



## **Cervical Cancer Knowledge and Screening among Schooling and Uneducated Females within Tamale-Ghana**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author KSA designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors AGM and ANM managed the analyses of the study. Author AAD managed the literature searches. All authors read and approved the final manuscript.*

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### **ABSTRACT**

**Background:** Cervical cancer, one of the gynecological cancers, is a serious health concern in Ghana. To improve the chances of survival and treatment outcomes for this condition, early screening and detection is the best remedy. Comprehensive knowledge and positive attitude highly influence acceptability and uptake of screening methods.

**Objective:** To assess the knowledge about cervical cancer and screening practice among females in secondary and tertiary institutions and uneducated females in Tamale-Ghana.

**Methods:** Females (n = 300) between the ages of 15 and 49 years, comprising 100 participants in three categories (senior high school, tertiary institution and the non-educated) were recruited into the study. Data was gathered through a semi-structured questionnaire, and analyzed by descriptive statistical methods.

**Results:** Approximately 61.3% of the participants have heard about cervical cancer, 33.1% and 29.9% of them got the information from school and the media respectively. Of those who have heard about cervical cancer, only 19.3% had considerable general knowledge about the condition. A significant association ( $p = 0.02$ ) was observed between educational level and knowledge about cervical cancer. Meanwhile, only 5.3% of the 300 participants were previously screened for cervical cancer. Lack of information about cervical cancer was the most reported reason (46.6%) for not attending cervical cancer screening.

**Conclusion:** Proactive intervention is required in the study area towards preventing new diagnosis through mass education, establishment of cervical cancer control programs, as well as screening and treatment centers.

*Keywords: Cervical cancer; knowledge; perception; practice; screening; education; Tamale.*

## 1. INTRODUCTION

Cervical cancer is a malignant lesion that affects the cervix. Cancer of the cervix uteri is a frequent cancer affecting women, and is a leading cause of mortality worldwide [1].

Gynecological cancers continue to be a public health challenge worldwide. The Union for International Cancer Control estimates that globally, 7.6 million lives are lost annually to cancer, more than HIV/AIDS, tuberculosis, and malaria combined [1]. A new report Ferlay [2] by the World Health Organization's International Agency for Cancer Research (IARC) suggests that the incidence of cancer worldwide will grow by 75% by the year 2030, nearly doubling in some developing countries. Those increases will put a more burden on the poorly developed healthcare systems in such countries because cancer care is much more expensive than care for infectious diseases [3].

Almost all cervical cancers are caused by human papillomavirus (HPV), a common virus that can be passed from one person to another during sex. There are many types of HPV. Some HPV types can cause changes on a woman's cervix that can lead to cervical cancer over time, while other types can cause genital or skin warts. HPV is so common that most people get it at some time in their lives. HPV usually causes no symptoms so you can't tell that you have it. For most women, HPV will go away on its own; however, if it does not, there is a chance that over time it may cause cervical cancer. Other things can increase your risk of cervical cancer; Smoking., having HIV (the virus that causes AIDS) or another condition that makes it hard for your body to fight off health problems, using birth control pills for a long time (five or more years), having given birth to three or more children and having several sexual partners [3].

A study conducted in Germany 2005, indicated that sexually active adolescents might be at particularly high risk of developing cervical dysplasia because of earlier initiation of sexual intercourse. Having multiple sexual partners and smoking, increases vulnerability to STIS and carcinogenesis [4]. Certain strains (HPV16 and HPV18) of HPV are central to the etiology of cervical cancer. The study concluded that the risk factors for cervical cancer include multiple sexual partners, multi-parity, sexual activity at an early age, smoking, use of birth control pills and family history of the disease [4]. However, A study by Ziba et al. [5] among women of reproductive age in the Bolgatanga Municipality revealed knowledge on cervical cancer risk factors to include early initiation of sex (32%), multiple birth (10%), multiple sexual partners (34%), vaginal douching (9.3%), cigarette smoking (14.7%), recurrent STD's (36.7%) with 26% of the respondents reported had no idea of any of the risk factors. This may be attributed to; limited awareness on cervical cancer, cultural believes associated with seeking orthodox treatment and lack of proper decentralization of health facilities and workers in the Northern regions.

