

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA**



**AWARENESS OF CERVICAL CANCER AND WILLINGNESS TO
SCREEN AMONG YOUNG FEMALE ADULTS IN MADINA
ZONGO, ACCRA.**

BY

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**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF
GHANA, LEGON IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC
HEALTH DEGREE**

JULY, 2017

DECLARATION

I Franklina Aboagye do hereby declare that, apart from references made to works done in relation to this subject area which have been duly acknowledged, this work was independently done by me under supervision. I further declare that this work has not been submitted for the award of any degree in this university or elsewhere.

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DATE

DEDICATION

I dedicate this work to my loving husband Isaac Dwamena and my two adorable children whose prayers, support and words of encouragement have brought me this far. Also to my parents ACP and Mrs Aboagye Nyarko and my siblings I say God richly bless you.

ACKNOWLEDGEMENT

I wish to thank the almighty God who made a way for this study opportunity. His love for me is renewed everyday.

I would also like to thank my supervisor Dr. Maya for his guidance and support throughout the dissertation writing. His constructive criticism and time spent to go through the work with me during every session made me the envy of my friends. God richly bless you sir. I really acknowledge the entire staff of School of Public Health, University of Ghana for their time and contribution to this dissertation

I would also like to thank Mr Adjei-Kyere, Mr. Nii Torto Quao and Mr. Paul Beson and all my friends who supported and encouraged me throughout the study period.

Finally I would like to acknowledge the young female adults of Madina Zongo for their cooperation during the data collection in the community.

God richly bless you all and may He meet you at your point of need. Amen

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LIST OF ACRONYMS

AdMA-	Adentan Municipal Assembly
AMA-	Accra Metropolitan Assembly
CHPS-	Community Based Health Planning Services
DNA-	Dioxy Nucleic Acid
GEMA-	Ga East Municipal Assembly
GSS-	Ghana Statistical Service
GHS-	Ghana Health Service
HPV-	Human Papillomavirus
LANMMA-	La Nkwantanang Madina Municipal Asembly
LI-	Legislative Instrument
MPH-	Master of Public Health
STI-	Sexually Transmitted Infection
UK-	United Kingdom
US-	United State
VIA-	Visual Inspection with Acetic acid
WHO-	World Health Organization

OPERATIONAL DEFINITIONS

Knowledge: This is what the respondents know about cervical cancer and how it can be acquired

Awareness: This is whether respondents have ever heard of cervical cancer.

Willingness to screen: This is respondent's readiness to accept cervical cancer screening services.

Young female adult: A woman between the ages of 22 and 39 years.

ABSTRACT

Background: Cervical cancer is the commonest gynaecological cancer in women worldwide with more than 85% of the global burden occurring in developing countries where it accounts for 13% of all female cancers and a major cause of cancer-related deaths. It has a long latency period and it is one of the few cancers that are preventable through regular screening.

Objective: This study aimed to assess the awareness of cervical cancer among young female adults and their willingness to screen.

Methods: This was a cross-sectional study using the modified random walk method and simple random sampling technique to select 360 study participants. Structured questionnaires were administered through face to face interview to collect data for the study. The analysis process was done using STATA version 14 software. The data were analyzed using frequencies to determine awareness of cervical cancer, the knowledge level and willingness to screen among young female adults. Pearson's chi-square test was performed to establish any relationship between the dependent and independent variables. Logistic regression analysis was also done for the predictor values.

Results: Out of the 360 respondents, 24% were aware of cervical cancer, the knowledge level was graded into low, moderate and high and 90.5% of those who were aware were willing to screen for cervical cancer

Conclusion: The study found low awareness of cervical cancer (24%) among the young female adults recruited into this study. However, majority of them were willing to screen for the disease.

There is therefore the need to create awareness on cervical cancer to the general public to increase uptake of screening.

Keywords: Cervical cancer, awareness, willingness, knowledge.

CHAPTER ONE

INTRODUCTION

1.1 Background

Cervical cancer is the commonest gynaecological cancerous growth in women worldwide with greater than 85% of the worldwide statistics occurring in technologically advanced countries. It represents 13% of all female cancerous growths and a major cause of cancer-related death (Makwe, Ihuoma, & Odeyemi, 2012). It is a sexually transmitted disease caused by genital human papillomavirus (HPV) which stand out amongst the most widely recognized sexually transmitted infections (STI). HPV infection is presently entrenched as essential however not adequate reason for invasive cervical cancer (ICC) advancement owing to that fact that just a little population of women with cervical HPV infection get to the malignancy stage, proposing that other co-factors other than HPV are important for its development.(Mariani et al., 2010).

HPV infection comes in various types, however the 16 and 18 types form more than ninety percent (90%) of HPV-associated cancers including cervical cancer. (Breitkopf et al., 2016). Persistent infections with certain HPV genotypes known as high risk HPV type (HPV-16, -18, -31, -35, -39, -45, -51, -52, -56, -58, -59 and -68) are necessary in the aetiology of cervical cancer. These high risk HPV genotypes together are associated with greater than ninety-nine percent (99.0 %) of all cervical cancer cases with HPV16 and HPV18 being the two most prevalent HPV types in cervical carcinoma globally(Awua, Sackey, Osei, Asmah, & Wiredu, 2016).

Certain risk factors have been observed to be related with cervical cancer development which includes hereditary, early sexual debut, multiple sexual partners, multiparity, long term use of contraceptives (Williams et al., 2013).

Fortunately, cervical cancer can be prevented and mortality can be reduced by diagnosing the disease in its early stage if it is already there (Ranabhat, Tiwari, Dhungana, & Shrestha, 2014). Oncology specialists have demonstrated that cervical cancer can be annihilated through preventive screening and the early discovery of precancerous and carcinogenic injuries (Awua et al., 2016). Notwithstanding the Human Papillomavirus antibodies and HPV DNA testing, there are screening devices that can be utilized to help diminish the cervical disease load (Chen, Hsieh, Chou, & Tzeng, 2014).

The cytology-based test is the most regularly utilized cervical cancer screening strategy in Ghana (Awua et al., 2016). Also the Visual Inspection with Acetic acid wash (VIA) is an effective screening instrument for cervical cancer that has been utilized in urban and rural settings in Ghana. The Pap test and VIA are accessible in almost all healthcare centres throughout Ghana (Williams et al., 2013).

Most women who reach the cancerous stage do not seek regular screening services in spite of the fact that screening for cervical cancer is crucial for early detection of precancerous lesions (Chen, Hsieh, Chou, & Tzeng, 2014). Even in high income nations, it is assessed that the greater part of women found to have cervical cancer have a past, filled with never, occasional screening (Smith et al., 2014). Unpredictable and non-participation to cervical screening are huge obstructions to additionally advance diminishing cervical growth rates in high-risk women.

Regardless of the accessibility of these cervical cancer screening instruments, just 2.7% of Ghanaian women between the ages of 15 to 64 in a frame of 3 years acquire cervical

cancer screening (Williams et al., 2013). A huge percentage of women with cervical cancer are not frequently screened in spite of the fact that cervical screening is of great importance for early recognition of precancerous lesions(Chen et al., 2014).

1.2 Problem Statement

Deaths due to cancer has cervical cancer as one of the main causes. It is ranked as the fourth most basic and frequently detected cancer-related deaths in women globally (Onsuz, Hidiroglu, Sarioz, & Karavus, 2014). (Mariani et al., 2010). Data from World Health Organization (WHO) indicate that about two million women worldwide have cervical cancer upon examination, 500,000 new cases are indentified every year, and 274,000 women die because of cervical cancer each year, and 80.0% of these deaths occur in low to middle income countries(Onsuz et al., 2014).

West Africa region is rated second in cervical cancer statstics globally (Awua et al., 2016). The age- institutionalized death rate for cervical cancer in Ghana is more than three times the worldwide cervical malignancy death rate (7.8/100,000)(Williams & Amoateng, 2012). Analysts at the World Health Organization (WHO) have anticipated that by 2025, there will be around 5007 new instances of cervical cancer growth and 3361 deaths because of cervical cancer every year in Ghana. The aggregate risk of a woman dying of cervical cancer is about three times worldwide combined risk. (Williams et al., 2013).

The cervical cancer growth rate and death rates in Ghana, West Africa are part of the most elevated across the globe and these percentages have been quickly expanding rather than diminishing cervical tumor occurrence and death rates in developed nations (Awua et al., 2016).

Thus, the Ghana Health Ministry has called for a reduction in cervical cancer mortality through awareness creation and screening but there is no confirmation that critical steps have been made to build the Ghanaian woman's awareness on cancer of the cervix and its subsequent screening. The aftereffects of past investigations demonstrate that in Ghana, awareness on cervical cancer and HPV is to a great degree low even among women with advanced education (Williams et al., 2013).

Despite the fact that the bivalent HPV antibody has been authorized for use in Ghana and HPV DNA testing is accessible in private and public healthcare centres, information from the World Health Survey show that cervical cancer screening rates in urban and rural settings in Ghana are to a great degree low at 3.2% and 2.2% respectively (Williams & Amoateng, 2012). HPV infection leads to its cancerous stage in most populations within 5–10 years of a woman's first experience with sex and its mostly seen in women aged 20–24 years (Makwe & Ihuoma, 2012) therefore the reason for the age 22-39 years for this study.

Many of the studies on cancer awareness have focused on breast cancer awareness with little attention on cervical cancer among women. Thus, the primary aim of this research is to assess the awareness of cervical cancer among young female adults (22-39 years) of Madina Zongo and to determine their willingness to screen since the Madina Zongo is a densely populated community which is reported to be predominant with young female adults who are mostly illiterate (GSS, 2014).

1.3 Research Questions

- 1 What is the level of awareness and knowledge of cervical cancer among young female adults?

