KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

AWARENESS AND PREVENTION OF CERVICAL CANCER AMONG FEMALE HEALTH PROFESSIONALS: A STUDY OF THREE HEALTH INSTITUTIONS IN WINNEBA, GHANA

BY

CATHERINE AKORFA KLOKU

JUNE, 2014.

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A DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH (MPH) IN HEALTH EDUCATION AND PROMOTION

BY

CATHERINE AKORFA KLOKU

JUNE, 2014.

DECLARATION

I hereby declare that except for references to other people's work which have been duly acknowledged, this work is the result of the original research work taken by me under supervision. It contains no materials previously published by another person which has been accepted for the award of any degree elsewhere.

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Dr. Anthony Edusei	…….....	……..
(Head of Department)	**Signature**	**Date**

DEDICATION

I dedicate this thesis to the Almighty God who has been my source of strength and wisdom. To my husband, Mr. Paul Acquah and my daughter Keyna Efua Bosua Selikem Acquah for their love and support.

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ABBREVIATIONS AND ACRONYMS

CIN	Cervical Intraepithelial Neoplasia
DNA	Deoxyribonucleic Acid
GDHS	The Ghana Demographic and Health Survey
GHS	The Ghana Health Service
GSS	The Ghana Statistical Service
HPV	Human Papilloma Virus
MOH	The Ministry of Health
SPSS	The Statistical Package for social sciences
VIA	Visual Inspection of the cervix with Acetic Acid
WHO	The World Health Organization

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ABSTRACT

Globally, every two minutes, at least one woman dies from cervical cancer. It is the second most common cancer worldwide for women after breast cancer. Every year, around 494,000 develop cervical cancer globally and almost 49.5% (233,000) die from the disease annually with about 80% (376,000) in developing countries. Little evidence exists on the extent of cervical cancer awareness among health professionals in the Winneba Municipality.

This was a cross-sectional study with the aim of assessing the awareness of cervical cancer and its prevention amongst female health professionals in the Winneba Municipality. A sample of 204 respondents was selected by a multi stage cluster sampling technique.

The awareness of cervical cancer among the female health professionals was generally high (99%), with their predominant source of information being school (37%) followed by the internet (22%). Knowledge about the signs and symptoms of the disease were insufficient as about half of the respondents did not know whether persistent lower back pain, bleeding from vagina, persistent pelvic pain and unexplained weight loss were signs and symptoms of the disease or not. Also, knowledge about the risk factors was inadequate as some of the respondents were not sure whether smoking any form of cigarettes (65%), infection with Chlamydia (51%), having a sexual partner who is not circumcised (29%), having many children (65%) and not going for regular pap smear (50%) increased one's risk of developing cervical cancer or not.

The study revealed inadequate knowledge about cervical cancer amongst female health professionals in the Winneba Municipality. Interventions by stakeholders especially the Winneba Municipal Health Directorate should be geared towards addressing the inadequacy of cervical cancer knowledge amongst its health providers by organising training programmes to address the setback.

CHAPTER ONE

1.0 INTRODUCTION

Cancer is a disease in which cells in the body grow out of control. There are five main types of cancer that affect women's reproductive system namely cancer of the cervix, ovary, uterus, vagina and vulva. Of these, the most common ones are cervical and breast cancer. About99.7% of cervical cancer is caused by persistent infection with high risk of Human Papilloma Virus (HPV).We have many types of HPV but 16 and 18 (onco genic types) are the ones responsible for cervical cancer.

Globally, every two minutes, at least one woman dies from cervical cancer.It is the second most common cancer worldwide after breast cancer.Every year, around 494,000 develop cervical cancer globally and almost 49.5% (233,000) die from the disease annually with about 80% (376,000) in developing countries. In West Africa about 28, 903 new cases of cervical cancer are recorded annually.

It is common among women in the reproductive age of 15 to 49 years. In Ghana, cervical cancer is the leading cause of death in gynecological cancers. Every year, 3,038 new cases are recorded and out of this, over 2000 women die from the disease (WHO, 2012).

Cervical cancer is curable if detected and treated at an early stage. About 80% of those detected at the early stage are cured with suitable treatments. In developing countries, cervical cancers are often diagnosed at very late stages due to the poor or even lack of good screening and treatment methods as opposed to the developed countries that have

continuously been able to detect and treat early stages of cervical cancer mostly in the precancerous stages (ACCP, 2004).

The aim of this study is to assess the awareness and prevention of cervical cancer among female health professionals within some health institutions at Winneba, in the Central Region of Ghana.

1.1 PROBLEM STATEMENT

Cancer of the cervix is the second most common cancers among women worldwide after breast cancer, with an estimated 494,000 new cases annually out of which about 80% (376,000) occur in developing countries. About 49.5% (233,000) die every year. In Western Africa, about 28, 903 new cases of cervical cancer are recorded annually. About 2,006 women in Ghana die annually from cervical cancer out of 3,038 who are diagnosed (WHO, 2010). It is the leading cause of death in gynecological cancers in Ghana.

In Ghana, most women are not financially empowered and there is high rate of illiteracy and as such, most women cannot afford screening and preventive services (The Global Gender Gap Report, 2012). Moreover, there are only few screening centers in the country. About 90% of cervical cancer cases cannot be treated in most of the country's health facilities because it gets to its advanced stage before most women suffering from the disease report which makes the situation very disturbing When it gets to the advanced stage the disease is beyond surgery and the only treatment is mostly chemoradiation (chemotherapy and radiotherapy) In Ghana now there are only three health institutions where one can receive treatment, Korle Bu in Accra, Komfo Anokye in Kumasi and the Sweden medical center in east Legon which cost about six thousand dollars and how many women in Ghana can afford that much. Women with high level of education and income are more likely to receive all

forms of screening on cervical cancer than those with lower level (Wilcox and Mosher, 1993).It is however, unclear the extent of cervical cancer awareness among health professionalsin the Winneba Municipality.

1.2 RATIONALE OF THE STUDY

Despite the high prevalence rate of cervical cancer in developing countries, cervical cancer awareness and prevention is low in developing countries. Less attention has been given to cervical cancer compared to breast cancer. The findings from this study will be useful at the policy level to complement knowledge and awareness about this important public health issue. The study is crucial because it delves into the reproductive health of women.The knowledge gained from this study shall beof use to both health care providers who treat women and to the women themselves. Identification of knowledge deficits paves the way for the development of educational programs targeted to health professionals and women of reproductive age. This shallhelp in reducing the high incidence of cervical cancer in the country.

1.3 CONCEPTUAL FRAMEWORK

A conceptual framework is used in research to outline possible courses of action or to present a preferred approach to an idea or thought. The conceptual framework below shows how socio-demographic characteristics, access to health services provided, knowledge level, source of information and perceived severity of cervical cancer influences cervical cancer awareness among female health professionals in the Winneba municipality.