Cancer of the cervix is one of the most common cancers among females, accounting for 12% of all cancers in women and is ranked second among cancers in women globally [2]. It is estimated that 528,000 new cases were reported globally in 2012, with the largest burden occurring in less industrialized countries – around 85% of the global prevalence [6]. The main challenge in less developed countries is the absence of accurate population and health statistics [3]. This makes it difficult to reliably estimate with accuracy the actual burden of cervical cancer. 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 [3].

In Ghana, cervical cancer is the leading cause of cancer deaths among women, and 8.57 million women who are currently above 15 years of age are at risk of developing cervical cancer. While approximately 3,000 women are diagnosed annually with cervical cancer, at least 2,000 of them die from the disease [6]. According to a report by the World Health Organization [1] cited in [7], by 2025, there will be over 5,000 new cases of cervical cancer annually in Ghana with at least 3,361 of the victims dying.

Cancer of the cervix is preventable if discovered at a very early stage by screening tools [2]. The World Health Survey has indicated very low uptake of cervical cancer screening in rural and urban areas with respective rates estimated at 2.2% and 3.2% [8]. There is also an observed widening inequality in cancer survival rates globally between the rich and the least deprived groups for 19 out of 33 cancer types [9]. Although the Human Papilloma Virus (HPV) vaccine has been licensed for use in Ghana, it is limited to only a few health facilities in the country. This response to the prevention of cervical pre-cancer has many challenges with its implementation [10]. Creating awareness of cervical cancer among young adolescents and adult women is therefore a key preventive and management measure. However, how well women know about cervical cancer and the rate of screening for the condition in the Tamale metropolis to the best of our knowledge had not been previously assessed. Furthermore, it has not been established whether young adolescents in school may be more informed about the condition and/or practice screening for it compared to women who have no formal education. The purpose of this study was therefore to assess and compare cervical cancer knowledge and screening rates between these two female groups.

## 2. METHODS

### 2.1 Study Location and Setting

The study was conducted in the Tamale metropolis which is one of the 26 districts in the Northern region of Ghana. The metropolis has a total estimated land size of 646.90 km<sup>2</sup> [11], comprising 115 communities. The population of the metropolis is estimated at 233,252 (males/females = 49.7%/50.3%), representing

9.4% of the population of the Northern region (Population and Housing Census, 2010). The proportion of the population living in urban localities (80.8%) is higher than that living in rural localities (19.1%) of the metropolis. The population of the metropolis is youthful, with almost 36.4% of the population reportedly below 15 years [11].

Participants were drawn from one randomly selected senior high school (Ghana Senior High School), one randomly selected tertiary education institution (Tamale College of Education), and one randomly selected community (Dungu community) within the Tamale metropolis.

### 2.2 Study Design

The study was a cross-sectional survey that recruited two categories of females: those in school (at senior high and tertiary levels) and those who have had no formal education.

### 2.3 Target Population and Sample Size

The study targeted only females within the age range of 15-49 years, who were in senior high and tertiary schools, and those who did not have formal education. The required sample size was determined using the formula for sample size in sampling for proportions [12] with the following assumptions: 95% confidence level, 5% margin of error, 26.5% cervical cancer prevalence rate in Ghana [13], and a corresponding undiagnosed rate of 73.5%. Thus, an estimated 300 participants were recruited into the study.

### 2.4 Inclusion/Exclusion Criteria

Only women aged between 15 and 49 years who were either resident in the Dungu community or were schooling at either the Ghana Secondary School or Tamale College of Education were recruited. Furthermore, only those who consented and were willing to participate in the study were included. Any other person who did not satisfy any of these criteria was excluded from the study.

### 2.5 Sampling Procedure

By the simple random sampling method, 300 participants were selected from the Tamale metropolis. The total sample size was stratified

into three sub-groups of 100 participants each: girls in a senior high school, young adult women in a tertiary education institution, and uneducated women in a community.

## 2.6 Data Collection Technique

Guided interviews were conducted by using a semi-structured questionnaire that contained both closed and open-ended questions. The questionnaire was initially pre-tested and refined to enhance accuracy and completeness of data collected. All questions contained in the questionnaire have been presented in various Tables, under the respective results subsections, with the frequency of responses to each question.