- 2 What is the proportion of eligible young female adults who are willing to screen for cervical cancer within the next one year?
- 3 What are the factors influencing willingness of young female adults to screen for cervical cancer?

1.4 General Objective

The general objective of this study was to assess the awareness of cervical cancer among young female adults and their willingness to screen in the Madina Zongo.

1.4.1 Specific Objectives

1. To assess the level of awareness of cervical cancer among young female adults.
2. To assess the level of knowledge of cervical cancer among young female adults regarding.
3. To determine the proportion of young female adults willing to screen for cervical cancer within one year
4. To identify the factors associated with willingness to screen for cervical cancer among young female adults.

1.6 Justification

Awareness and knowledge of young women about HPV and its related conditions and their willingness to screen are paramount to the successful prevention against HPV and cervical cancer (Ozyer et al., 2013).

In Ghana approximately 70% of the patients diagnosed to have the cancer are seen when their tumors have advanced to late stages and soon thereafter they are exceptionally hard

to treat but this could be prevented (Awua et al., 2016). Ghanaian cervical cancer patients undergo screening or delay looking for treatment until the point that their cervical growth tumors have metastasized. (Williams et al., 2013).

Also most infections with HPV which leads to cervical cancer are asymptomatic and does not give early warning signs and symptoms for victims to seek for treatment. This, therefore, makes widespread awareness and screening an important approach to preventing cervical cancer(Ozyer et al., 2013).

The Pap test and VIA are accessible at healthcare centres throughout Ghana and are described as simple, effective screening tool for detecting cancer of the cervix. Thus, publicizing the benefits of its screening which is reducing cervical cancer could lead to awareness and result in willingness and eagerness for screening services(Skelton, Kuhn, Rothenberg, & Pope, 2014).

Assessing the awareness of cervical cancer among young female adults of the Madina Zongo and their willingness to screen will help identify strategies to adopt in promoting utilization of cervical cancer screening services and awareness creation.

1.7 Conceptual framework

Figure 1.2 represents the conceptual framework of the study and shows the interrelationship of the different variables of interest in the study.

The health belief model was adapted to identify modifying variables such as: age, level of education, religious belief, risky sexual behaviours, knowledge and awareness about cervical cancer and how these influence willingness to screen for cervical cancer.

The Health Belief Model (HBM) is a conceptual framework that aids healthcare providers to comprehend people's behaviors and influence it so that individuals

willingly engage in particular health behaviors (Abotchie & Shokar, 2009). The HBM expects that feeling defenseless against a disease and asserting it as a genuine medical issue is a motivational factor that will build individuals' move in taking preventive steps. According to the Janz & Becker (1984), the strength of human behaviour or action is guided by (1) perceived susceptibility; (2) perceived severity; (3) perceived benefits; (4) perceived barriers; (5) cues to action and (6) self-efficacy.

The conceptual framework in figure 1.2 consists of five adapted key concepts that are likely to influence young ladies willingness to screen for cervical cancer. Modifying variables such as age, level of education, risky sexual behavior, knowledge and awareness about cervical cancer, and religious belief of individual young female adults will influence their willingness to screen for cervical cancer.

According to the HBM, young female adults who perceive themselves as being susceptible to cervical cancer will most likely go for screening. Also, if they perceive that the complications of cervical cancer could have negative impact on their lives (perceived threat), they will consider modifying risky sexual behaviours (using condom, keeping one sexual partner, postponement of early sexual debut) and will be willing to screen. When young female adults also consider the benefits (perceived benefits) in reducing the threats which is perceived severity and susceptibility of cervical cancer and its complications, they will be more willing to screen. They will be more willing to overcome perceived barriers (which could be: cost of screening, discomfort and painful screening procedure) in order to undergo screening for cervical cancer.

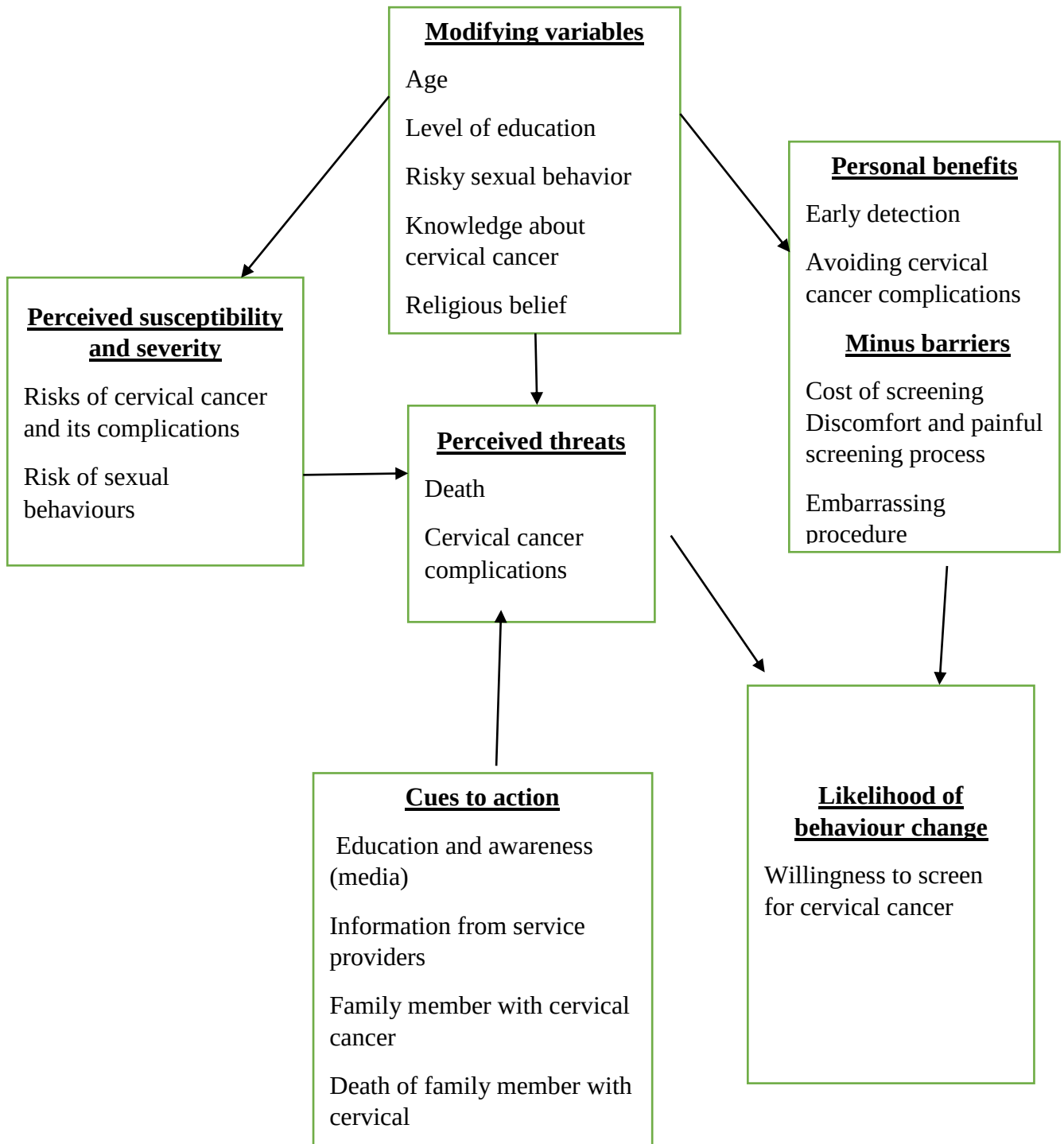


Figure 1.1: Conceptual Framework

Health Belief Model (Adapted from Janz & Becker, 1984).

CHAPTER TWO

LITERATURE REVIEW

2.1 Cervical Cancer

Infection with the human papillomavirus (HPV) has been recognized as an essential cause for cancer of the cervix (Naber, Matthijsse, Rozemeijer, Penning, & Inge, 2016). The human papillomavirus (HPV) is transmitted sexually and is an easily transmittable sexual infection. About 50–80% of sexually active women are open to at least one HPV type at one point in their lifetime (Naber et al., 2016). The highest incidence of HPV infection arises in most populaces within 5–10 years of the first sexual involvement and the highest predominance rates are perceived in women aged 20–24 years (Makwe & Ihuoma, 2012).

The transmission of genital HPV infection is predisposed by the age at sexual experience, having multiple sexual partners (concurrent and serial monogamy), characteristics of partners and sexual networks and acquisition of new partners.

In relation to cervical cancer and precursor lesions, HPVs can also be categorized into high (16, 18, 31, 33, 34, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68, and 70), and low (6, 11, 42, 43, and 44) risk HPV types. High-risk types are often found in squamous intraepithelial lesions (SILs) whilst low-risk subtypes are occasionally found in cervical carcinomas (Burd, 2003). Ogembo et al. (2015) conducted a systematic review and meta-analysis of predominance of Human Papillomavirus genotypes among women with normal cervical cytology and neoplasia living in Africa excluding women in Central Africa. The test confirmed that HPV 16, 52, 35, 18, 58, 51, 45, 31, 53 and 56 were the 10 most basic genotypes in women with typical cervical cytology in descending order. There was wide variety in any Human papillomavirus infection rate in view of location, with South Africa (57.3%) having the most astounding predominance, trailed by East

Africa (42.2%), West Africa (27.8%), and North of Africa (12.8%). HPV16 and 18 were the specific types that were high among women with typical cervical cytology from South Africa contrasted with different locations at 9.9% and 5.8% separately. Overall, thirty-nine studies grouped eligible women screened for Human papillomavirus infection into age groups. Analysis of these studies showed that the group 25–34 years had the highest HPV dominance at 50.5% (95% CI: 37.1–63.8; I² = 97.2%), followed closely by the group 15–24 years with 48.2% (95% CI: 14.7–81.6; I² = 96.6%). Age 35–44 and 45–54 years had HPV prevalence of 36.1% (95% CI: 26.9–45.2; I² = 99.3%) and 31.6% (95% CI: 14.9–48.3; I² = 99.2%), respectively, all p-values <0.001

The cervical cancer incidence rate in Ghana is 26.4 per 100,000 women every year and this making it the commonly occurring cancerous growth in women. There are nearly 7 million women with the age 15 years and older who are at a high risk of developing cancer of the cervix in Ghana and while the prevalence of HPV infection is not known in Ghana, about 21.5% of women in the entire population in West Africa are estimated to harbor cervical Human papillomavirus infection at any point in time. (Opoku et al., 2016).