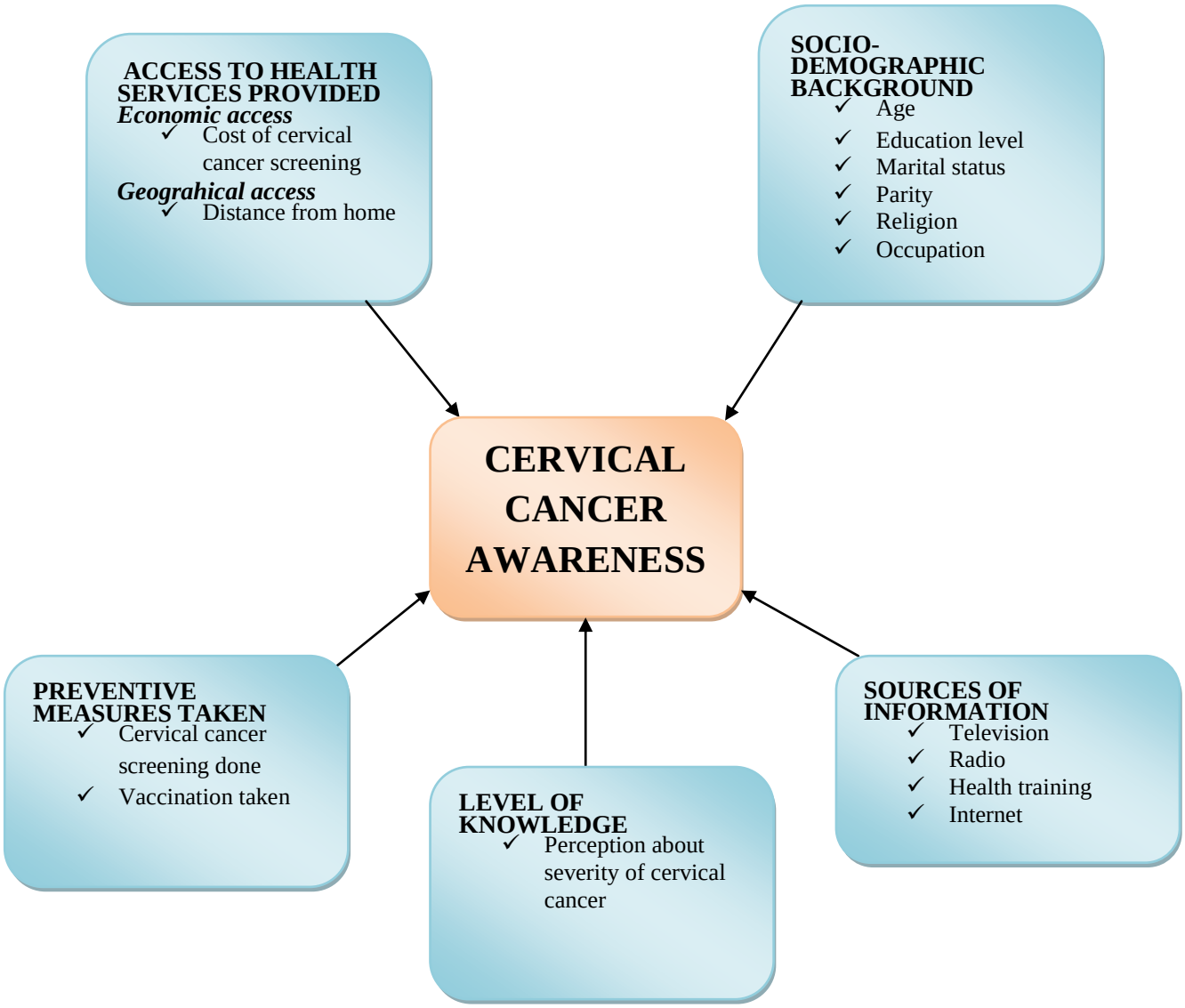


Fig.1.0 Conceptual framework

(Author's own construct)

1.4 RESEARCH QUESTIONS

This research seeks to answer the following questions.

1. What is the level of knowledge and awareness of cervical cancer among female health professionals?

2. What are the sources of information on cervical cancer among female health professionals?

3. How do health professionals access health services provided for cervical cancer screening and treatment?

4. What preventive measures do female health professionals take in combating cervical cancer?

1.5 OBJECTIVE

1.5.1 Main Objective

To assess the awareness of cervical cancer and its prevention amongst female health professionals in the Winneba Municipality

1.5.2 Specific Objectives

1. To assess the basic knowledge and awareness level of female health professionals on cervical cancer

2. To identify the sources of information on cervical cancer.

3. To assess how female health professionals access health services on cervical cancer.

4. To identify preventive measures taken by female health professionals in combating cervical cancer.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Background

Cervical cancer is one of the leading causes of morbidity and mortality amongst the gynecological cancers worldwide. It is primarily a disease found in low income countries. The 10–20-year natural history of progression from CIN 1 to CIN 3 (Cervical Intraepithelial Neoplasia) CIN 1(Grade I), this is the least risky type, represents only mild dysplasia or abnormal cell growth.CIN 1 is confined to the basal one-third of the epithelium.CN 2 (Grade II),moderate dysplasia confined to the two-third of the epithelium.CIN 3 (Grade III), is severe dysplasia and spans more than two-thirds of the epithelium, and may involve the full thickness and sometimes referred to as cervical carcinoma in situ. The gradual progress from CIN 1 to CIN 3 makes cervical cancer a relatively easily preventable disease and provides the rationale for screening. Most women who may develop cervical cancer tend to have one or more identifiable factors that increase their risk for the disease. It is uncommon but not impossible for women to develop cervical cancer without any of these risk factors. Some risk factors such as smoking and diet can be changed while others such as age and race cannot be changed (Ushadevi et al, 2012).

- Also, the women have several misconceptions about cervical cancer and its screening program. Attitudes and beliefs about cervical cancer among the general population and health care providers can also present barriers to its control. Hence, assessing the knowledge of risk factors and misconceptions about cervical cancer will provide an opportunity to prevent it at its early stage as it is one of the deadliest cancer of women.

Although screening, primarily with the Pap smear technology has reduced the incidence of this disease, cervical cancer remains the second most common cause of death from cancer in women worldwide. This is because of lack of resources for widespread high quality screening. In addition to application of Pap smear technology, the identification of HPV as the etiologic agent has led to the development of a preventive vaccine for the primary prevention of cervical cancer (Lowy et al., 2008).

2.2 Burden of disease

Cervical cancer is a serious public health problem. Globally, every year around 500,000 women develop cervical cancer and almost 274,000 of them die from the disease (WHO, PATH, and the United Nations Population Fund, 2009).

It is the second most common type of cancer in women worldwide and is responsible for deaths of most middle-aged women in developing countries. In India for instance, the incidence of cervical cancer per 100, 000 Indian women of all ages varied between 30.0 and 44.9 (WHO, 2010). India bears about one fifth of the world's burden of cervical cancer (Shanta, 2003). More than 100,000 new cases are detected in India per year and the disease causes almost 20 percent of all female deaths in India (Shanta, 2003). About 75-80% of the cases are reported in advanced stage (India National Cancer Registry Programme, 2006).

Cervical cancer is most common in women in under-developed and developing countries which bear more than 80% (WHO, 2010) of the global burden of the disease. This reflects the lack of effective control and detection measures in these countries. Cervical cancer is the most common female malignancy in sub-Saharan Africa. The incidence of cervical cancer in

sub-Saharan Africa is among the highest worldwide, with the available age-standardized rates ranging from 19.9 per 100,000 in Ibadan, Nigeria, through 35.7 per 100,000 in Bamako, Mali, to 41.7 per 100,000 in Kyadondo, Uganda

The prevalence of cervical Human Papilloma Virus (HPV) infection varies greatly worldwide. Population-based HPV prevalence surveys have shown a 13-fold variation in sexually-active women aged 15–65 years, ranging from 2.0% in Hanoi, North Vietnam, 3.0% in Barcelona, Spain, 14.8% in Bogota, Columbia, through 17.7% in Concordia, Argentina, to the highest of 26.3% in Ibadan, Nigeria.

In Ghana, West Africa Cervical cancer is the leading cause of cancer death among women (Wiredu et al, 2006). The cervical cancer incidence (3,038)andmortalityrates (2,006) in Ghana are among the highest in the world (WHO/ICO, 2007). These rates have been rapidly increasing in contrast to the decreasing cervical cancer incidence and mortality rates in developed countries (Murthy et al, 2010).

The World Health Organization (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/ICO, 2007). However, cervical cancer is highly preventable with the use cervical cancer screening tools. When cervical cancer is found in early stages, it can easily be treated. Treating advanced cervical cancer is however very challenging. 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 developed cervical cancer and more than 2,006 Ghanaian woman died because of cervical cancer.

Despite these staggering statistics, cervical cancer prevention is not rigorously promoted in Ghana. Diseases such as malaria, tuberculosis, HIV/AIDS, and most recently breast cancer receive the majority of health promotion resources. The Pap smear test and visual inspection of the cervix with acetic acid (VIA) are the cervical cancer screening tools that are available in public and private hospitals throughout the country. Some public hospitals offer free cervical cancer screenings. In the past, non-governmental organizations have conducted organized cervical cancer screening events in rural areas (Affriyie, 2004).

Additionally, cervarix and gardasil , HPV vaccine has been licensed for use in Ghana and HPV DNA testing is available in few large public hospitals. However, data from the World Health Survey indicate that cervical cancer screening rates in urban and rural areas in Ghana are extremely low (3.2% and 2.2% respectively). The results of previous studies indicate that lack of knowledge about cervical cancer among Ghanaian women may be a barrier to cervical cancer screening(Blumenthal et al, 2008).

2.3 Factors influencing cervical cancer

In a study by Ushadevi et al, on knowledge about cervical cancer risk factors among the rural women of India,several rural women were found to be unaware of the risk factors of cervical cancer such as increasing age, Infection with HPV, starting early sexual life, smoking and having multiple sexual partners. These findings about knowledge of risk factors are slightly similar to Aynur and Birsel (2009). In contrast, a study done by Varen et al, found that awareness about the risk factors is high among their study group of well educated female respondents.