The questionnaire was used to gather information in three thematic areas: knowledge about cervical cancer, perception about cervical cancer and screening, and practice of cervical cancer screening. Knowledge about cervical cancer was assessed based on respondents' general awareness about the condition (6 questions), its risk factors (7 questions) and screening practices (5 questions). Therefore, an 18-item question list was used to assess participants' level of knowledge about cervical cancer. Participants who correctly answered 15-18 questions were regarded as having "adequate" knowledge about cervical cancer; those who scored less than 15 were considered to have "limited/poor" knowledge about cervical cancer.

## 2.7 Data Analysis and Presentation

Data analysis was conducted using the Statistical Package for the Social Sciences, SPSS software (version 20, IBM Corp., USA). Data were analysed by descriptive statistical methods, and presented in frequency/percentage distribution Tables and charts. Associations were explored using Chi-squared cross-tabulation. Significance level was set at  $p < 0.05$ .

## 2.8 Ethical Considerations

An Introductory Letter was obtained from the Head of the Department of Nursing which was submitted to the Heads of the two selected educational institutions, for permission to be granted to engage their students in the study. The assembly member for the Dungu community was also contacted for permission to conduct the study in the community. Each participant gave

informed written consent, and had the choice to opt out of the study if they wanted to do so at any time during the study. Participants were assured of confidentiality and anonymity throughout the study.

## 3. RESULTS

### 3.1 Socio-demographic Characteristics of Respondents

A total of 200 female students and 100 non - educated females were included in the study with response rate of 96.8%. Among the total participants (300), 184(61.3%) were between 15-24 years followed by 69(23.0%) between 25 – 34 years. More than half of the respondents were single 189(63.0%) in terms of marital status and 183(61.0%) were Dagombas in ethnicity. Regarding religion, two-thirds of the respondents 202(67.3%) were Muslims followed by Christians 84(28.0%).

Table 1 shows the frequency distributions of the study participants by various socio-demographic characteristics.

### 3.2 Knowledge about Cervical Cancer

Background knowledge of the respondents about cervical cancer was assessed; the frequency of their responses is shown in Table 2.

### 3.3 Knowledge about the Risk Factors of Cervical Cancer

Following the general knowledge assessment about cervical cancer, specific questions about its risk factors were asked. The frequency distributions of the responses to the respective questions are indicated in Table 3.

### 3.4 Knowledge about Cervical Cancer Screening

In assessing participants' knowledge about cervical cancer screening, they were presented with five questions that required answers in various categories (Table 4).

Based on frequencies of responses gathered from the participants about their levels of knowledge about cervical cancer (Tables 2-4), 184 (61.3%) of them had 'adequate' and 116 (38.7%) of them had 'limited' knowledge about cervical cancer.

### 3.5 Association between Education and Knowledge about Cervical Cancer

Associations were explored by Chi-squared cross-tabulation to find out whether the level of respondents' education had a link with their

knowledge about cervical cancer. Table 5 shows the proportions of respondents in the respective categories of level of education and their knowledge about cervical cancer.

**Table 1. Socio-demographic characteristics of the study participants**

Variable	Categories	Frequency	Percentage
Age (in years)	15-24	184	61.3
	25-34	69	23.0
	35-44	24	8.0
	45-49	23	7.7
Marital status	Married	91	30.3
	Not married	189	63.0
	Divorced	9	3.0
	Separated	11	3.7
Occupation*	Student	200	66.7
	Unemployed	11	3.7
	Trading	46	15.3
	Farming	17	5.7
	Hairdressing	20	6.6
	Dressmaking	6	2.0
Religion	Islam	202	67.3
	Christianity	84	28.0
	African Traditional	13	4.3

\*The "Student" category comprised of those in senior secondary and tertiary schools; all other employment categories did not have formal education