2.2 Pathogenesis of Cervical Cancer

Cancer of the cervix happens primarily at the cervical transformation zone which is a ring of tissue located where the squamous epithelium of the vagina meets and replaces the glandular epithelium of the endo-cervical canal. The squamous lesions, which are the most well-known and best comprehended cervical lesions caused by Human Papillomavirus; be that as it may, Human Papillomavirus additionally causes the less regular adenocarcinomas and some even rare histological sorts. In this unique situation, it is important that Human Papillomavirus testing may be particularly valuable for

discovery of adenocarcinomas, which can be hard to discover utilizing cytology. In view of its focal part in the etiology of almost all instances of cervical cancer, Human Papillomavirus is effectively called important however not adequate reason for cervical growth. Except for uncommon HPV negative cases, cervical growth emerges by means of the accompanying particular and successive strides, trailed by recognizable viral diligence connected to an advancement of cervical pre-cancer (Schiffman et al., 2011). The progression of development of cervical cancer is shown in figure 1.1 below:

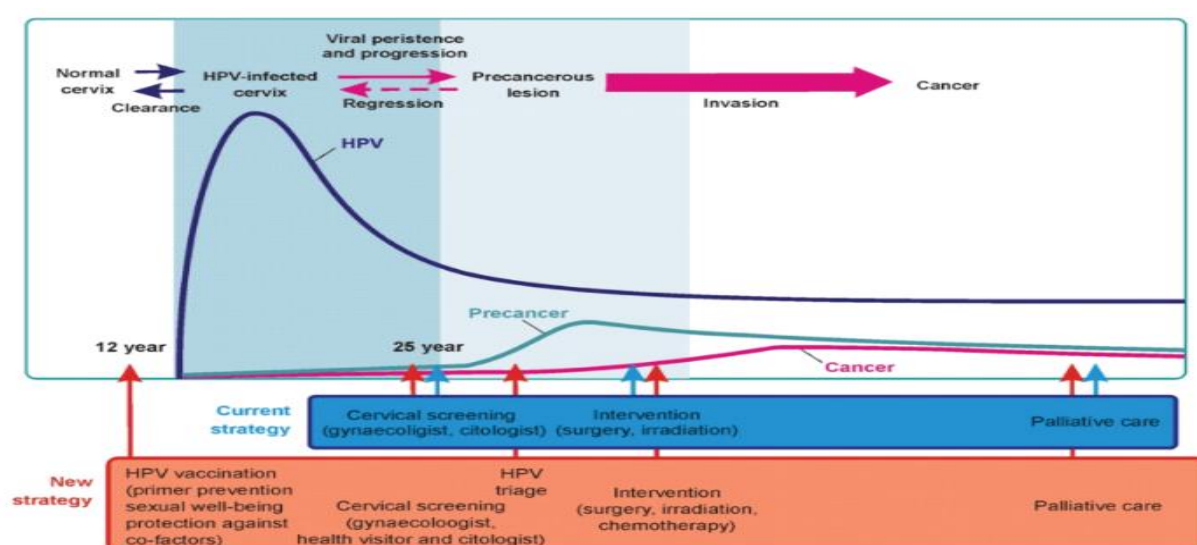


Figure 2.1: Progression of cervical cancer development

2.3 Awareness and Knowledge about Cervical Cancer

It is expected that awareness and knowledge of cancer of the cervix among young female adults will influence their willingness to screen. In spite of the high pervasiveness of cervical cancer, many investigations have demonstrated that women's knowhow about Human papillomavirus, cervical tumor and screening for cervical cancer is low (Assoumou, Mabika, Mbiguino, & Mouallif, 2015).

In Ghana, Opoku et al, (2016) found that the majority of respondents 200 (66.7%) in their study never heard about cervical cancer. Out of the 100 women who heard about

cancer of the cervix, 23% reported that they were aware of the risk factors, 17% said they knew the signs of cervical cancer and 14 (14%) respondents said they knew how cervical cancer was detected.

An assessment of knowledge of cervical cancer among young females under studies at the Lagos University, Nigeria in 2012 revealed that 214 (56.4%) of the study participants were aware of cancer of the cervix, 64 (17.7%) were aware of Human papillomavirus infection and 52 (14.4%) were aware of Human papillomavirus vaccine. Overall, just 40 (11.1%) of the study participants knew that persistent genital HPV infection causes cancer of the cervix. Most of those who had heard about cervical cancer were not aware of its association with HPV infection, sexual activity, age at sexual debut and multiple sexual partners. The most common source of information on cervical cancer was from television/ radio (21%), followed by print media (12.7%), health campaigns (12.2%), family/friends (9.9%) and healthcare providers (9.4%)(Makwe & Ihuoma, 2012).

Also, Maharajan et al., (2015) studied knowledge of cervical cancer and subsequent willingness to screen in ethnically diverse medical students in Malaysia. Knowledge about human papillomavirus, HPV vaccination, cervical cancer screening and its associated risk factors was good. Majority (90%) of the students demonstrated a very high level of knowledge about cancer of the cervix.

Moreover, in Turkey, Onsuz et al., (2014) evaluated knowledge of women over the age of 20 years on cervical cancer. The results showed that 94% of the women had knowledge about cancer of the cervix, 68.0% of them ever heard about Pap smear test and 46.1% had undergone a Pap smear test more than once in their lifetime. Pap smear test for women was found to be influenced by age and knowledge level about cervical

cancer. Therefore giving the women information about cervical cancer was recommended to be a step in the right direction.

In China, the level of knowledge of cancer of the cervix and its related issues among the Uyghur women of the Xinjiang province was assessed. Overall, a less portion of participants (27.0%) had ever heard of cervical cancer. With sources of information and knowledge of cervical cancer, 35% of the respondents heard of cervical cancer from friends, 34% heard of cervical cancer through television, 9% heard of cervical cancer from broadcast, 7% got to know about cervical cancer from magazines, 16% of the respondents heard of it through other sources, while 73% of the participants had never heard about cervical cancer. The overall knowledge level of the risk factors for cervical cancer was poor with just 18% of the women knowing more than one of the risk factors. Women who were undergraduates or had high educational level were more aware of cervical cancer (30%) as compared to the women with educational level. There was definitely a significant association between knowledge of cancer of the cervix and educational level ($P < 0.05$) (Abudukadeer et al., 2015).

A study was conducted in the United States to find out women's knowledge on HPV and cancer of the cervix. The study revealed that, knowledge about Human Papillomavirus among U.S women between the ages 18 to 75 years old was low with only 40% of women reporting having ever heard of HPV and even among those who had heard of it, less than half of the number knew that Human Papillomavirus causes cervical cancer. Their findings revealed that knowing about HPV does not predetermine one's knowledge about its relationship with cervical cancer. Therefore communication researchers in health have the tasks of designing messages to increase recognition of the name Human Papillomavirus and its acronym HPV and increase the knowledge level of the potential effects of Human Papillomavirus infection (Tiro, Meissner, Kobrin & Chollette, 2007).

There is disproportionate awareness level of cervical cancer screening and its management among the married and the unmarried women; younger women have little level of knowledge of the role that Pap smear test plays in the quick detection of cervical cancer and lack factual knowledge about cervical cancer as compared to elderly women (Fort, Makin et al. 2011).

Beining (2012) examined the part awareness and knowledge of cervical growth play as an obstruction to screening support among urban ladies in Tamil Nadu; and further to distinguish the potential effect of expanded cervical malignancy awareness and knowledge on screening disposition. Quantitative and subjective techniques were utilized to describe existing levels of awareness and knowledge of cervical growth and screening among 207 ladies from the metropolitan zone of Chennai. The outcomes propose that the majority of the women (69.6%) didn't know about cervical growth and not very many (16.4%) knew about screening. Demographically, women with lower levels of education or higher were altogether more prone to have known about cervical tumor and screening. Of the women that knew about cervical disease screening, most said they knew about it through TV (33%) or a health service provider (28.6%).

Again, the study investigated changes in relationship between awareness, knowledge, perceived defenselessness, and screening demeanor. It was noticed that great number of women were very responsive to taking an interest in free cervical cancer screening, autonomous of past mindset of cervical cancer. Additionally, the results recommend that in spite of the fact that absence of knowledge seems, by all accounts, to be a noteworthy boundary to interest in cervical cancer screening, giving women information about cervical cancer can possibly change the demeanor of a huge percentage (58.3%) of women who were beforehand unwelcoming to screening.

2.4 Willingness to screen for Cervical Cancer

The prevention of cervical cancer requires the early detection of the precancerous stage through the Pap smear screening test and the treatment of these precancerous lesions generally make the development of cancer almost impossible (Burd, 2003).

There has been dramatic reduction in percentage of cervical cancer in developed nations as a result of well organized-screening and treatment programs. Conversely, the new cases and deaths as a result of cervical cancer has been on an increase in developing nations such as Ghana as a result of screening programs that do not work effectively (Assoumou et al., 2015).

Generally, knowledge and awareness of cancer of the cervix and its screening as a preventive measure is minimal among women in the developing nations, and screening programs are almost unavailable but even when available, are found in the urban centres, which is very far from the rural populace (Eze et al., 2012). Currently, no national screening programme exists in Ghana for cervical cancer (Opoku et al., 2016).