According to a study by Litan et al.(1997) first intercourse at younger age was associated with a significantly increased risk of cervical cancer. Of the cervical cancers cases and controls, 84% and 68% respectively reported their sexual debut at 16 years of age. The risks showed a significantly increasing trend (*P*, 0.001) with decreasing age at first sexual intercourse. The risk of cervical cancer was also found to be related to the extra-marital sex relationships of women. Nearly 14% of patients reported having extra-marital sex partners, compared with only 2% of the controls, with a relative risk of 7.1 (*P*, 0.001). The husbands of the cases also had more extra-marital sex partners than those of controls (32% versus 21%); the effect nearly reached significance ($P = 0.05$). No significant association was observed for number of marriages and male circumcision.

The importance of early age at first coitus lies in the fact that intercourse introduces a carcinogenic agent to the cervical epithelium, which is most susceptible during adolescence. The recognition of the key aetiological role of HPV infection as the carcinogenic agent has prompted a reconsideration of the role of age at first sexual intercourse. It can be viewed as a proxy for time of HPV infection or the start of the latent period, the effect of early age at first intercourse could be a reflection of a longer duration of exposure (Schiffman, 1995).

First intercourse at ayounger age at has a strong influence on the risk of cervical cancer. A study on Latin American women showed the predominant influence of younger age at first coitus on the risk of cervical cancer even after the HPV positivity was considered. Extra-marital sex is another potentially significant variable in our study, the value of which should be re-assessed in larger case-control studies (Eluf-Neto, 1994).

Multiple marriages has also been found to be a risk factor for cervical cancer in several studies which showed higher number of patients than controls with two or more marriages. However, the role of male circumcision could not be substantiated in a study by Litan et al, (1997), due to limited data, as only a small proportion of the husbands were circumcised.

2.3.1 Knowledge and awareness level

Education and Knowledge on both breast cancer and cervical cancer continue to decrease as the cancer fatalism increases not because there is no available information but because the women have been ignorant to enlighten themselves. There is the belief that women have had that diagnosis of cancer directly translates to inevitable death. Therefore they find it better to avoid going for screening and are with no knowledge whatsoever on their health status (Powe, 2006).

Perkins (2007) adds that cervical cancer has been the leading deadly cancer in developing countries mainly as a result of lack of screening programmes. Research has continuously proven that women with knowledge on cervical cancer respond positively to the great need for screening. In Honduras, a developing country, incidence of cervical cancer are 40/100 000 which is four times the number in the United States. This shows how greatly education on cervical cancer goes a long way.

In a related study in India to find out the awareness level and knowledge about awareness of Cervical Cancer among Female Students of Premier Colleges in Kolkata, the study showed that 43% of the students were aware about the age of occurrence of cervical cancer in Indian women. Knowledge of the risk factors was found to be low among the students. Knowledge was least (3%) for ‘multiple sex partners’ as a risk factor followed by that (4%) for ‘other

cervical infections'. The largest proportion (29%) of the students recognized smoking as a risk factor. Out of the total participants, 41% responded that sexual activity may be involved with etiology of cervical cancer. Proportion of the students who have ever heard of 'Pap smear test' and HPV were 11% and 15 % respectively. Three-fourths (472 out of 630) of the students expressed their desire to get vaccinated to protect themselves from cervical cancer.

In a similar research in Ethiopia to ascertain the comprehensive knowledge about cervical cancer among Ethiopian women, it was found that about 495 (78.7%) of the respondents had heard about cervical cancer. When they were asked about their source of information, television/radio was the predominant source, 301 (60.8%) followed by health professionals, 173 (34.9%) and friends/relatives 107 (21.6%). One hundred and forty eight (23.5%) of the respondents also knew someone who has cervical cancer and 529 (84.1%) of the respondents have visited health institution for some reason.

In addition to this, a series of questions regarding risk factors, main symptoms, treatment options and prevention and early detection measures of cervical cancer were asked to evaluate the respondents' knowledge about cervical cancer. About 47.5% of the respondents did not know whether there are risk factors for cervical cancer or not and 17 (2.7%) stated that there is no risk factor for cervical cancer. One hundred and eighteen (18.8%) of the study participants were unable to mention a risk factor although they said that cervical cancer has a risk factor. In general, 195 (31.0%) of them were able to identify at least one risk factor for cervical cancer. STI and early onset of sexual activity were specific risk factors mentioned by 132(21.0%) and 103 (16.4%) of the respondents respectively. Among all the participants, 222 (35.3%) and 187 (29.7%) of them mentioned offensive and excessive vaginal discharge respectively when asked about the symptoms of cervical cancer. However, 249 (39.6%) of

the respondents did not know of any symptom. Four hundred and two (63.9%) of the respondents knew that cervical cancer can be prevented. Regular medical checkup (screening) was mentioned by 345 (54.8%) of the respondents as a helpful prevention measure. Four hundred and sixteen (66.1%) of the respondents also knew that cervical cancer can be treated and 332 (52.8%) agreed that cervical cancer can be cured if detected early.

Questions regarding knowledge of risk factors, symptoms, treatment options and prevention and early detection measures for cervical cancer were scored and pulled together and the mean score was computed to determine the overall knowledge of respondents. Respondents who scored average and above were considered as knowledgeable. Only 195 (31.0%) of the total respondents were found to have above-average knowledge when the comprehensive cervical cancer knowledge was determined. In both the Ethiopia and Nigeria studies, television was found to be the main sources of information on cervical cancers. Other sources of information identified in cervical cancer related studies are information from health professionals, internet, radio and through friends and relatives.

Healthcare professionals are the key persons to provide both knowledge and facilities towards the goal of cervical cancer prevention. Even though some of them including laboratory workers or ancillary staff are not directly involved in clinical care and health education, they still need an accurate knowledge about cervical cancer, HPV and the vaccine for preventing themselves from cervical cancer. The knowledge of healthcare providers does not mean their active involvement. Therefore, female healthcare professionals, especially nurses and physicians must be skilled and have an important task to give women advice and education about cervical cancer preventive behaviors and encourage them.

2.3.2 Health services provided and cervical cancer treatment

According to the World Health Organization (WHO, 2002), there has been a decrease in the mortality rate among developed countries regarding cervical cancer due to the improvement of screening techniques. Unlike developing countries where there are limitations of techniques. Organized programs have been continuously implemented in developed countries. The programs continue to be successful due to high level of management and funding by government organizations. In some of the countries, women are actively invited to participate in the screening programs.This report by the World Health Organization proves how significant the availability of screening centers can be in the reduction of cervical cancer worldwide. In Ghana, there are only few screening centres such as the Kumasi South, the Sepe Dote, the Komfo Anokye, the Ridge, Korle-Bu, and the Battor Catholic hospitals. However, these resources or facilities are not strategically situated. For instance, within the three Northern Regions,there is no screening centre. The nearest screening centre to the north can be found in Kumasi. The problem of proximity and unavailability of screening centers for that matter obviously will not encourage women to visit the facility for regular screening.

Furthermore, costs at surveyed facilities in a research on cost of cervical cancer screening in Ghana in 2010, ranged from 7.30 to 21.86 GHS (4.93 to 14.75 US$) for VIA, and from 70.04 to 125.19 GHS (47.26 and 84.48 US$) per woman treated with cryotherapy. This makes the screening cost so high which discourages women from undertaking these tests since most of the women in Ghana are within the low income brackets. Vaccines against HPV are promising for the primary prevention of cervical cancer, but the question of how to improve screening coverage remains central to achieving reductions in female cancer mortality in the short term.

2.3.3 Preventive measures in combating cervical cancer

Prevention and early detection are keys to the reduction of incidence and progression of many chronic diseases including cancer. In the study by Gethun et al in Ethiopia, around two thirds (63.9%) of the respondents knew that cervical cancer can be prevented. This was higher than the South African study by Hoque et al, (2010), in which 57.0% of the respondents knew that cervical cancer can be prevented. This difference was explained by the difference in the background of the study participants and the time gap as better attention has been given to cancer these days. In the North Western Ethiopia study, fifteen percent (15%) of the respondents believe that cervical cancer cannot be cured. This can be an indication of the presence of misconception about the disease in this community and may hinder prevention efforts in Ethiopia.

Prevention of the disease involves identifying and treating women with HPV induced pre-cancerous lesions of the cervix (Sherris, 2000). In the developed countries, where effective screening, treatment and follow up programs for these pre-cancerous lesions exist, the mortality from cervical cancer has reduced by 70% (Kwame-Aryee, 2005). Sherris (2000), adds that in developing countries including Ghana, cervical screening programs have not been so successful. Some of the reasons given for this are lack of awareness among women about the disease itself, limited screening programs, lack of resources and ineffective use of available resources.