**Table 2. Assessment of the knowledge of respondents about cervical cancer**

Question item	Answer category	Frequency	Percentage
Have you ever heard about cervical cancer?	Yes	184	61.3
	No	118	38.7
Source of information about cervical cancer	School	61	33.1
	Mass media	55	29.9
	Hospital	38	20.6
	Relative/Friends	15	8.2
	Social media	15	8.2
Main cause of cervical cancer	Human immunodeficiency virus	37	12.3
	Hepatitis B virus	25	8.3
	Human papilloma virus	114	38.0
	I don't know	123	41.0
Cervical cancer is sexually transmitted	Yes	118	39.3
	No	72	24.0
	I don't know	110	36.7
Body part affected by cervical cancer	Cervix	114	38.0
	Vagina	93	31.0
	Breast	30	10.0
	Neck	3	1.0
	I don't know	60	20.0
Is cervical cancer curable?	Yes	153	51.0
	No	38	12.7
	I don't know	109	36.3

**Table 3. Assessment of respondents' knowledge about cervical cancer risk factors**

Question item	Answer category	Frequency	Percentage
Sexually transmitted infection (HPV)	True	134	44.7
	False	26	8.7
	I don't know	140	46.7
Early onset of sexual intercourse	True	119	39.7
	False	42	14.0
	I don't know	139	46.3
Smoking	True	79	26.3
	False	66	22.0
	I don't know	155	51.7
A weak immune system	True	89	29.7
	False	61	20.3
	I don't know	150	50.0
Multiple sexual partners	True	152	50.7
	False	31	10.3
	I don't know	117	39.0
Poor diet (low fruits/vegetables)	True	48	16.0
	False	87	29.0
	I don't know	165	55.0
Wearing nylon panties	True	83	27.7
	False	62	20.7
	I don't know	154	51.3

**Table 4. Respondents' knowledge about cervical cancer screening**

Question item	Answer category	Frequency	Percentage
Have you heard about cervical cancer screening?	Yes	111	37.0
	No	189	63.0
Are there any cervical cancer screening programmes in Ghana?	Yes	78	26.0
	No	62	20.7
	I don't know	160	53.3
At what age should women be first screened for cervical cancer?	Adolescent (12-19 years)	50	64.0
	Young women (20-50 years)	25	32.0
	Old women (60 years and over)	3	6.3

**Table 5. Proportion of respondents who are knowledgeable about cervical cancer according to their levels of education**

Level of education	Adequate	Limited	Total
No education	36	64	100
Senior high school	67	33	100
Tertiary education	81	19	100
Total count (%)	184 (61.3)	116 (38.7)	300 (100.0)

Knowledge about cervical cancer was associated with a respondent being a student ( $p < 0.01$ ) and with their level of education ( $p = 0.02$ ), if they were schooling. The results thus indicate that education could be a necessary factor in the knowledge about cervical cancer.

### 3.6 Perception about Cervical Cancer and Its Screening

Respondents answered a 10-item question list regarding their perceptions about cervical cancer and its screening. They indicated their levels of

agreement with statements that focused on perceptions about cervical cancer. Table 6 shows the frequencies of the responses indicating the various levels of agreements with each of the ten statements in the questionnaire.

### 3.7 Practice of Cervical Cancer Screening and Barriers to Screening

When asked about whether respondents have been screened for cervical cancer before, majority of them (91.7%) indicated that they have never been screened before while only 5.3% of them have been screened before (Fig. 1).

Among the barriers that did not allow most of the respondents to screen for cervical cancer, inadequate or lack of information about cervical cancer was the most common barrier (Fig. 2).

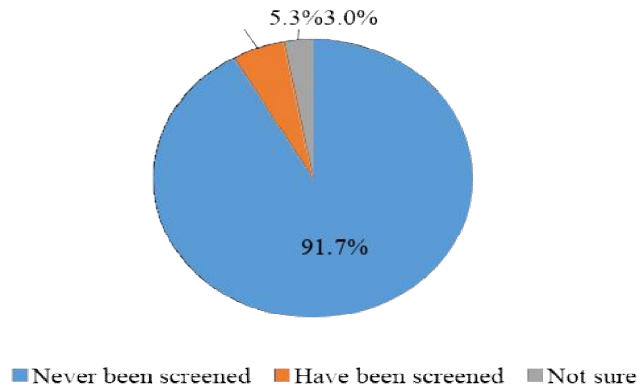
Only a few of the respondents did not screen due to the unpleasant nature of the test.