A study in Gabon revealed that just 27.9% (126/452) of those recruited in the study had heard about avoidance of cervical cancer via screening. In the midst of these, 65.1% (82/126) had undergone previously a Pap smear test and the main enthusiasm to go through Pap smear testing as quoted by the various women was “the demand of their doctor” (68.3%, 56/82) (Assoumou et al., 2015).

However, Opoku et al (2016) in their study found that, in Ghana, majority of the respondents (n =289, 96%), said they were likely to seek screening for cervical cancer if the facility offered screening services while 9 (3%) said they were unlikely to screen under these conditions. Most of the women (n=290, 97%) expressed enthusiasm to seek cervical cancer screening if screening was free. Majority of respondents (n=229, 76%)

were willing to pay at least something for screening but fourteen (4.7%) of women were not willing to pay anything for screening. Fifty-seven (19%) were noted as being cautiously willing to pay depending on the cost.

Also in Nigeria, Eze et al, (2012), reported on women's knowledge of cervical cancer, its preventable nature, cervical screening and screening centers and they were all below 40% and the uptake of cervical screening was 0.6% and varied reasons were given (for not doing cervical screening tests. These included absence of awareness (62.5%), unavailable local screening centres (20.8%), charge (19.4%) and period (16.4%). Some women assumed the test were for the married (7.5%), 5.8% feared the conceivable result, 5.3% had the idea that they were faithful and hence, did not require the test, while 1.4% guaranteed they utilized herbs for the disease. Out and out, 62.5% demonstrated readiness to be screened.

2.5 Barriers to Cervical Cancer screening

A lot of obstructions hinder the acceptance of the screening service in lower income countries; however, only few researches have reported on these obstructions. These obstructions include low levels of education on cervical cancer, early recognition techniques, dread of disgrace related with the cancer, worries about spousal objection to screening, and worries about infringement of religious and social commitment of unobtrusiveness amid screening methods (Modibbo et al., 2016).

Also, the absence of screening and aversion of cervical cancer in developing nations has made it very hard to diminish death rates. In developed nations, where cytology-based cervical cancer screening is the standard of care, cervical intraepithelial neoplasia is regularly recognized and treated before the advancement of obtrusive cancer. The inability to embrace and actualize a viable screening program in low-asset nations is

because of a multifaceted nature of various obstructions, including cost, absence of value guaranteed framework, non-accessible or untrained cytotechnologists or pathologists, and contending general wellbeing needs, for example, transferable maladies. In light of discoveries on cervical cancer in numerous examinations led by various global wellbeing associations, the Alliance for Cervical Cancer Prevention (ACCP) was formed. ACCP supported improvement of other options to cytology that were more proper for low-asset settings (ACCP, 2011). Subsequent programs were appropriate for developing nations and were observed to be practical and have astoundingly affected the lives of numerous women (Sherris et al., 2009).

In the USA and UK the fundamental misguided judgment was that Pap smear is a demonstrative test used to recognize existing cervical cancer and other reproductive health issues, most women neglected to understand that the Pap smear is a cervical screening technique (National Cancer Institute, 2005). Another study by Fort, Makin et al. (2011) identified misconception by women that knowledge of the presence of cancerous cells in any stage was tantamount to imminent and inevitable death.

Although life threatening, many women did not want to learn more about cervical cancer as they found the issue uncomfortable (Austin et al. 2002). Young Hispanic women decline to go for screening as they would not have any desire to concede taking part in sexual intercourse (Byrd, Peterson et al. 2004). Other women neglected to be introduced to screening as they assumed that they would get an infection from the Pap smear test procedure (Sairafi and Mohamed 2009).

Numerous investigations have recognized dread of a positive outcome of having cervical cancer, shame, torment, monetary constraints, and demeanors of health workers, absence

of appropriate clinic times and absence of female screeners as the real obstructions to cervical cancer screening, (Bessler et al. 2007).

2.6 Risk factors for Cervical Cancer

There are several predisposing factors that incline women to developing cervical cancer. These risk factors could be natural as well as behavioral. For instance a number of risk factors for cervical cancer are associated with contact to the human papilloma virus (HPV). These comprise early age of first sexual intercourse, having several sexual partners and having partners who themselves have various sexual partners. Other independent risk factors are infrequent screening for cervical cancer and tobacco use (Opoku et al., 2016).

The transmission of HPV which causes cervical cancer is primarily through sexual activity. The risk is higher when the individual has numerous sexual partners or has sexual intercourse with another who also has different sex mates. Early sexual activity in an individual's life makes one susceptible to the infection as well as having sexually transmitted diseases and genital warts in the past, undergoing irregular Pap smears, or already existing cervical or penile cancer in an individual or sexual partner. Condom use may not satisfactorily shield people from contact to Human papillomavirus since HPV can be transmitted by coming in contact with infected labial, scrotal, or anal tissues that are not ensured by a condom (Burd, 2003).

Research proposes that inherent causes impact women's cervical screening rates and this has been accounted for reliably among various populaces including Caucasian, Asian, and Latino-American women (Oscarson et al., 2008; Eaker et al., 2001; McMullin et al., 2005). Basic factors comprise women's familiarity, opinions, and approaches to cervical cancer. There are some demographic factors such as having lower

socioeconomic status, not being married that are associated with elevated risk (Cotton et al., 2007; Selvin et al., 2003). There are many of the reported risk factors for cervical cancer which are linked to sexual behaviours and likely represent exposure risks to HPV, and HPV fulfils all of the recognized criteria for cervical cancer causality. They include having early commencement of sexual intercourse, having numerous sexual partners and having sexual partner(s) with various partners. Some sexually transmitted infections or infrequent screening for cervical cancer and tobacco use represent other independent risk factors (Castellsagne et al., 2002). According to (Saules et al., 2007) many women do not perceive themselves at risk of cervical cancer.

A study among nurses in the rural areas of Turkey showed that although nurses were aware of cervical cancer and its risk factors, they indulge in behaviours that expose them to the disease. With a total of 97 nurses, 69.1% (67) revealed smoking, 72.2% (70) detailed early age at first sex, 81.4% (79) recounted various sexual partners and 87.6% (85) revealed history of sexually transmitted infection were risk factors of cervical cancer. Forty-five (46.4%) nurses had knowledge on all the predisposing factors of cancer of the cervix. Fourteen percent of the nurses agreed that they had an increased risk in developing cervical cancer. Nevertheless, the nurses did not know the Pap test should be done three years after first sexual life and if tests were normal, it should be repeated two to three years (Ertem, 2009).

WHO estimates Human Papillomavirus predominance in West Africa at 16.5%. For instance, a study estimating HPV predominance among a group of women attending a gynaecological OPD in a health facility in Ghana discovered a crude HPV prevalence of 10.7% (Domfeh et al., 2008). Cervical cancer is significantly associated with Human Papillomavirus, which can be acquired through sexual intercourse (Bekkers et al., 2006). This according to Adanu (2010) implies that, cervical cancer prevention can be

accomplished through similar measures recommended for HIV and sexually transmitted infections prevention as well as screening for cervical cancer. HPV is a common STI of the genital tract, which in the majority of cases is transient, asymptomatic and clinically insignificant. In a minority of women, however, the infection becomes persistent and may lead to the development of high-grade cervical cancer invasive cancer (Denny, 2014).

Also, adding to the markers of risky sexual behaviours, early age at first sexual intercourse and numerous sexual partners, other crucial co-factors include being infected with other STIs, chiefly chlamydia trachomatis and herpes simplex virus type 2 (HSV-2) as well as smoking, ones socio-economic status, diet, hormonal factors, parity and intake of oral contraceptives. In addition, young age at marriage, parity, low socio-economic status and poor health-seeking behaviour are more prevalent in developing countries (Lowndes, 2006). A study in Britain also revealed that, assembling all the risk factors relating to sexual activity or sexually transmitted infections, 41.4% of people were found to have specified no less than one of them. Human Papillomavirus was just said expressly by 0.6% of respondents and only 8.5% connected cervical cancer with a named or anonymous sexually transmitted infection (Waller et al., 2004).

CHAPTER THREE

METHODS

3.1 Study Design

This was a cross-sectional study design using quantitative method.

3.2 Study Area

The study was conducted in Madina Zongo which is a suburb of the La Nkwantanang municipal assembly. It is a densely populated community with a population of approximately 3987 and 797 households. La Nkwantanang- Madina Municipal Assembly was established by Legislative Instrument (L.I.) 2030 and inaugurated in June 2012. It was carved out of the Ga East Municipal Assembly. The La-Nkwantanang Madina Municipal Assembly (LANMMA) is located at the northern part of Greater Accra Region. It is one of the sixteen (16) Metropolitan, Municipal, and District Assemblies in the Greater Accra Region and covers a Land Area of 166 sq km. It is boarded on the west by the Ga East Municipal Assembly (GEMA), on the east by the Adentan Municipal Assembly (AdMA), the south by Accra Metropolitan Assembly (AMA) and the north by the Akwapim South District Assembly. La Nkwantanang Madina Assembly is a mainly urban Municipality with pockets of rural settlements which are quickly developing into peri-urban settlements.

3.2.1 Social and cultural structure

LANMMA covers three traditional Paramountcies; namely the La Stool, the Danfa Paramouncy and the Oyarifa Paramouncy. In addition to these major traditional divisions, there are other areas in the Municipality whose historical allegiance is to other groups. All these are part of the indigenous GaDangme people who settled in the area in

the 16th and 17th Centuries covering a large area from the coast to the southern edge of the Akwapim – Togo Range. The municipality comprises of settlers who were settled in the area in the late 1950s and come from the Gonja, Dagomba, Wala, Frafra, and Hausa stock. These communities have evolved to become almost indigenous by establishing firm roots in the area. There significant number of other ethnic groupings in the Municipality whose numbers are substantial and play major roles in the affairs of the Municipality. The most significant among them include Akans, Ewes, Nzema's and Guans. This makes LANMMA one of the most cosmopolitan and welcoming areas. Religion plays a critical role in the society the Municipality with the majority professing the Christians faith followed by Moslems and African Traditional Religion making up the smallest proportion among the major religious groups. Practitioners of other religious faiths such as Hindu and Buddhist are also found in the Municipality.