Cervical cancer screening centers are still very few in Ghana, mostly in hospital-based and urban areas. Other reasons for low patronage of screening centers can be attributed to cost, indifference and socio-cultural beliefs. This poses a great danger to the prevention of cervical cancer if these groups of people are not adequately informed for attitudinal changes, not only

that they have risk factors to developing cancer, but also have great influence on other female adolescents and adults that may depend on them for health related information. The role of professional and public education combined with availability of treatment of early stage of invasive cancer cannot be overemphasized as this has been shown to reduce morbidity and mortality associated with the disease.

Cervical cancer is a preventable cancer. There are many preventive methods including avoiding risk factors, HPV (human papilloma virus) vaccination and performing the Pap test regularly. The preventive measures can be group primary, secondary and tertiary.Primary preventive measures involve prevention of HPV transmission and vaccination. Secondary preventive measures are screening, detection and early treatment of cervical cancer.Healthcare professionals are the key persons to provide both knowledge and facilities towards the goal of cervical cancer prevention. To our knowledge, only limited information exists.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter presents the methodology and design of the study, a succinct description of the study area, study population, sample size, sampling method, data collection, data handling, data analysis, and ethical consideration, dissemination of results, assumptions and limitations.

3.2 Study Method and Design

The study design used was cross- sectional in assessing awareness and prevention of cervical cancer.

3.3 Study Area

The study was conducted at Winneba, the District capital of the Effutu district in the Central region.

Winneba is about 66 km west of Accra, Ghana's capital, off the Accra – Takoradi road. Medium sized and traditionally known as Simpa, Winneba is the principal town of the Effutu State founded around 1530 AD. According to history, the name Winneba originated from sailors who plied along the Atlantic Coast and who were often aided along the bay by a favourable wind. From their constant use of the words "windy bay" the name Winneba was coined.

The indigenous dialect of Winneba is Effutu but Fante is also widely spoken. As a coastal town the principal occupation of the people is fishing. The According to2012census, the population is 58750 (Ghana Statistical Service).The people of Winneba celebrate the Aboakyer festival. There is a university, a nurses' training school, about seven health facility and few senior high schools and junior high schools in the town. Ghana commercial bank, HFC bank, union rural bank and Akyempim rural bank can be found in the community.

3.4 Data Collection Techniques

A quantitative data collection technique was employed using a structured questionnaire which had both closed and open-ended questions administered to participants.

3.5 Study Population

The study population was female health professionals, working at the specialist and trauma hospital, the municipal hospital and the health center, all located in winneba.The population of female professionals in each institution is as follows: the municipal hospital 144, the health center 30 and the trauma and specialist and trauma hospital 120.

3.6 Study Variables

The variables were categorized into dependent and independent variables. The dependent variable was awareness of cervical cancer.The dependent variables were derived from a set of questions in areas which includes:

- **Knowledge**: Understanding of the warning signs of cervical cancer
- **Source of information**: Where information on cervical cancer was obtained
- **Availability of health services**: Presence of cervical cancer health facilities in Ghana
- **Preventive measures**: Actions put in place to prevent cervical cancer

Socio-Demographic Variables (Independent variables)

VARIABLE	OPERATIONAL DEFINITION	INDICATOR	TYPE OF VARIABLE
Age	Age at last birthday	Age in completed years	Nominal
Education level	Highest education level attained	Primary, JSS, Secondary, Tertiary, No formal education	Ordinal
Marital status	Expressed in terms of single, married, widowed, divorce, separated as at the time of research.	single, married, widowed, divorce, separated	Nominal
Religion	Religious group of respondent	Christianity, Islam, and Traditional	Nominal
Parity	Number of live born children	As reported by respondent	Discrete
Occupation	Work performed daily	Nurse, Medical doctor, Physician assistant, Pharmacist, Laboratory, technician, Dispensary technician	Nominal
Work experience	Years of work	≤ 2, 3 – 4, 5 +	Nominal

3.7 SAMPLING TECHNIQUE AND SAMPLE SIZE

3.7.1 Sampling technique

A multistage sampling technique was employed in this study to select a sample of 204 female health professionals. The specialist and trauma hospital, the municipal hospital, the health

center out of the seven (7) health facilities in the Municipality were selected by simple random sampling. This was done by writing the names of the seven health facilities on pieces of papers and folding them into a box. The specialist and trauma hospital was apportioned35 %(72) of the sample size, the municipal hospital 55 %(110) of the sample size and the health center 10 %(20) of the sample size. Within each health facility, the apportioned sample size was further apportioned to each work category based on their total number of staff in each department. Simple random sampling was employed at this stage to select each respondent to be interviewed. This was done by writing their names on pieces of papers and randomly selecting it from the box.

3.7.2 Sample size

The sample size was calculated using the formula below:

$$\boldsymbol{n} = \frac{\boldsymbol{z^2pq}}{\boldsymbol{d^2}}$$

Where:

$\boldsymbol{n}$ = sample size,
$\boldsymbol{z}$ = reliability coefficient of 1.96
$\boldsymbol{d}$ = error allowance of 0.05
$\boldsymbol{p}$ = proportion of population estimated diagnosis of cervical cancer = 14% = 0.14 and
$\boldsymbol{q}$ = 1- p = 1-0.14 = 0.86

$$\boldsymbol{n} = \frac{1.96^2\ (0.14)\ (0.86)}{(0.05)^2}$$

$\boldsymbol{n}$= 183

10% of non-respondent effect will be used to augment the sample size, thus

$10/100 \times 183 = 18.3 \approx 20$; $183 + 20 = 203 \approx 205$.

Hence, a sample size of 205 participants will be employed in the study.

3.8 Training of Research Assistants

Prior to the project, research assistants were recruited and trained on appropriate collection of data.

3.9 Pre-testing

The study was pretested by using a sample size of 30 female health professionals at the Swedru government hospital in the Agona West District; the population has the same characteristics and similarities as compared to the selected study population. Pre-testing revealed the weakness of the data collection tools. Corrections were made to address the weaknesses observed.

3.10 Plans for Data Handling

The data extracted from the questionnaire was entered into SPSS software programme. The data were checked for completeness and all corrections were made. These checks were done on regular basis and back-up copies were saved on an external hard disc for safe keeping.

3.11 Data Analysis

The questionnaires were coded before analysis. Descriptive analysis was employed to show the level of knowledge about cervical cancer among the respondents. Graphical presentation such as tables and pie charts was presented in the results chapter to illustrate these findings. STATA version 12 for Windows (STATA Corp., College Station, Texas, United States) was used to analysed the data.

3.12 Ethical Consideration

A proposal was sent to the Committee on a Human Research, Publication (CHRPE) at KNUST and an ethical clearance was obtained.

Permission was sought from area of study; an introductory letter was given to me to the municipal director of winneba Dr. Ammossour, and he also gave me introductory letters to the heads of the three health institutions (specialist and trauma hospital, municipal hospital and health center) where I collected my data.

The consent of participants was sought before interview was started; pressure and inducement of any kind to encourage individuals to participate in the study was refrained from. Participants' freedom to partake or withdraw from the study at any time was respected

Furthermore, confidentiality and anonymity of respondents was guaranteed.

3.13 Assumptions

The following assumptions were made

1. Potential participants would willingly participate in the research study.

2. That maximum cooperation would be received from the district health team and heads of health institutions.

3. That participant would willingly take part in the process, not expecting any financial benefits.

4. That the questionnaire would be answered by potential participants.

3.14 Limitation

Conducting research on awareness and prevention of cervical cancer among female health comes with some challenges and cannot allow the findings of the research to be generalized. This study was conducted with limited sample group to determine the awareness and prevention of cervical cancer among female health professionals in the health institution of Winneba. It would be beneficial to plan a study with a larger sample population in order for a larger population to gain knowledge about cervical cancer. The exclusion of most sub-districts which is rural from the sampling frame means that the study findings cannot be generalised to female health professionals in the sub-districts.

However, future studies on cervical cancer and HPV should undoubtedly focus on this population, considering the even poor quality of screening, treatment and counseling services in rural Ghana.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

The findings of the study are presented in this chapter. The finding are based on the objectives of the study. The results are presented in tables and graphs. The findings involves a presentation of the quantitative analysis including the background characteristics, knowledge of cervical cancer, attitude and perception towards cervical cancer as well as preventive measures employed by the female health professionals.

4.2 BACKGROUND CHARACTERISTICS OF RESPONDENTS

In the period of data collection, a total sampling resulted in 204 female health professionals from specialist and trauma hospital, municipal hospital and a health center in the Winneba Municipality.