## 4. DISCUSSION

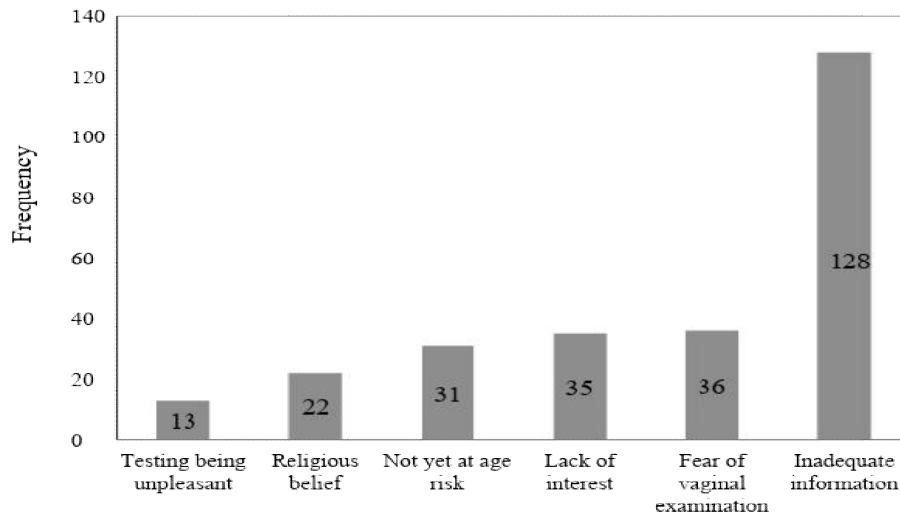
The average annual incidence of cervical carcinoma from an institution-based study conducted at the Korle-Bu Teaching Hospital in Accra-Ghana is reported to range between 70.0% and 75.0% [6]. This is high and may be attributed to the low level of awareness of the disease among Ghanaian women prior to the study by Der et al. [6]. There is however an indication that current sensitization programmes are yielding results; this might have accounted for the considerable number of women (61.3%) in this study being adequately aware about cervical cancer. This compares with an average awareness rate reported by Ziba et al. [5] in Bolgatanga-Ghana.

**Table 6. Respondents' perceptions about cervical cancer**

Question item	Strongly agree	Agree	Disagree	Strongly disagree
Early detection is good for favorable treatment outcomes	123	94	65	18
Cervical cancer can lead to death	78	54	82	86
Cervical cancer is a serious health condition	123	112	46	19
Cervical cancer is one of the common cancers in women	120	79	82	9
Cervical cancer is a burden on society	189	87	19	5
I prefer a woman to conduct my screening test	190	78	9	23
I feel shy going for cervical cancer screening	117	88	72	23
Cervical cancer screening should be part of the routine medical examination for women	126	114	55	5
I will feel secured after cervical cancer screening	142	97	46	15
Unmarried women who go for cervical cancer screening may be considered promiscuous	117	89	30	64



**Fig. 1. Proportion of respondents who have been screened for cervical cancer**



**Fig. 2. Barriers to the practice of cervical cancer screening**

This study observed a significant association between being a student ( $p < 0.01$ ) at a particular level ( $p = 0.02$ ) and knowledge about cervical cancer. The study involved 200 students, and so the proportion of those among the students who had adequate knowledge about cervical cancer (most likely from school (33.1%)) could have also resulted in the high awareness rate observed in this study. In another study conducted in Elmina-Ghana [14], very few sexually active women were reported to have been aware about cervical cancer. Indeed, even though most women in this study indicated awareness about cervical cancer, only 19.3% of them could correctly answer up to half of the questions about background knowledge about cervical cancer in Table 2. The indication of school (33.1%) and mass media (29.9%) as the major sources of information about cervical cancer shows that strategies to disseminate educational information about cervical cancer should be directed at these avenues.

It has been reported [15] that 70% of all cases of cervical cancer are linked to the human papilloma virus (HPV). However, about 41.0% of the participants in this study had no idea about the cause of cervical cancer (Table 2), even though most (73.3%) of them knew that it was a preventable disease (Table 4). Efforts at awareness creation about the disease should therefore include information about the main cause(s) of cervical cancer.