3.2.2 Health

There are thirty-nine (39) health facilities in the Municipality. Out of this number, 2 are government polyclinics, two (2) health centres and two (2) Community Based Health Planning (CHPS) compounds. The Municipality has created 10 CHPS zones to enable community health workers to reach out to citizens on health education and immediate care. The polyclinics are Madina Polyclinic and Kekele polyclinc. There is a specialized psychiatrist hospital at Pantang. The Municipality is in the process of turning the Kekele polyclinic into a municipal Hospital. Most of the health facilities are privately run though all of them accept the National Health Insurance. The Alpha Medical Centre which is a mission facility at Madina, is the biggest medical facility in the Municipality. It is a 40-bed hospital owned and run by the church of Pentecost. Figure 3.1 shows the map of La Nkwantanang municipal assembly.

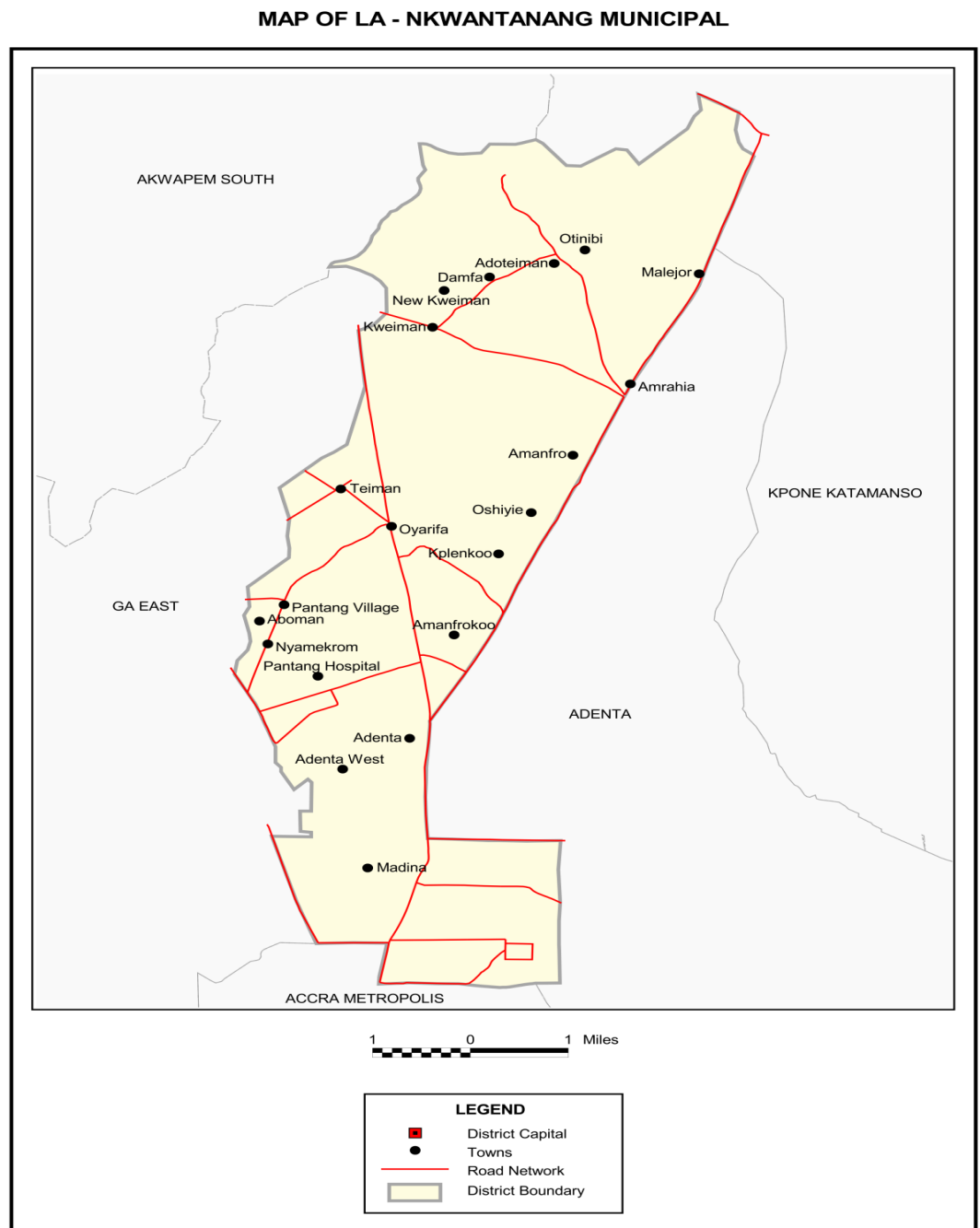


Figure 3.1: Map of La Nkwantanang Municipal assembly
(Source: GSS)

3.3 Study Variables

3.3.1 Dependent Variable

The dependent variables of the study were awareness of cervical cancer, knowledge of cervical cancer and willingness to screen for cervical cancer.

3.3.2 Independent Variables

The independent variables of the study includes:

- 1 Educational level
- 2 Economic status
- 3 Availability of cervical cancer screening services
- 4 Health education on cervical cancer

3.4 Sample size determination

A sample size of 360 was derived using Cochran's sample size formula shown below (Cochran, 1972)

$$n = Z^2 P (1-P) / (d)^2$$

Where,

n = sample size required.

Z = confidence level (95% level of confidence - 1.96).

P = Prevalence of outcome variable (willingness to screen) = 62.5% (Derived from literature Eze et al., (2012)).

d = Margin of error (5% =0.05).

Substituting,

$$n = (1.96)^2 (0.625 \times 0.375) / (0.05)^2 = 360.$$

3.5 Sampling Method

The modified random walk method and random sampling were employed in selecting respondents of the study. A key landmark in the area was identified and every house on either left or right side of the landmark was selected. Eligible participants were then selected from the households. This method was used due to the diverse nature of the study area and the constraints of time. A well-structured questionnaire was designed partially from a standard instrument and by the student investigator and used to collect data from study participants. The questionnaire was administered with the help of two trained research assistants.

3.6 Study Population

The study population were young female adults (22-39) of the Zongo community in the La Nkwantanang Municipality, Accra. Review of literature reveals different age classifications of young adulthood ranging from 18 years to 39 years but Campbell et al (2010) identified young adults' age as beginning from 21 years and precedes middle adulthood which begins at age 40. Additionally, WHO recommended age for onset of screening for cervical cancer starts at 21 years (WHO, 2013), therefore it is anticipated that by age 22 women should have had their first screening.

3.7 Inclusion Criteria

All young women aged 22-39 who lived in the Zongo community and were willing to participate in the study were included.

3.8 Exclusion Criteria

Young women aged 22-39 who were present in the community at the time of the study but who did not live in the community were not included in the study. Young women who did not consent to take part in the study were excluded.

3.9 Data Collection Tools/Techniques

A well-structured questionnaire was administered to study respondents to collect data on socio-demographic characteristics, knowledge and awareness of cervical cancer and willingness to screen. Items on the questionnaire was read and explained to individual respondents who chose the options as they deemed fit. The questionnaire was administered with the assistance of two trained research assistants.

3.10 Data processing and analysis

Data collected were cleaned, coded and entered in Microsoft Excel. The data was validated by checking for the accuracy of every response entered for each respondent and exported to STATA (statistical analysis software) Version 14. Pearson's chi-square test was performed to establish any relationship between the dependent and independent variables. Descriptive analysis was used to describe the level of knowledge and awareness of cervical cancer among young female adults and their willingness to screen. With regards to aggregate of knowledge of young female adults, respondents were asked 14 questions comprising 5 questions on knowledge of predisposing factors, 5 questions

on signs and symptoms and 4 questions on preventive factors. The knowledge of respondents was graded into low (for 0-5 correct answers), moderate (for 6-10 correct answers) and high (for 11-14 correct answers).

Percentages were used to determine the proportion of young female adults willing to screen for cervical cancer whilst logistic regression models (bivariate and multivariate) were employed to test level of significance and association between the dependent and independent variables. The dependent variable used in the logistic regression analyses was “willingness to screen for cervical cancer”. The dependent variable was made a dichotomous variable, with YES (1) representing willingness to screen and NO (0) representing not willing to screen. Additionally logistic regression test was performed to test significance of association between socio-demographic characteristics of participants and awareness of cervical cancer. In the analysis, awareness of cervical cancer was used as the dependent variable and was measured as a dummy binary variable, with awareness represented by 1 and non-awareness represented by 0. The results were presented in tables, graphs and charts.

3.11 Data Quality

In designing the questionnaire for the study, questionnaire was brief and elaborate to ensure easy understanding.

Two research assistants were recruited, trained and supervised to administer questionnaire effectively and also monitored appropriately throughout the data collection process until the end of the study.

Pre-test of the questionnaire was done in the Ledzokuku krowor municipality which had similar characteristics with the study area to check for consistency of variables and identification and correction of errors.

Data collected on each respondent was cross checked after each day's field work to ensure that the questionnaire was completely and appropriately filled and all information accurately collected.

3.11.1 Training of Research Assistants

Prior to the start of field work, a day training session for the two research assistants was organized by the researcher with the prime aim of equipping them with the required skills needed to assist in the study. The training helped to clearly spell out their tasks, including a discussion of the purpose of the study, ethical issues and administration of questionnaires.