Table 4.1 shows the demographic characteristic of the female health professionals used in the study. The majority (45%) of the respondents were within the age group of 26 -30 years. and predominantly Christians (87%). However, over half (54%) of them were never married (single). About two-fifth (40%) of the female health professionals surveyed had “Certificate in nursing and they were the highest in number”. Majority (78%) of the respondents recruited in this study were nurses. Approximately, two-fifth (43%) of the respondents has at most 2 years working experience.

Table 4.1: Socio-Demographic Characteristics of Respondents

Variables	Frequency (n)	Percentage (%)
Age (years)		
15 – 19	4	2.0
20 – 25	40	19.6
26 – 30	92	45.1
35 – 40	45	22.1
41 +	22	11.3
Total	**203**	
Religion		
Christian	177	86.8
Moslem	27	13.2
Total	**204**	
Marital Status		
Single	110	53.9
Married/Cohabiting	73	35.8
Divorced/ Widowed	19	10.3
Total	**202**	
Education level		
Certificate	81	39.7
Diploma	57	28.0
Advance diploma	29	14.2
Degree	34	16.7
Post graduate degree	3	1.5
Total	**204**	
Occupation		
Nurse	160	78.5
Medical doctor	20	9.8
Physician assistant	6	2.9
Pharmacist	7	3.4
Laboratory technician	7	3.4
Dispensary technician	4	2.0
Total	**204**	
Work experience (years)		
≤ 2	83	43.0
3 – 4	62	32.1
5 +	48	24.9
Total	**193**	

***Source*:** Field Data, 2012

4.3 KNOWLEDGE ABOUT CERVICAL CANCER

As part of the assessment of the knowledge level of the respondents, they were asked to identify some warning signs associated with cervical cancer. Table 4.2 shows the percentage distribution of their responses. The majority of the respondents identified vaginal bleeding between periods (194, 95%), persistent vaginal discharge with unpleasant smell(196, 96%), discomfort or pain during sex(196, 96%), vaginal bleeding after menopause(192, 94%) and vaginal bleeding during/after sex (191, 94%)as possible warning signs and symptoms of cervical cancer. On another hand, majority of the respondents did not know whether persistent lower back pain (104, 51%), persistent pelvic pain (103, 50%) and unexplained weight loss (114, 56%) were signs and symptoms of cervical cancer. Nevertheless, most of them correctly identified persistent diarrhoea (183, 90%) and blood in stool (176, 86%) not to be signs and symptoms of cervical cancer.

Table 4.2: Knowledge about Signs and Symptoms of Cervical Cancer

Variable	Frequency (n)	Percentage (%)
Vaginal bleeding between periods		
Yes	194	95.1
No	7	3.4
Don't know	3	1.5
Total	**204**	
Persistent lower back pain		
Yes	39	19.1
No	61	29.9
Don't know	104	51.0
Total	**204**	
Persistent vaginal discharge with unpleasant smell		
Yes	196	96.1
No	6	2.9
Don't know	2	1.0
Total	**204**	

Discomfort or pain during sex		
Yes	196	96.1
No	6	2.9
Don't know	2	1.0
Total	**204**	
Heavier menstrual period which last longer than usual		
Yes	164	80.4
No	22	10.8
Don't know	18	8.8
Total	**204**	
Persistent diarrhoea		
Yes	7	3.4
No	183	89.7
Don't know	14	6.9
Total	**204**	
Vaginal bleeding after menopause		
Yes	192	94.1
No	5	2.5
Don't know	7	3.4
Total	**204**	
Persistent pelvic pain		
Yes	47	23.0
No	54	26.5
Don't know	103	50.5
Total	**204**	
Vaginal bleeding during/after sex		
Yes	191	93.6
No	4	2.0
Don't know	9	4.4
Total	**204**	

Blood in stool or urine		
Yes	12	5.9
No	176	86.3
Don't know	16	7.8
Total	**204**	
Unexplained weight loss		
Yes	29	14.2
No	61	29.9
Don't know	114	55.9
Total	**204**	

***Source*:** Field Data, 2012

4.4 KNOWLEDGE ABOUT THE RISK OF DEVELOPING CERVICAL CANCER (LIKERT SCALE)

Table 4.3 shows the percentage distribution of the female health professional's view on the chances of developing cervical cancer. The psychometric response scale (Likert scale) was primarily used in this questionnaire to obtain the respondent's preferences or degree of agreement with the set of statements.

Table 4.3: Respondent's View on the Risk of Developing Cervical Cancer

	Strongly Disagree n (%)	**Disagree** n (%)	**Not sure** n (%)	**Agree** n (%)	**Strongly agree n (%)**	**Total**
Infection with HPV	2 (1.0)	1 (0.5)	12 (5.9)	42 (20.6)	**147 (72.1)**	204
Smoking any form of cigarettes	19 (9.3)	16 (7.8)	**132 (64.7)**	31 (15.2)	6 (2.9)	204
Having a weakened immune system	3 (1.5)	8 (3.9)	34 (16.7)	**141 (69.1)**	18 (8.8)	204
Long term use of the contraceptive pill	7 (3.4)	22 (10.8)	67 (32.8)	**94 (46.1)**	14 (6.9)	204
Infection with Chlamydia	4 (2.0)	5 (2.8)	**104 (51.0)**	84 (41.2)	7 (3.4)	204
Having a sexual partner who is not circumcised	45 (22.1)	46 (22.5)	**60 (29.4)**	49 (24.0)	4 (2.0)	204
Starting sexual intercourse at a tender age (before age 17)	4 (2.0)	7 (12)	12 (5.9)	**132 (64.7)**	49 (24.0)	204
Having many sexual partners	3 (1.5)	0 (0.0)	9 (4.4)	**148 (72.5)**	44 (21.6)	204
Having many children	19 (9.3)	37 (18.1)	**133 (65.2)**	14 (6.9)	1 (0.5)	204
Having a sexual partner with many previous partners	3 (1.5)	2 (1.0)	14 (6.9)	**159 (77.9)**	26 (12.7)	204
Not going for regular smear (Pap)	3 (1.5)	7 (3.4)	**102 (50.0)**	82 (40.2)	10 (4.9)	204

***Source*:** Field Data, 2012

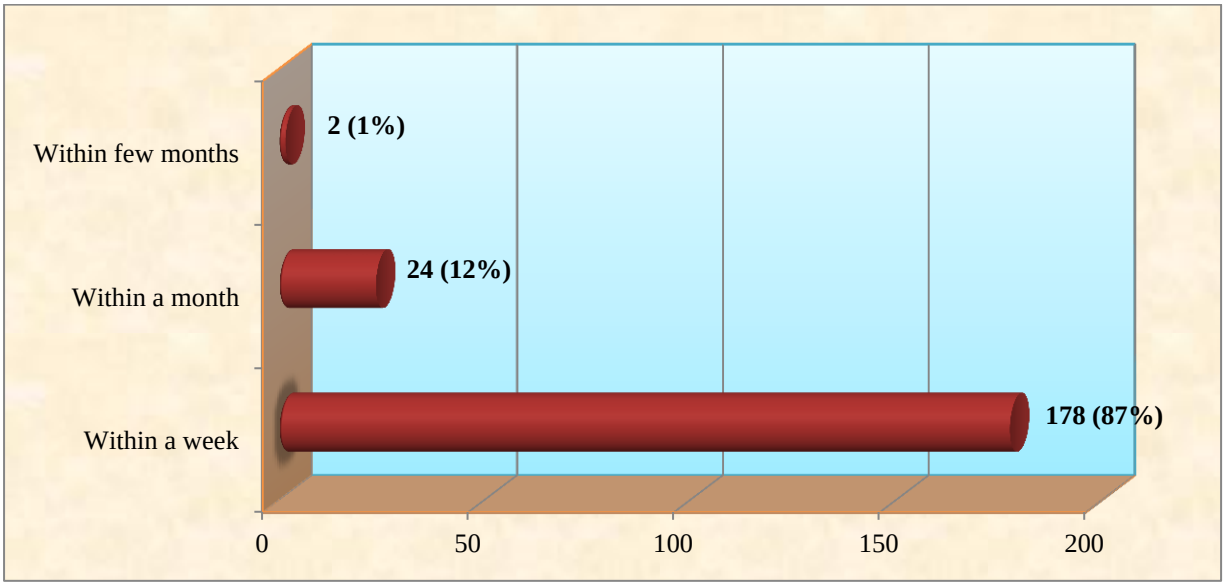
On the whole, majority (147, 72%) of the respondents strongly agreed to the statement that infection with HPV increases the chances of developing cervical cancer. Again, majority agreed to the statement that having a weakened immune system (141, 69%), long term use of contraceptive pill (94, 46%),starting sexual intercourse at a tender age (132' 65%), having many sexual partners (148, 73%) and having a sexual partner with many previous partners

(159, 78%) increase the risk of developing cervical cancer. Conversely, most of them were not sure whether smoking any form of cigarettes (132, 65%), infection with Chlamydia (104, 51%), having a sexual partner who is not circumcised (60, 29%), having many children (133, 65%) and not going for regular pap smear (102, 50%) increased the chances of developing cervical cancer or not.