The risk factors of cervical cancer according to American Cancer Society [16] include HPV

infections, smoking, immunosuppressant, diet low in fruits and vegetables, being overweight, long-term use of oral contraceptives, intrauterine device use, having multiple full term pregnancies, younger than 17 years at first full term pregnancy, and having a family history of cervical cancer. In this study, the respondents were assessed on their awareness about the risk factors for cervical cancer (Table 3). Having multiple sexual partners was the major risk factor reported for cervical cancer by 50.7% of the respondents in this study, followed by HPV infection (44.7%), and the least identified risk factor was diet poor in fruits and vegetables (16.0%). Indeed, HPV infection, multiple sexual partners, early sexual initiation, and smoking have been cited elsewhere [17] as major risk factors for cervical cancer. Among health workers in Winneba-Ghana, it was found that this group of women had adequate knowledge about the risk factors of cervical cancer [7], and it was therefore not surprising that the participants in that study did well on this same question than those in the current study. However, the findings of this study regarding the question about risk factors were similar to those among women of reproductive age in Bolga-Ghana [5] and sexually active women in Elmina-Ghana [13] who were not health workers in both studies and therefore could not have been adequately informed about cervical cancer.

Cervical cancer is readily preventable when effective programs are implemented to detect and treat its precursor lesions [18]. However, cervical cancer prevention appears not to be



commonly promoted in Ghana. In assessing the knowledge of respondents (Table 4) on awareness of cervical cancer screening and availability of screening programmes in Ghana most of them have not heard about cervical cancer screening (63.0%), and about the availability of screening programmes in Ghana, most of them (53.3%) did not know whether there is screening programme or not. Most of them (64.0%) however believed that females aged 12 – 19 years thus the adolescents should be first screened for cervical cancer. These findings about cervical cancer screening among the respondents of this study are in consistent with those reported by Siddharthar et al. [19] among sexually active women in India. In contrast to our finding, [20] reported a generally high awareness rate (88.4%) about cervical cancer screening among nursing staff in a tertiary health institution in India. Clearly, the respondents in the study by Shah et al. [20] were more exposed to information about cervical cancer than our respondents and those of [19].

A very well informed individual about cervical cancer is more likely to hold an informed perception about it, including accepting screening. It was therefore not surprising that our study found a significant association between education and knowledge about cervical cancer, adding to a 61.3% cervical cancer knowledge rate among the respondents in this study. This could have contributed to most of the respondents (123, 41.0%) agreeing strongly that early detection could be beneficial and (190, 63.3%) of them agreeing strongly that colleague women are the preferred choice for screening them, (Table 6).

Generally, their perceptions about cervical cancer were indicative of the need to widen the scope of sensitization programmes in the study area beyond schools, since the results show that educational programmes about cervical cancer in schools are already yielding positive results.

Cervical cancer screening is an effective method for reducing the incidence and mortality of cervical cancer. In this study, a significantly high number (91.7%) of the women indicated that they had never undergone cervical cancer screening (Fig. 1), citing lack of adequate information (46.6%) as the reason for their inability to get to know about cervical cancer and the need to screen for it (Fig. 2). Previous studies have indicated that the main barriers to participation in cervical cancer screening include a lack of

knowledge and awareness of cervical cancer screening, its benefits, shortage of staff, equipment and supplies, the fear of pain and being diagnosed with cervical cancer, embarrassment, the lack of husband's support for screening and cultural [21,22]. Our finding is in agreement with this assertion.

## 5. CONCLUSION AND RECOMMENDATION

This study observed a trend towards increasing levels of knowledge about cervical cancer among sexually active women, particularly among those in school. Despite their high knowledge about cervical cancer and acceptance that screening is necessary, only 1 in 20 women in this study have been screened before. Therefore, current sensitization programmes should go beyond providing only information and focus on screening on planned schedules and venues within the Tamale metropolis.

We also recommend a well-structured screening programme that should have components of education, screening, management and treatment of cervical cancer in various communities, health facilities, and schools in order to allow for all categories of women to access such services.

## 6. LIMITATION OF THE STUDY

It is important to state that this study had a few limitations, which we wish to acknowledge. The questionnaire used for data collection was not a standardized tool to assess knowledge about cervical cancer. In addition to this, some of the questions were rather detailed for a respondent of no clinical background to answer, even though public sensitization programmes about cervical cancer could provide information on some of them. Finally, there is no established cervical cancer prevalence rate for the Tamale metropolis currently. We therefore used a reported range for the whole country, assuming an average appropriate for a regional-based rate in order to estimate the sample size for the study.