3.11.2 Pre-Test/ Pilot Study

The questionnaire of the study was pre-tested in the Ledzokuku Krowor Municipality to enable the identification and correction of errors and streamlining of the questionnaire before the study. Concerns raised during the pretesting aided in standardizing and finalizing the questionnaire for the study.

3.12 Ethical Consideration

An approval was sought from the Ethical Review Committee of the Ghana Health Service (GHS), Research and Development Division, Accra. Informed consent of respondent was sought before they participated in the study.

3.12.1 Community entry

The district health directorate as well as the leadership of the community were contacted and notified of the intention to conduct the study. Subsequently, an introductory letter was obtained from the Head of Department, Population, Family, and Reproductive Health, School of Public Health, College of Health Sciences, University of Ghana and sent to them. A copy of the approval letter from the Ghana Health Service Ethical Review Committee was sent to the authorities. A copy of the proposal of the study was submitted to the district health directorate to enable the staff disseminate information about the study. The assemblyman and opinion leaders of the Madina Zongo community were contacted so that information on the study will be announced through their local way of information dissemination.

3.12.2 Privacy and Confidentiality

The questionnaires for data collection was coded and names of respondents was not required in completing the questionnaire. The interview was conducted in private with individual respondents so as to guarantee their privacy. Participants' names were also not mentioned in the report of the study and information gathered on participants was kept strictly confidential between the researcher and the study participants by storing data with password known to only the researcher and locking the questionnaire under key.

3.12.3 Compensation

There was no compensation for participating in the study and study participants were duly informed before they chose to take part in the study or not.

3.12.4 Risks and Benefits

Study respondents lost between thirty (30) minutes of their time in answering the questionnaires. Apart from that, there was no risk or cost associated in participating in the study. There were no direct benefits associated with taking part in the study. However, it is expected that the results of the study will contribute towards policy decisions making in order to improve reproductive health services in the community.

3.12.5 Voluntary Withdrawal

Participants were at liberty to withdraw from the study at any point in time and this would not have created any problem between the researcher and the respondent. Data collected on any participant who withdrew from the study at any stage was deleted. Participants may also have chosen not to answer any individual question or all the questions.

3.12.6 Consenting process

Each respondent in the study was approached individually to explain the objectives of the study to them before they gave their consent to participate in the study. In addition, respondents were made to sign a written consent form prior to partaking in the study after a detailed explanation was given.

3.12.7 Data storage and usage

The data collected was stored with passwords on electronic media and in safely locked boxes and used strictly for the purpose of research. Anonymity was ensured in dissemination of findings from this study since participants were not identified by their names.

3.12.8 Declaration of conflict of interest

The researcher as the principal investigator declared no conflict of interest in this study.

3.13 Funding of the study

This study was in partial fulfilment of requirements towards the award of a Master of Public Health (MPH) degree at the School of Public Health, College of Health Sciences, University of Ghana, Legon. Hence, there was no funding from any source and all estimated cost of the study was borne solely by the researcher.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the findings from the analysis of the data collected from study participants. The results are presented in line with the objectives of the study using a combination of statements, tables and figures.

4.1 Socio-demographic characteristics of study participants

Three hundred and sixty participants (360) were recruited for the study. There was a 100% response rate and there were no wrongly completed questionnaires since the questionnaires were interviewer administered.

In terms of age distribution, almost all 332 (92.2%) were 30 years and less. Majority 194 (53.9%) of them were between 22 and 25 years while 138 (38.3%) were between 26 and 30 years. Only 9 (2.5%) fell between age 31 and 34 years and 19 (5.3%) were between age 35 and 39 years. Most (232,64.4%) were single and never married. Many 154 (42.8%) of the participants attained SHS level education while majority 75 (20.8%) of them had not attained any level of formal education and only 25 (6.9) had tertiary level education.

More than half 209 (58.2%) were engaged in informal occupation while 95 (26.5%) were in formal education. Fifty-five were unemployed at the time of the study while one person declined to answer state her occupation. With respect to religious affiliation of the study participants Muslims 222 (61.8%) constituted majority of the respondents

being an Islamic community Table 4.1 illustrates details of the socio-demographic characteristics of the study respondents.

Table 4.1: Socio-demographic characteristics of study participants

Variable	Frequency (N = 360)	Percentage (%)
Age		
22-25	194	53.9
26-30	138	38.3
31-34	9	2.5
35-39	19	5.3
Marital Status		
Single	232	64.4
Married	120	33.3
Divorced/Separated	6	1.7
Widowed	1	0.3
Cohabiting	1	0.3
Educational level		
Tertiary	25	7.0
SHS	154	42.8
JHS	72	20.0
Primary	34	9.4
None	75	20.8
Occupation		
Formal	95	26.5
Informal	209	58.2
Unemployed	55	15.3
Religion		
Christianity	136	37.8
Islam	222	61.6
Others (African Traditional Religion)	2	0.6

4.2 Awareness of Cervical Cancer

In order to determine the level of awareness of cervical cancer among young female adults, they were asked if they have heard about cervical cancer before. One participant declined to respond to this question. However, of the 359 responses, 273 (76.0%)

reported no awareness of cervical cancer while only 86 (24.0%) reported in the affirmative.

For participants who have heard about cervical cancer before, the channel through which they became aware of cervical cancer was assessed. Of the 86 young female adults who reported being aware of cervical cancer, majority 48 (55.8%) identified the television as their source of information on cervical cancer awareness. The radio was the second medium with high identification by participants 39 (45.3%). Friends also constitute a significant source for information on cervical cancer for young female adults as 25 (29.1%) of them cited friends as the source through which they became aware of cervical cancer. The banner or poster was the least reported source of information on cervical cancer with only 2 (2.3%) respondents identifying it as their source of information regarding cervical cancer awareness as shown in figure 4.1.

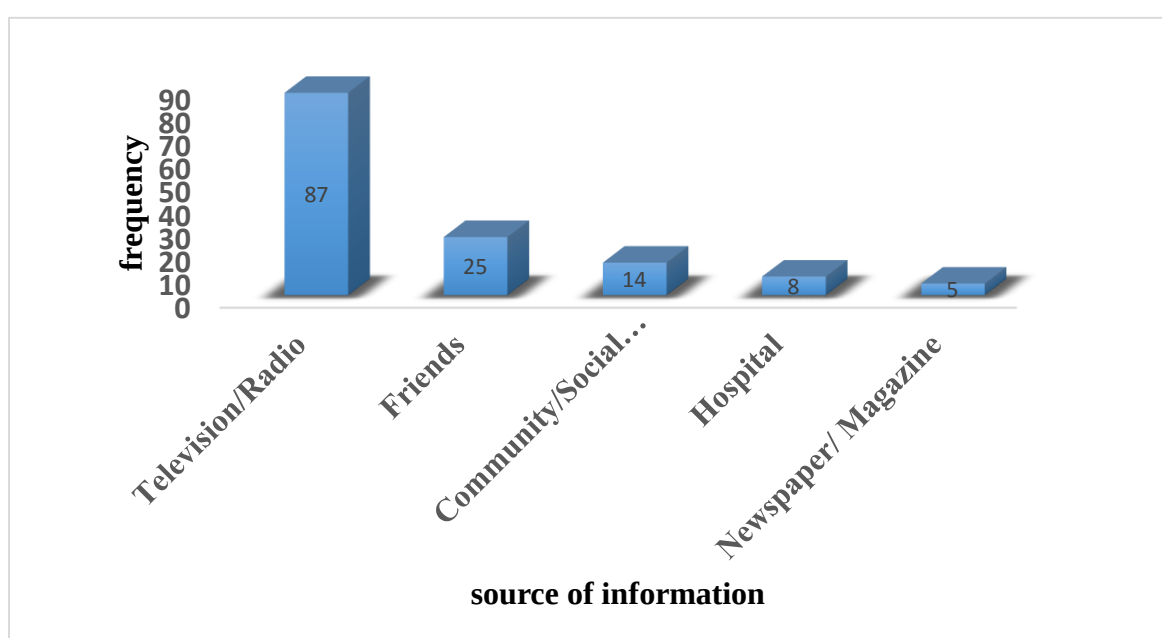


Figure 4.1: Source of information on cervical cancer

4.3 Socio-demographic characteristics and awareness of cervical cancer

A Pearson's chi-square test done to determine any association between background characteristics of study participants and awareness of cervical cancer revealed that age ($p < 0.002$), marital status ($p < 0.007$) and educational level ($p < 0.001$) were statistically significantly associated with awareness of cervical cancer. Religion, income level and occupation of young female adults were not associated with awareness about cervical cancer as illustrated in table 4.2.