4.5 ATTITUDE TOWARDS SEEKING CERVICAL CANCER TREATMENT

Figure 4.1 shows the percentage distribution of respondent's attitude towards seeking cervical cancer treatment. Respondents were asked to indicate when they would seek treatment if they saw a symptom which they thought might be a sign of cervical cancer. The bulk (178, 87%) of the respondents reported that they would seek medical assistance within a week after seeing a symptom which they thought might be a sign of cervical cancer.

Figure 4.1: Attitude towards Seeking Cervical Cancer Treatment



***Source*: Field Data, 2012**

4.6 SPECIFIC KNOWLEDGECONCERNING CERVICAL CANCER

The respondents were asked to indicate women in which age range are most likely to develop cervical cancer and the main causative organism. As shown in table 4.4, almost half (99, 49%) of the respondents reported that women within the age group of 10 to 19 years are most likely to develop cervical cancer in Ghana. Almost all (196, 99%) of the respondents also indicated virus to be the causative organism.

Table 4.4 Perception about women likely to suffer cervical cancer among the female health professionals

Variable	Frequency (n)	Percentage (%)
Age range of women is most likely to develop cervical cancer		
A woman aged 10 to 19 years	99	48.5
A woman aged 20 to 29 years	52	2.5
A woman aged 30 to 49 years	25	12.3
A woman aged 50 to 69 years	19	9.3
A woman aged 70 or over	2	1.0
Cervical cancer is unrelated to age	1	0.5
Total	**198**	
Causative organism for cervical cancer		
Bacteria	2	1.0
Virus	196	99.0
Total	**198**	

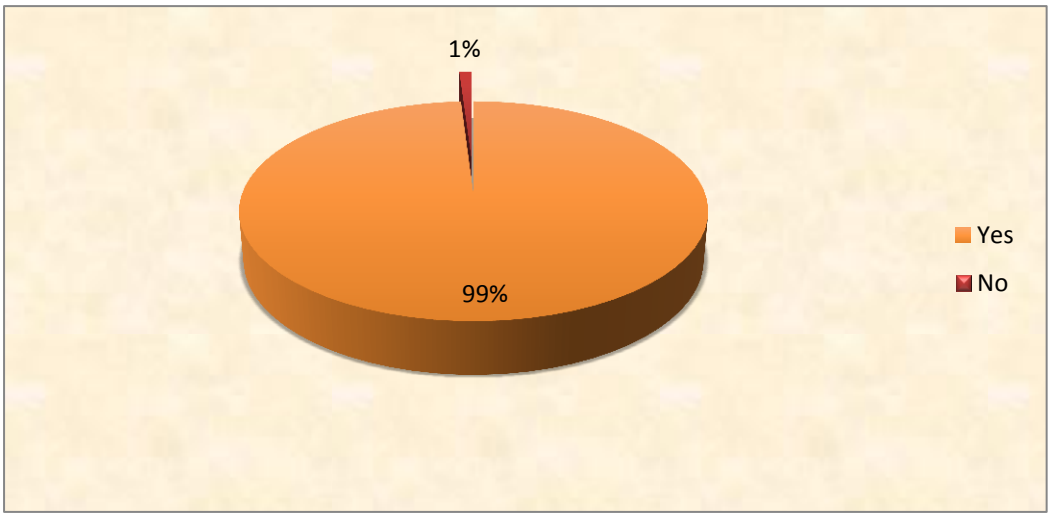
Source: Field Data, 2012

4.7 AWARENESS OF CERVICAL CANCER

4.7.1 Ever heard about Cervical Cancer

Figure 4.2shows the awareness level of cervical cancer among the female health professionals. Almost all of them (99%) had heard about cervical cancer.

Figure 4.2 Awareness of Cervical Cancer among the Female Health Professionals

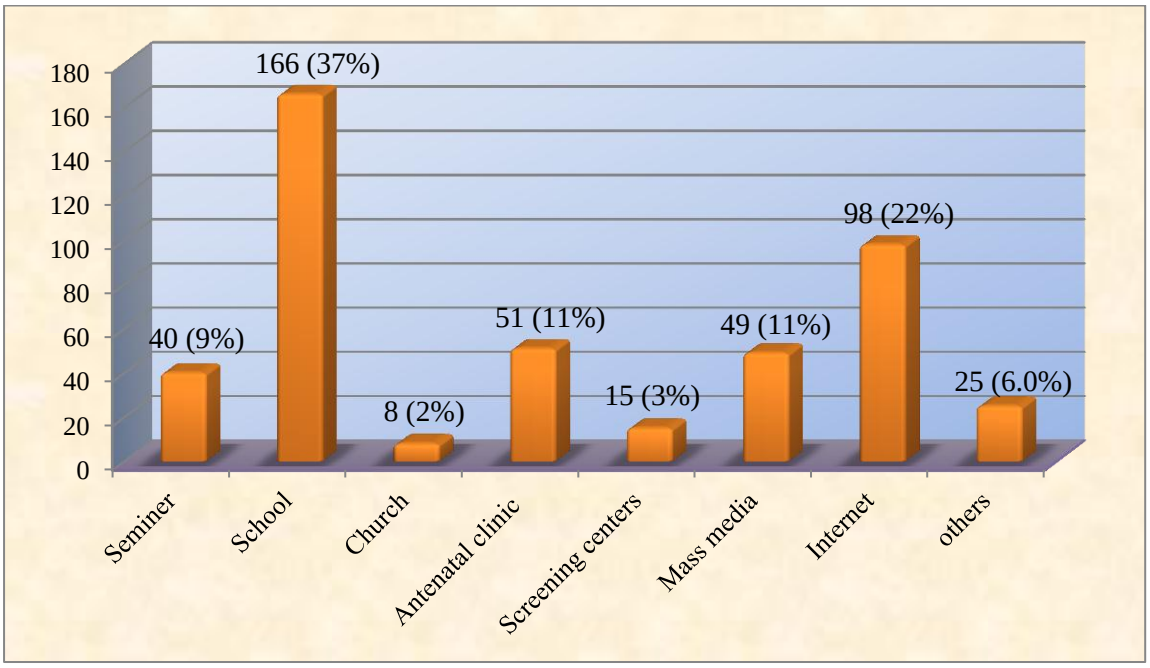


Source: Field Data, 2012

4.7.2 SOURCES OF CERVICAL CANCER INFORMATION

The predominant source of cervical cancer information was from school (37%), followed by Internet (22%), antenatal clinic and mass media (11% each) and seminar (9%). The least source of cervical cancer information were screening centers (3%) and church (2%).

Figure 4.3 Sources of Cervical Cancer Information



Source: Field Data, 2012

4.8 HEALTH SERVICE ACCESSIBILITY IN RELATION TO CERVICAL CANCER

About two-thirds (137, 67%) reported to have ever screened for cervical cancer, with close to ninety percent (175, 88%) admitting to the fact that health institutions do not have screening services for cervical cancer. Approximately, two-thirds (135, 68%) however attribute non-availability of cervical cancer services on inadequate drug/personnel/facility.

Table 4.5: Health Service Accessibility In Relation To Cervical Cancer

Variable	Frequency (n)	Percentage (%)
Ever screened for cervical cancer		
Yes	137	67.2
No	67	32.8
Availability of cervical cancer services		
Yes	25	12.5
No	175	87.5
Cause of non-availability of service		
Cost of service	3	1.5
Inadequate drug/personnel/facility	135	67.5
Inadequate information	18	9.0
Lack of leadership enforcement	44	22.0

***Source*:** Field Data, 2012

4.9 PREVENTION OF CERVICAL CANCER

Majority of the respondents reported that cervical cancer screening (111, 55%) and its vaccination (108, 53%) were available. Almost three-quarters (147, 72%) of the respondents admitted employing a measure personally to prevent cervical cancer. Majority of the respondents recommended on the provision of cervical cancer education and screening centers/financial accessibility of health facility.

