b>	
Vaginal bleeding	43(28.7)
Post coital bleeding	17(11.3)
Vaginal discharge	23(15.3)
Lower abdominal pain	15(10.0)
Don't know	57(30.0)
<b>Risk factors of CC?</b>	
Early initiation of sex	48(32.0)
Multiple sexual partners	51(34.0)
Multiple births	15(10)
Vaginal douching	14(9.3)
Cigarette smoking	22(14.7)
Recurrent STDs	55(36.7)
Don't know	39(26.0)
<b>Barriers to cervical cancer screening</b>	
Transportation	30(15.3)
Financial problems	52(34.7)
Staff attitude	11(7.3)
Accessibility	56(37.3)
Occupation	12(8.0)
Cultural believes	5(3.3)

## DISCUSSIONS

Younger women have been a target for cervical cancer screening, with the recommended ages being from 20-25 years. (Markovic *et al.*, 2005; Zeferino *et al.*, 2006). The data gathered from the study revealed that majority, 50.7% of the participants were of the ages 21-29, and these women fall within the recommended ages for cervical cancer screening. However, the window of opportunity for cervical cancer screening is unavailable for these women in the Bolgatanga municipality as Ghana does not have a national cervical cancer screening programme. Out of the total respondents, 9.3% of the respondents were 40 years and above, an age considered as the incidence age of cervical cancer for Serbian women (Markovic *et al.*, 2005), yet these women do not have easy access to cervical cancer screening. The data also revealed that majority (70.7%) of participants had heard of cervical cancer, which is accounted for by the fact that most of the participants had some form of formal education. However, a good number of the participants have been exposed to such risk factors as early initiation of sex and high parity, yet, only 8 (5.3%) of the total number of participants had ever had cervical cancer screening. This can also be attributed to the absence of a national cervical cancer screening programme as well as the scarce availability of screening centres.

Most participants, representing a combined percentage of 96% had some form of formal education, ranging from Junior Secondary School, Vocational and Technical Training School, Senior Secondary School through to the tertiary level. The study revealed that most participants whose highest educational level was tertiary education, had heard of cervical cancer while all participants and as well as most participants who had little (terminated at JSS) or no form of formal education had never heard of cervical cancer. Generally, women who

have some form of formal education are more likely to have heard of cervical cancer, this may in part be because their exposure to information in both electronic and print media.

Although, most participants had heard of cervical cancer, very few had relatively good knowledge about the disease. Only 11% mentioned a correct symptom of cervical cancer, about 41% weren't aware of cervical cancer screening, 69% had no idea of any screening method for cervical cancer and 72% had no idea of any screening centre in the country. The lack of relatively good knowledge about cervical cancer is as a result of the absence of proper education on the diseases done in the case of malaria, tuberculosis, HIV and others.

Many participants indicated media and health workers as their sources of information about cervical cancer and cervical cancer screening. These findings are relevant when choosing avenues for creating cervical cancer awareness as majority of the respondents indicated these channels as their source of information. Emerging from the study was also a number of barriers that hindered women from getting access to cervical cancer screening. Most participants indicated unavailability of screening centers and financial constraints while a few others mentioned cultural beliefs, hospital staff attitude towards patients, among others. Most screening centers are found in the cities particularly Kumasi and Accra, making distance a barrier to women getting screened since women who wish to be screened will have to travel to any of these cities. Besides, the cost of traveling to these cities confers some financial burden on these women which prevents them from going to get screened. Those who are able to travel for the screening, also cite financial constraints as a barrier to more routine checks as the screening is not covered by the national health insurance. These hindrances will help inform any policy that will be planned to address the problem of cervical cancer screening in the Bolgatanga municipality and for that matter Ghana as a whole.

The views of the participants were sought on the way forward to reducing the incidence of cervical

cancer. Among the suggestions given were, public education through the mass media particularly the radio and television, making available screening centers for cervical cancer screening which will be covered by the national health insurance scheme, mass HPV vaccination, among many others. In creating a cervical cancer control program, that will promote the cervical cancer awareness and screening, these suggestions should be considered as these women are the direct beneficiaries of such interventions.

## CONCLUSION

In conclusion, this study reveals a link between formal education and the level of knowledge and awareness of cervical cancer. The number of women at risk who have been screened remains low as several factors remain barriers to cervical cancer screening. With the availability of the HPV vaccines and a well organised national cervical cancer programme for screening and treatment, Ghana has the potential to curb the menace of cervical cancer.

## COMPETING INTERESTS

The authors declare that they have no competing interests.

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