## CONSENT

Each participant gave informed written consent, and had the choice to opt out of the study if they wanted to do so at any time during the study. Participants were assured of confidentiality and anonymity throughout the study.

## ETHICAL CONSIDERATION

An Introductory Letter was obtained from the Head of the Department of Nursing which was submitted to the Heads of the two selected educational institutions, for permission to be granted to engage their students in the study. The assembly member for the Dungu community was also contacted for permission to conduct the study in the community.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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## QUESTIONNAIRE

### INTRODUCTION

We are BSc. Nursing students from the school of Allied Health Sciences, University for Development Studies. We are conducting a study on knowledge about cervical cancer and screening practices among women in the Tamale Metropolis of Northern Ghana: A comparative study between female students and women without formal education, in partial fulfillment of the award of the BSc Nursing degree. We would like to seek your views on the above topic through this questionnaire. We would therefore be glad if you could complete the questionnaire for us.

We assure you of confidentiality and that the information you may provide would be used only for academic purposes, and would not be made available to any third party. To ensure absolute anonymity, please do not indicate your name on any part of the questionnaire. Thank you.

### GENERAL INSTRUCTION ON COMPLETING THIS QUESTIONNAIRE

Please where appropriate, tick your choice of answer from the options given, and write in the spaces provided if your answer is not stated in the given options.

### SECTION A: SOCIO- DEMOGRAPHIC DATA

1. Age (years)

A). 15-24 [ ] B). 25 -34[ ] C). 35-44[ ] D). 45 – 49 [ ]

2. Marital status

A. Married [ ] B. Single [ ] C. Divorced [ ] D. Married but separated [ ]

3. Religion

A. Islam [ ] B. Christianity [ ] C. Traditional [ ] D. Other (specify).....

4. Educational level

A. Tertiary [ ] B. Secondary [ ] C. No Formal Education [ ]

5. What is your employment status?

A. Farmer [ ] B. Trader [ ] C. Salary worker [ ] D. Student [ ]  
E. Unemployed [ ] F. Other (Specify) .....

6. How many children do you have?

A. 0 [ ] B. 1 [ ] C. 2 [ ] D. 3 [ ] E. 4 [ ] F. Other (Specify) .....

### SECTION B: KNOWLEDGE ABOUT CERVICAL CANCER.

7. Have you ever heard of cervical Cancer? YES [ ] NO [ ]

8. If yes, Where? a) Mass media [ ] b). School [ ] c). Hospital [ ]  
d). relatives and friends [ ] e). Other (Specify) .....

9. What is the causative organism of cervical cancer?

A. Human immunodeficiency virus (HIV)  
B. Hepatitis B virus (HBV)  
C. Human papilloma Virus (HPV)  
D. Other (Specify) .....

10. Cervical cancer is a sexually transmitted infection. YES [ ] NO [ ] DON'T KNOW [ ]

11. Is it possible to cure Cervical cancer? YES [ ] NO [ ] DON'T KNOW [ ]

12. Cervical cancer affect the .....of a woman.  
a) cervix b). neck c). breast d). vagina

13. Before today, have you ever heard of the Human Papilloma Virus (HPV)?  
YES [ ] NO [ ] DON'T KNOW [ ]

14. If you answered YES to question 13, we would now like to ask what you know about the HPV.

Please read each of the following statements about HPV and indicate whether they are **TRUE** or **FALSE** by ticking the appropriate box. If you do not know the answer, please tick **"DON'T KNOW"**.

Statement about the hpv	True	False	Don't know
HPV can cause cervical cancer	True		
A person could have HPV for many years without knowing	True		
Having many sexual partners increases the risk of getting HPV	True		
HPV can be passed on during sexual intercourse	True		
HPV always has visible signs or symptoms		False	
Using condoms reduces the risk of getting HPV	True		
HPV can cause HIV/AIDS		False	
Having sex at an early age increases the risk of getting HPV	True		
H PV can be cured with antibiotics		False	
If a woman tests positive for HPV, she will definitely get cervical cancer		False	

15. What is/ are the signs and symptoms of cervical cancer? You can select more than one.

- A. persistent vaginal discharge with unpleasant smell [ ]
- B. persistent pelvic pain. [ ]
- C. vaginal bleeding during or after sexual intercourse. [ ]
- D. abnormal menstrual cycle. [ ]
- E. blood in urine. [ ]
- F. persistent diarrhea [ ]
- G. other (specify) .....