Table 4.6: Prevention of Cervical Cancer

Variable	Frequency (n)	Percentage (%)
Availability of cervical cancer screening programmes		
Yes	111	54.5
No	93	45.6
Total	**204**	
Availability of vaccination against cervical cancer		
Yes	108	52.9
No	89	43.6
Don't know	7	3.4
Total	**204**	
Measures employed to prevent cervical cancer		
Yes	147	72.1
No	55	27.0
No response	2	1.0
Total	**204**	
Recommendation of cervical cancer prevention		
Provision of cervical cancer education	100	49.2
Screening centers/financial accessibility of health facility	96	47.0
Abstinence/ faithfulness to partner	2	0.8
Availability of drugs	6	3.0
Total	**204**	

***Source*:** Field Data, 2012

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter discusses the results of the study in relation to the objectives and key variables of the research. The purpose of this study was to assess the awareness of cervical cancer and its prevention amongst female health professionals in the Winneba Municipality.

5.2 Knowledge and awareness level of cervical cancer

It is well documented that cervical cancer is the leading cause of death from gynecological cancers in Ghana (Wiredu et al, 2006), yet knowledge about its aetiology among the general population and health care providers is limited. Research has therefore continuously proven that women with knowledge on cervical cancer respond positively to the great need for screening.

Studies (Tebeu, 2008; Anorlu, 2008) on knowledge and awareness of cervical cancer in other developing countries have reported low awareness of the disease. However, in this study the level of awareness was found to be 99% among the respondents. This is not surprising given the fact that the study population was health professionals, which was mostly dominated by nurses (79%). Their main source of cervical cancer information as reported by the respondents was mainly from school (37%), followed by internet (22%), antenatal clinic and mass media (11% each) and seminar (9%).

Most studies on knowledge about cervical cancer, HPV infection and its prevention in the general population have shown inadequate information among the study participants

(Mosavel and El-Shaarawi, 2007; Tebeu et al., 2007; Lee et al., 2007). Considering these findings, it can be expected that the knowledge about this disease in the general population of Winneba will even be less compared with the health professionals. Almost all (99%) the respondents in this study were however aware that the causative agent of cervical cancer was a virus.

5.3 Knowledge about the risk factors of cervical cancer

Risk factors for cervical cancer include early onset of sexual activity, multiple sexual partners, infectionwith HPV, poor hygiene, family history of the disease, smoking, high parity, low socioeconomic status,old age, and prolonged use of oral contraceptives.(Goldsmith et al., 2007; Castellsague et al., 2002;Anttila et al., 2001). In this study knowledge about the risk factors of cervical cancer was assessed using the psychometric response scale which measures the degree of agreement with a set of statements. The result showed varying responses about the risk factors with nearly three-quarters strongly agreeing that HPV is the causative organism of the disease. This is consistent with the study (Anoudet al., 2013) conducted in Kuwait among primary health care physicians where the knowledge of HPV being the causative agent of cervical cancer was found to be sufficient amongst the respondents. However, the results differ from other studies done where the knowledge about the causative agent was found to be insufficient in the community as well as among health professionals (Lee et al., 2007; Nganwai et al., 2008; Mosavel and El-Shaarawi, 2007). On the other hand, majority of the respondents also agreed that weakened immune system (69%), long term use of contraceptive pill (46%), starting sexual intercourse at early age (65%), having many sexual partners (73%) and having a sexual partner with many previous partners (78%) were among the risk factors associated with cervical cancer. Surprisingly, a significant proportion of the respondents did not know

that smoking any form of cigarette (65%), infection with Chlamydia (51%), having a sexual partner who is not circumcised (29%), having many children (65%) and not going for regular pap smear (50%) were risk factors of cervical cancer or not. This is in line with a study conducted in Niger where about one-forth could not list any risk factor associated with the disease. Knowledge about the risk factors of cervical cancer among the female health professionals is therefore insufficient. Therefore it is imperative to improve their knowledge level through education in order to improve the quality of cervical cancer services provided by them in the Municipality.

5.4 Knowledge about the symptoms of cervical cancer

As part ofassessing the knowledge and awareness among the female health professionals, a series of questions pertaining to signs and symptoms including risk factors were asked. In line with the study conducted by Shapley et al., (2006), in this study majority (over 90%) of the respondents were able to identify vaginal bleeding between periods persistent, vaginal discharge with unpleasant smell, discomfort or pain during sex, vaginal bleeding after menopause and vaginal bleeding during/after sex as possible warning signs and symptoms of cervical cancer. However, about half (50%) did not know whether persistent lower back pain, persistent pelvic pain and unexplained weight loss were signs and symptoms of the disease, a situation which is perturbing taking into account the fact that the health professionals who provide the service do not have sufficient knowledge about the signs and symptoms of the disease.

Attitude and perception about cervical cancer could affect one's behavior in seeking treatment. Hence, a positive attitude and perception is expected to influence

individual'sbehavior in seeking early treatment when they observe signs and symptoms related to cervical cancer. The study revealed a positive attitude towards seeking cervical cancer treatment. Majority (87%) of the respondents reported that they would seek medical assistance within a week after seeing a symptom which they thought might be a sign of cervical cancer. Nearly half (49%) of the respondents perceived cervical cancer to be most likely to develop among women aged 10 to 19 years. Though HPV infection occurs in women of all age groups, the highest rates of infection are known be prevalent in young women aged 20 to 24 years old as reported in a study conducted by Dunne et al. (2007).

5.5 Health service cervical cancer accessibility (availability)

Empirical studies, including the ones conducted in China, show that early screening can efficiently reduce cervical cancer mortality (Jun et al., 2009; Anttila et al., 1995). The results of previous studies also indicate that lack of knowledge about cervical cancer among Ghanaian may be a barrier to cervical cancer screening (Blumenthal et al., 2008). However, in this study about two-third of the respondents had ever screened for cervical cancer though nearly ninety percent reported non-availability of cervical cancer services in health institutions in Ghana. Majority further suggested the non-availability might be due to inadequate drug/personnel/facility. This is indicative of the non-existence of dedicated cervical cancer services in most health facilities in Winneba, a reflection of the current situation existing in most health facilities in other parts of the country.

5.6 Preventive measures employed in combating cervical cancer

Unlike most other cancers, cervical cancer is readily preventable when effective programs are implemented to detect and treat its precursor lesions (Sherris et al., 2005).

Hence, prevention of HPV infections is very essential in prevention of cervical cancer. The advent of HPV vaccine has been a major breakthrough. However, in this study, more than half of the respondents reported the non-availability of vaccination programmes and its existence in health facilities in Winneba. Nonetheless, nearly three-quarters had employed cervical cancer preventive measures, an indication of how imperative prevention of the disease is to them.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

This study has highlighted inadequate knowledge about cervical cancer amongst female health professional in selected institutions in Winneba.

Approximately, 99% of the respondents had ever heard about cervical cancer, with school (37%) being their major source of information.

More than 90% of the respondents were able to recognize vaginal bleeding between periods, persistent vaginal discharge with unpleasant smell, discomfort or pain during sex, vaginal bleeding after menopause and vaginal bleeding during/after sex as possible warning signs and symptoms of cervical cancer. On the other hand, approximately 50% did not know whether persistent lower back pain, persistent pelvic pain and unexplained weight loss were signs and symptoms of the disease or not.

The psychometric response scale also revealed that though some were able to identify HPV (72%), weakened immune system (69%), long term use of contraceptive pill (46%),starting sexual intercourse at a tender age (65%), having many sexual partners (73%) and having a sexual partner with many previous partners as risk factors of cervical cancer, others were not sure whether smoking any form of cigarettes (65%), infection with Chlamydia (51%), having a sexual partner who is not circumcised (29%), having many children (65%) and not going for regular pap smear (50%) increased one's chances of developing cervical cancer.

The predominant source of cervical cancer information was from school (37%), followed by Internet (22%), antenatal clinic and mass media (11% each) and seminar (9%). The least source of cervical cancer information were screening centers (3%) and church (2%).

Majority of the respondents reported cervical cancer screening (55%) and its vaccination (53%) to be available, with almost three-quarters (72%) of them admitting employing a measure personally to prevent cervical cancer.

6.2 Recommendations

These findings highlight the necessity and urgency of targeted intervention. Stakeholders could therefore use the findings of this study geared towards improving cervical cancer services.

DISTRICT HEALTH DIRECTORATE

The Municipal health management team could:

Increase the knowledge about cervical cancer among the health professionals by organizing training programmes for them. The training could entail how to identify all the signs and symptoms of cervical cancer and its associated risk factors. This is expected to equip them to be able to diagnose the disease. This could consequently to a great extent influence the success of prevention of cervical cancer in the Municipality.

Ensure that further research is carried out to understand the aetiology of the disease in the Municipality. This is expected to help better understand disease progression in order to provide appropriate services.

Secondly a study should be carried out to assess the knowledge of male health professionals on cervical cancer.