Table 4.2: Bivariate analysis between socio-demographic characteristics and awareness of cervical cancer

Variable	<u>Awareness of cervical cancer</u>		df	χ^2	p-value
	Yes- n (%)	No- n (%)			
Age			3	10.56	0.014
22-25	37 (19.2)	156 (80.8)			
26-30	36 (26.1)	102 (73.9)			
31-34	4 (44.4)	5 (55.6)			
35-39	9 (47.4)	10 (52.6)			
Marital Status			4	15.61	0.007
Currently single	44 (18.4)	195 (81.6)			
Married	42 (35.0)	78 (65.0)			
Educational level			4	35.90	0.001
Tertiary	8 (10.7)	67 (89.3)			
SHS	5 (15.2)	28 (84.8)			
JHS	20 (27.8)	52 (72.2)			
Primary	36 (23.4)	118 (76.6)			
None	17 (68.0)	8 (32.0)			
Occupation			2	5.37	0.068
Formal	21 (22.1)	74 (77.9)			
In-formal	57 (27.4)	151 (72.6)			
Unemployed	7 (12.7)	48 (87.3)			
Religion			2	1.53	0.464
Christianity	37 (27.2)	99 (72.8)			
Islam	49 (22.1)	173 (77.9)			
Others(African Traditional Religion)	1 (100.0)	1 (100.0)			

4.4 Knowledge of cervical cancer

Participants were asked questions on various aspects of cervical cancer ranging from acts that predisposes one to cervical cancer, preventive actions, diagnosing the disease and possible signs and symptoms. Their responses were analyzed, summed up and graded. In general, among the young women who reported awareness of cervical cancer, most of them have low knowledge about cervical cancer as shown in Table 4.3

Table 4.3: Aggregate scores on knowledge level on cervical cancer

Level of knowledge	Frequency (n=86)	Percentage (%)
Low(0-5)	42	48.8
Moderate(6-10)	29	33.7
High(11-14)	15	17.4

4.4.1 Knowledge of predisposing factors to cervical cancer

Participants responded to questions on having multiple sexual partners, hereditary, age, and having unprotected sexual intercourse as predisposing factors to getting cervical cancer. Of the 86 respondents who reported to have heard about cervical cancer, 48 (55.8%) of them agreed that having multiple sexual partners could predispose one to getting cervical cancer while 38 (44.2%) disagreed, 77 (89.5%) see age as not a predisposing factor to cervical cancer while 9 (10.5%) do. Majority 75 (87.2%) of young female adults in this study who said they have heard of cervical cancer did not think hereditary is a predisposing factor of cervical cancer while 54 (62.8%) think having unprotected sexual intercourse can predispose one to cervical cancer as shown in table 4.3 below.

Table 4.4: Knowledge of predisposing factors of cervical cancer

Variable	Frequency (n = 86)	Percentage (%)
Multiple sexual partner		
Yes	48	55.8
No	38	44.2
Unprotected sexual intercourse		
Yes	54	62.8
No	32	37.2
Age		
Yes	9	10.5
No	77	89.5
Hereditary		
Yes	11	12.8
No	75	87.2

4.4.2 Knowledge of preventive factors

Knowledge of ways to prevent cervical cancer is key. Sixty-nine (80.2%) of 86 participants who have ever heard about cervical cancer believed that it can be prevented while 17 (19.8%) believed that it cannot be prevented. More than 48 (55.8%) believed that regular screening can reduce the risk of cervical cancer, while 36 (41.9%) do not know and 2 (2.3%) believed that regular screening does not reduce the risk of cervical cancer. Majority 67 (77.9%) of young female adults who were aware of cervical cancer at the time of the study believed that vaccination does not prevent one from getting cervical cancer. More than half 52 (60.5%) did not know whether the use of condom during sexual intercourse reduces the risk of getting cervical cancer. Meanwhile 24 (27.9%) of them agreed that using condom during sexual intercourse can reduce the risk

of cervical cancer while 10 (11.6%) disagreed. Table 4.5 presents details of respondents' knowledge about prevention of cervical cancer.

Table 4.5: Knowledge of preventive factors of cervical cancer

Variable	Frequency (n =86)	Percentage (%)
Cervical cancer can be prevented		
Yes	69	80.2
No	17	19.8
Regular screening reduces risk of cervical cancer		
Yes	48	55.8
No	36	41.9
Don't know	2	2.3
Vaccination can prevent cervical cancer		
Yes	19	22.1
No	67	77.9
Use of condom during sex can prevent cervical cancer		
Yes	24	27.9
No	10	11.6
Don't know	52	60.5

4.4.3 Knowledge of signs and symptoms of cervical cancer

The study sought to assess the knowledge of respondents' relative to signs and symptoms they would consider suggestive of cervical cancer. Participants chose from range of multiple signs and symptoms and their responses are illustrated in table 4.5. Majority 32 (37.2%) reported no knowledge of signs and symptoms while 29 (33.7%) identified abnormal menstrual bleeding as a sign and symptom of cervical cancer. 14 (16.3%) and 9 (10.5%) identified bleeding between sexual intercourse and foul vaginal discharge as signs and symptoms of cervical cancer respectively.

Table 4.6: Multiple response on knowledge of signs and symptoms of cervical cancer

Variable	Frequency	Percentage (%)
Abnormal menstrual bleeding	29	33.7
General body pains	21	24.4
Bleeding between sexual intercourse	14	16.3
Itching of the vagina	8	9.3
Foul vaginal discharge	9	10.5
Don't know	32	37.2

4.5 Screening for cervical cancer

Eighty-four (97.7%) have never screened for cervical cancer out of the 86 respondents who reported awareness of cervical cancer while only 2 (2.3%) have ever screened for the disease. The Pap smear was the only method of screening used by the two young female adults who have ever screened for cervical cancer.

4.5.1 Willingness to screen

Among respondents who have never screened for cervical cancer, the study assessed their willingness to screen for the disease. The results showed that, majority 76 (90.5%) of them were willing to screen for cervical cancer while only 8 (9.5%) were not willing to screen.

4.5.2 Background characteristics and willingness to screen

As shown in table 4.7 below, there was no significant association between the background characteristics of study participants and willingness to screen for cervical cancer.

Table 4.7: Bivariate analysis between Background characteristics and willingness to screen

Variable	Willingness to screen		df	χ^2	P-value
	Yes- n(%)	No- n(%)			
Age			3	2.71	0.439
22-25	31 (83.8)	6 (16.2)			
26-30	34 (94.4)	2 (5.6)			
31-34	4 (100.0)	0 (0.0)			
35-39	7 (87.5)	1 (12.5)			
Marital status			1	3.24	0.072
Single	41 (95.4)	2 (4.6)			
Married	35 (83.3)	7 (16.7)			
Educational level			4	7.74	0.101
Tertiary	16 (100.0)	0 (0.0)			
SHS	34 (94.4)	2 (4.6)			
JHS	15 (75.0)	5 (25.0)			
Primary	4 (80.0)	1 (20.0)			
None	7 (87.5)	1 (12.5)			
Occupation			2	2.18	0.336
Formal	19 (95.0)	1 (5.0)			
In-formal	49 (86.0)	8 (14.0)			
Unemployed	7 (100.0)	0 (0.0)			
Religion			1	1.67	0.196
Christianity	34 (94.4)	2 (5.6)			
Islam	42 (85.7)	7 (14.3)			

4.5.3 Bivariate analysis of predictors of willingness to screen

In bivariate analysis, there was no association between willingness to screen and independent predictors as illustrated in table 4.8.

Table 4.8: Bivariate analysis of predictors of willingness to screen

Variable	<u>Willingness to screen</u>		df	χ^2	P-value
	Yes-n(%)	No-n(%)			
Multiple sex partners can cause cervical cancer	76 (89.4)	9(10.6)	1	0.00	0.987
Cervical cancer can be prevented	76(89.4)	9(10.6)	1	0.03	0.860
Unprotected sex can cause cervical cancer	76(89.4)	9(10.6)	1	0.08	0.778
Regular screening can reduce risk of cervical cancer	76(89.4)	9(10.6)	3	0.25	0.970
HPV causes cervical cancer	76(89.4)	9(10.6)	2	1.05	0.593
Condom use can prevent cervical cancer	76(89.4)	9(10.6)	2	4.25	0.119

4.5.4 Predictors of willingness to screen

A bivariate analysis done to identify independent variables associated with willingness to screen. The results showed no significant independent predictors of willingness to screen as illustrated in table 4.9.

Table 4.9: Logistic regression of selected independent variables on willingness to screen

Variable	Willingness to screen	Unadjusted OR(95%CI)	Adjusted OR(95%CI)
Multiple sex partners can cause cervical cancer	Yes	1.01(0.25-4.06)	0.75(0.08-6.67)
	No	1.00	1.00
Cervical cancer can be prevented	Yes	0.86(0.16-4.57)	0.81(0.07-9.20)
	No	1.00	1.00
Unprotected sex can cause cervical cancer	Yes	1.23(0.28-5.31)	0.85(0.06-11.85)
	No	1.00	1.00
Regular screening can reduce risk of cervical cancer	Yes	1.00(0.50-1.99)	0.87(0.35-2.21)
	No	1.00	1.00
HPV causes cervical cancer	Yes	0.38(0.04-4.11)	1.29(0.11-15.36)
	No	1.00	1.00
Condom use can prevent cervical cancer	Yes	1.77(0.84-3.76)	2.73(0.89-8.32)
	No	1.00	1.00

4.5.5 Reasons for unwillingness to screen for cervical cancer

Among participants who were not willing to screen, the reasons for their unwillingness was examined. Figure 4.2 show results of participants' reasons of unwillingness to screen for cervical cancer.

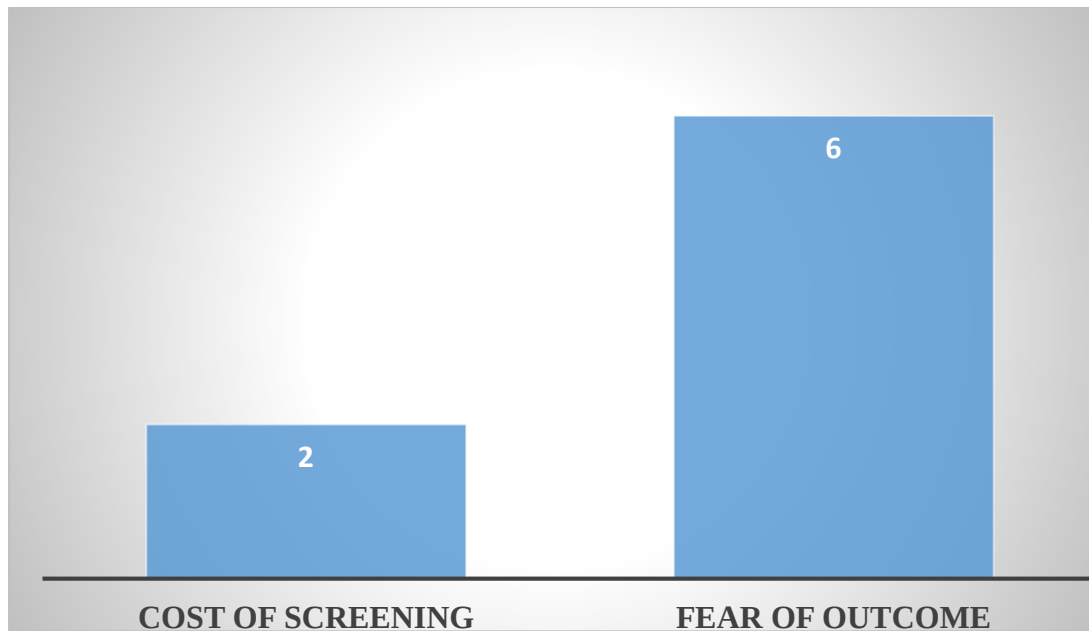


Figure 4.2: Reasons for unwillingness to screen for cervical cancer.