**SECTION C: RISK FACTORS OF CERVICAL CANCER**

16. What are the risk factors of cervical cancer? Please read each of the following statements about risk factors of cervical cancer and indicate whether they are **TRUE** or **FALSE** by ticking the appropriate box. If you do not know the answer, please tick **"DON'T KNOW"**.

Risk facttors of cervical cancer	True	False	Don't know
Infection with sexually transmitted virus, eg. HPV	True		
Early onset of sexual intercourse	True		
Smoking of cigarette/tobacco	True		
Having a weakened immune system (HIV)	True		
Having many sexual partners	True		
Diet		False	
Wearing of nylon panties		False	

**SECTION D: CERVICAL CANCER SCREENING AND BARRIERS**

17. Have you ever heard of Cervical Cancer screening? YES [ ] NO [ ] DON'T KNOW [ ]
18. Are there any cervical cancer screening programmes?  
YES [ ] NO [ ] DON'T KNOW [ ]
19. If you answered YES to question 18, at what age should women be first screened for cervical cancer in Ghana?  
A. Adolescent (12 – 19 years) [ ]  
B. Young women (20 – 50 years) [ ]  
C. Old women (60 years and above) [ ]
20. Who should get tested for cervical cancer?  
A. Married woman [ ] B. Unmarried woman [ ] C. Any female [ ]
21. Have you ever been screened of Cervical Cancer? YES [ ] NO [ ] DON'T KNOW [ ]
22. If you answered **YES** to question 21 how often do you go for screening?  
A. every month B. every year C. every three years D. other (specify).....
23. If you answered **NO** to question 21, what is/ are reason(s) for not going for screening?  
A. religious belief. [ ]  
B. fear of vaginal examination [ ]  
C. lack of interest [ ]  
D. test being unpleasant [ ]  
E. not yet been of age at risk [ ]  
F. other (specify) .....
24. Is there anything you can think of that might put you off going to the doctor if you had a symptom you thought might be a sign of cervical cancer? If **YES**, please state what these are.  
.....
25. How much do you agree or disagree that early detection of cervical cancer is good for treatment outcome?  
A. Strongly agree B. Agree C. Neither agree nor disagree D. Disagree E. Strongly disagree
26. Is cervical screening important? YES [ ] NO [ ] DON'T KNOW [ ]
27. Why is cervical cancer screening important? You can select more than one.  
A. It helps you to know whether you are infected or not [ ]  
B. To help in early detection and treatment [ ]  
C. To protect women from the danger of the disease [ ]  
D. To avoid Sexually Transmitted Diseases [ ]  
E. To prevent the disease from spreading. [ ]  
F. Other (specify) .....
28. Are you aware of any vaccine for cervical cancer? YES [ ] NO [ ] DON'T KNOW [ ]
29. If **YES**, at what minimum age range is it given? A. 9 – 13yrs B. 20 – 29 yrs C. Don't know.
30. What is the duration of the vaccination?  
A. 3 shots over 6 months B. 5 shots in a month C. Take the shot at once
31. Are you vaccinated against cervical cancer? YES [ ] NO [ ]

32. Someone who has been vaccinated cannot develop cervical cancer.

YES [ ]                      NO [ ]                      DON'T KNOW [ ]

33. The HPV vaccines offer protection against all sexually transmitted infections.

YES [ ]                      NO [ ]                      DON'T KNOW [ ].

34. Is Cervical cancer preventable? YES [ ]                      NO [ ]                      DON'T KNOW [ ]

35. If **YES** what are some of the practices that prevent cervical cancer? Select more than one, if applicable.

- A. Abstinence. [ ]
- B. Condom use. [ ]
- C. Single sexual partner. [ ]
- D. Having regular Pap smear / screening. [ ]
- E. Having HPV vaccine. [ ]
- F. Other (specify) .....

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