MOH

The MOH could play its part by increasing health care budgets and placing priority on cervical cancer prevention by establishing a national awareness campaign and spreading screening services all over the country. Establishing of screening centres will not only increase the practical experience of the health professionals but will also increase cervical cancer availability throughout the Municipality. Screening of cervical cancer should be added to health insurance. Prices of vaccines should be made affordable and free vaccination of young girls.

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APPENDICE

APPENDIX
QUESTIONNAIRE

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

The researcher is a student of Kwame Nkrumah University of Science and Technology (KNUST) conducting a research on *Cervical Cancer.* The questionnaire is designed to seek your candid views about this topic.

The researcher will be grateful if you could devote some of your quality time to study and answer this questionnaire. All answers will be treated as confidential and will be used for statistical analysis and research purposes.

CERVICAL CANCER AWARENESS MEASURE

Name of researcher: Kate Kloku Tel: 0244 868612

Date of interview: _____

Questionnaire Number:_____

Location:_____

Interviewer: _____

SECTION A

DEMOGRAPHIC CHARACTERISTICS

1. Age of Respondents

15-19 [ ] 20-25 [ ] 26-30 [ ] 31-35 [ ] 36-40 [ ] 41 and above [ ]

2. Gender

Male [ ] Female **[**]

3. Which Religion do you belong to?

Christian [ ]

Muslim [ ]

Traditionalist [ ]

No religion [ ]

Others, please specify ……

4. What is the highest level of education qualification you have obtained?

Certificate [ ]

Diploma [ ]

Advanced diploma [ ]

Degree [ ]

Above 1st Degree [ ]

5.Occupation

Nurse [ ]

Doctor [ ]

Pharmacist [ ]

Laboratory technician [ ]

Dispensary technician [ ]

X- ray technician[ ]

Others, please specify ……

6. Marital status

(a)Single and never married[ ]

(b) Married [ ]

(c) Married but separated [ ]

(d) Divorced [ ]

(e) Widowed [ ]

(f) Cohabitating [ ]

SECTION B

AWARENESS OF CERVICAL CANCER

7. a) Have you, or any member of your family or friends ever been diagnosed with Cervical Cancer?

Yes [ ] No [ ]

b) If Yes, tick (You can tick as many as that applies)

Myself [ ]

Partner [ ]

Family member [ ]

Other family member [ ]

Other ……

8. The following may or may not be warning signs for cervical cancer. We are interested in your opinion:			
Signs or "non-signs"	**Yes**	**No**	**Don't know**
Do you think vaginal bleeding between periods could be a sign of cervical cancer?			
Do you think persistent lower back pain could be a sign of Cervical cancer?			

Do you think a persistent vaginal discharge that smells unpleasant could be a sign of cervical cancer?			
Do you think discomfort or pain during sex could be a sign of cervical cancer?			
Do you think menstrual periods that are heavier or longer than usual could be a sign of cervical cancer?			
Do you think persistent diarrhea could be a sign of cervical cancer?			
Do you think vaginal bleeding after the menopause could be a sign of cervical cancer?			
Do you think persistent pelvic pain could be a sign of cervical cancer?			
Do you think vaginal bleeding during or after sex could be a sign of cervical cancer?			
Do you think blood in the stool or urine could be a sign of cervical cancer?			

Do you think unexplained weight loss could be a sign of cervical cancer?			

9. If you had a symptom that you thought might be a sign of cervical cancer how soon would you contact your doctor to make an appointment with the doctor to discuss it?

Within a week [ ]

Within a month [ ]

Within a few months [ ]

Within a few years [ ]

10. How confident are you to notice a cervical cancer patient

(a) Not all confident (b) not very confident (c) fairly confident (d) very confident

11. In your opinion, which age range of women is most likely to develop cervical cancer in Ghana?

a) A woman aged 10 to 19 years [ ]

b) A woman aged 20 to 29 years [ ]

b) A woman aged 30 to 49 years [ ]

c) A woman aged 50 to 69 years [ ]

d) A woman aged 70 or over [ ]

e) Cervical cancer is unrelated to age [ ]

12. What is the causative organism for cervical cancer?

a) Bacteria

b) Virus

13. Do you know that the HPV is the cause of Cervical Cancer Yes [ ] No [ ] Don't Know [ ]

14. The following may or may not increase a woman's chance of developing cervical Cancer. How much do you agree that each of these can increase a woman's chance of developing cervical cancer?					
	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Infection with HPV (human papilloma virus)	2 (1.0)	1 (0.5)	12 (5.9)	42 (20.6)	147 (72.1)
Smoking any form of cigarettes	19 (9.3)	16 (7.8)	132 (64.7)	31 (15.2)	6 (2.9)
Having a weakened immune system (e.g. because of HIV/AIDS, immunosuppressant drugs or having a transplant)	3 (1.5)	8 (3.9)	34 (16.7)	141 (69.1)	18 (8.8)
Long term use of the contraceptive pill	7 (3.4)	22 (10.8)	67 (32.8)	94 (46.1)	14 (6.9)
Infection with Chlamydia (a sexually transmitted infection)	4 (2.0)	5 (2.8)	104 (51.0)	84 (41.2)	7 (3.4)
Having a sexual partner who is not circumcised	45 (22.1)	46 (22.5)	60 (29.4)	49 (24.0)	4 (2.0)
Starting sexual intercourse at a tender age (before age 17)	4 (2.0)	7 (12)	12 (5.9)	132 (64.7)	49 (24.0)
Having many sexual partners	3 (1.5)	0 (0.0)	9 (4.4)	148 (72.5)	44 (21.6)

Having many children	19 (9.3)	37 (18.1)	133 (65.2)	14 (6.9)	1 (0.5)
Having a sexual partner with many previous partners	3 (1.5)	2 (1.0)	14 (6.9)	159 (77.9)	26 (12.7)
Not going for regular smear (Pap)	3 (1.5)	7 (3.4)	102 (50.0)	82 (40.2)	10 (4.9)

SECTION C

SOURCES OF INFORMATION ON CERVICAL CANCER

15a. Have you ever attended any seminar on screening and treatment of cervical cancer?

Yes [ ] No [ ]

15b. If yes, when and where? .....

16. Have you ever heard about cervical cancer? Yes [ ] No [ ]

(b) Where did you have your information on the cervical cancer from? Tick (√)

School [ ]

Church [ ]

Public Health Worker [ ]

Maternity Clinic [ ]

Screening Centers [ ]

Colleague [ ]

Mass Media [ ]

Internet [ ]

17. If you have any health problem concerning cervical cancer, which specific health institution would you visit for treatment……

18. Do you think our health institutions are doing well in creating awareness of cervical cancer?

Yes [ ] No [ ]

19. If no, what do you think should be done to create awareness of the disease?

……..

……..

……...

SECTION D

HEALTH SERVICES FOR CERVICAL CANCER

20. Are you aware of Pap smear?

Yes [ ] No [ ]

21a. Have you ever been screened for cervical cancer?

Yes [ ] No [ ]

21b. If yes when was the last time?

Less than 1 year [ ] between 1 to 2 years [ ] between 2 to 3 years [ ] between 3 to 4 years [ ] ≥5 years [ ]

22a. Do you think health institutions in Ghana have available cervical cancer services?

Yes [ ] No [ ]

23b. If no, what do you think is the cause of non availability of these services?

……

……

24. What do you think contributes to the development of cervical cancer?

……

……

……

SECTION E

PREVENTION OF CERVICAL CANCER

25a. As far as you are aware, is there a cervical cancer screening programme?

Yes ☐

No ☐

25b. If yes, at what age should women first screen for cervical cancer in Ghana?

☐

26a. Do our health institutions have vaccination to protect women against cervical cancer?

Yes ☐

No ☐

26b. If yes, at what minimum age range is it offered?

☐

27a. Do you think cervical cancer vaccination is gaining popularity among women in Ghana as it should? Yes [ ] No [ ]

b. If answer to 27 is Yes what do you think is the reason for that? Rank the following in order of 1 to 3 with 1 being the most probable reason and 3 being the least probable reason.

Inexpensive nature of the vaccine [ ]
Proximity to Screening Centers [ ]
More Awareness is being created [ ]

c. If answer to 27 is No, what do you think is the reason for that? Rank the following in order of 1 to 3 with 1 being the most probable reason and 3 being the least probable reason.

High cost of the vaccine [ ]
Lack of Screening centres in [ ]
Lack of awareness creation [ ]

28. Have you employed any measure personally to prevent cervical cancer?

Yes ☐

No ☐

29. What recommendation would you give to ensure the prevention of cervical cancer in Ghana?

……

……

……

……..

Thank you very much for responding to the questionnaire!