4.6 Determinants of awareness of cervical cancer

At the time of the study, young female adults aged 35-39 years were 3.79 times more likely to be aware of cervical cancer compared to young female adults of less age groups (OR = 3.79, 95%C.I. 1.44-10.00) in bivariate analysis. Similarly, young female adults who were married had increased odds of being aware of cervical cancer relative to those who were not (OR = 2.29, 95%C.I. 1.39-3.77).

As depicted in table 4.9, young female adults with no level of formal education were significantly less likely to be aware of cervical cancer compared to those who had some level of formal education (OR = 0.05, 95% C.I. 0.02-0.17). In bivariate analysis, occupation of young female adults was not significantly associated with cervical cancer awareness, but in multivariate analysis, young female adults who were engaged in informal occupation were significantly more likely to be aware of cervical cancer than those who were in formal occupation or unemployed (OR = 2.99, 95%C.I. 1.46-6.12).

Table 4.10: Logistic regression of awareness of cervical cancer on socio-demographic factors

Variable	Ever heard about cervical cancer	
	Unadjusted OR (95% CI)	Adjusted AOR (95% CI)
Age		
22-25	1.00	1.00
26-30	1.49 (0.88-2.51)	1.15 (1.18-7.32)
31-34	3.37 (0.86-13.18)	4.90 (0.26-91.63)
35-39	3.79 (1.44-10.00)**	0.19 (0.01-2.86)
Marital Status		
Single	1.00	1.00
Married	2.29 (1.39-3.77)**	1.16 (0.22-6.17)
Educational level		
Tertiary	1.00	1.00
SHS	0.14 (0.05-0.36)***	7.15 (0.14-352.89)
JHS	0.18 (0.07-0.48)**	0.47 (0.01-14.99)
Primary	0.08 (0.02-0.29)***	4.87 (0.01-315.15)
None	0.05 (0.02-0.17)***	6.31 (0.04-900.53)
Occupation		
Formal	1.00	1.00
In-formal	1.33 (0.75-2.36)	2.99 (1.46-6.12)**
Unemployed	0.51 (0.20-1.30)	1.14 (0.42-3.09)
Religion		
Christianity	1.00	1.00
Islam	0.76 (0.46-1.24)	1.14 (0.65-1.98)

Notes: **Denote p-value < 0.05 and *p-value<0.005**

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter provides summary of major findings based on the objectives. The study found low (76%) awareness of cervical cancer among study participants. However, there was high (90.5%) willingness to screen for cervical cancer among respondents.

5.1 Socio-demographic characteristics of study participants

The general age characteristic of the study population as found in the study could be described as younger since over ninety percent of them were between age 22 and 25 years. This age characteristic was similar to sample characteristics in terms of age reported by other studies. For instance a study in Ghana to examine knowledge and health beliefs among college students about cervical cancer screening found that the age range of the majority of respondents were between 21 and 25 years (Abotchie & Shokar, 2009). Makwe, Ihuoma & Odeyemi (2012), in their study in Nigeria also reported that majority of respondents were below 26 years of age. On the other hand, a study in Taiwan found that the largest proportion of women who participated in the study were 30–39 years old(Chen et al., 2014).

5.2 Awareness of Cervical Cancer

This study revealed a very low awareness of cervical cancer among young female adults in the Madina Zongo. Only 24% of the study participants reported that they had ever heard about cervical cancer. This is less than half of what was obtained in other studies. For example, in Nepal, a study conducted on knowledge and awareness of Human Papillomavirus (HPV), Cervical Cancer and HPV Vaccine among Women in two

Distinct Nepali Communities reported that more than half (53.3%) of the women who participated were aware of cervical cancer (Johnson, Bhatta, Gurung, Lhaki, & Shrestha, 2014), while Makwe, Ihuoma & Odeyemi (2012), found in their study among female students of the university of Lagos that 56.4% were aware of cervical cancer.

More striking in the differences in findings is the fact that, there is a lot of similarities in terms of study participants between the study done in Nigeria and this study. While this study included 360 young female adults, the Nigeria study recruited 362 female students yet there was low awareness found in this study. The difference could thus be attributed to the fact that the participants in the Nigerian study were female students of a university while those in this study were young female adults of a zongo community. Therefore, although there might be similarities in terms of sample size and age characteristics of participants in both studies, the participants in the Nigeria study being university students were more likely to be aware of cervical cancer than participants in this study. This is further supported by findings in this study to the effect that participants who had tertiary education were more likely to be aware of cervical cancer compared to those of lower educational attainment.

However, similar to the low awareness about cervical cancer found in this study, Abudukadeer et al., (2015) in their study of knowledge and attitude of Uyghur women in Xinjiang province of China related to the prevention and early detection of cervical cancer reported that overall, very less proportion of participants (27.0%) had heard of cervical cancer. Other studies in Ghana also reported that majority of the participants indicated that they had never heard of cervical cancer (Williams & Amoateng, 2012; Opoku et al., 2016).

Meanwhile Perlman et al., (2014) in a systematic review of knowledge and awareness of HPV vaccine and acceptability to vaccinate in Sub-Saharan Africa revealed that fifteen studies examined awareness of cervical cancer among specific demographic groups and the results showed that levels of awareness of cervical cancer were mixed with 11 studies demonstrating high awareness, nine studies demonstrating low awareness and two studies demonstrating moderate awareness. The varied differences found in literature with regards to cervical cancer awareness in comparison to this study indicates that, the level of awareness about cervical cancer differs across different areas.

The television emerged from this study as the dominant medium through which young female adults became aware of cervical cancer. The radio was listed by participants as the second highest in terms of source of information on cervical cancer awareness. This confirms report by Modibbo et al. (2015) in their study of barriers to cervical cancer screening among Nigerian women that the most common means of hearing about cervical cancer was through the mass media. In contrast, friends as a source of awareness about cervical cancer was reported as the main medium through which women in China became aware of cervical cancer (Abudukadeer et al., 2015). Interestingly, the hospital was not among the first four sources of information on cervical cancer. This suggests that hospitals and other health care service providers may not be doing enough in terms of awareness creation relative to cervical cancer either at the facility level or at the community level. This is further corroborated by a study in Nigeria which also found that, even among women who were booked for antenatal care and had attended antenatal care for more than once, majority of them stated that they have never heard about cervical cancer (Ndikom & Ofi, 2012). Yet qualitative study among Nigerian women reported that together with the mass media, health talks from healthcare workers in hospitals was cited as the common source of their awareness about

cervical cancer (Modibbo et al., 2016). Surprisingly, the community or social club meetings were cited as a source of information on cervical cancer more than the hospital, newspapers/ magazines and posters/banners in this study and this could be explained by the nature of the study setting and study population. Being a Zongo community, community and social club meetings are common features and activities characteristic of such settings involving mostly the youthful segments of the populations of those areas. These gatherings are often a good platform for interaction and information sharing on various facets of life including health related issues.

Moreover, the low citation of the newspapers/magazines and posters/banners as sources of information on cervical cancer as found in this study could also indicate that the print media as an avenue for information dissemination was not being utilized frequently in creating awareness about cervical cancer.

The study examined association of study participants' background characteristics with awareness of cervical cancer and found age ($p < 0.002$), marital status ($p < 0.009$) and educational level ($p < 0.001$) as significantly associated with awareness of cervical cancer. However, these were not significant in multivariate analysis. Similarly Abudukadeer et al., (2015) found association between age and educational level as background characteristics of study participants and awareness of cervical cancer. They reported that women who had undergraduate or higher level of education had more awareness of cervical cancer, that is, 30.0% as compared to the women with lower level of education. So, a significant difference was found in the educational levels of the participants with different levels of awareness about cervical cancer ($P < 0.05$). Age was also statistically significant ($P < 0.05$). Marital status was however not associated with awareness of cervical cancer as opposed to that found in this study. These findings

indicates that as women advance in age and education, their chances of being aware of cervical cancer increases.

5.3 Knowledge of Cervical Cancer

The study further examined the level of knowledge of participants who indicated that they had ever heard about cervical cancer. In terms of their knowledge on predisposing factors of cervical cancer, more than half of those who reported awareness of cervical cancer showed good knowledge regarding sexual promiscuity and getting cervical cancer. They agreed that a woman who has multiple sexual partners is predisposed to cervical cancer. This finding is instructive since the HPV which is known to cause cervical cancer is transmitted through sexual intercourse. Overwhelming majority (89.5%) of them did not agree that the age of a woman is a predisposing factor. This shows very low knowledge and this has implications for the recommended age at which women should begin screening for cervical cancer and also implications for utilization of the HPV vaccine. The vaccine is now available for vaccination of young girls who have no sexual exposure. Majority of them also believed that having unprotected sexual intercourse predisposes one to the disease while almost all of them indicated that they did not know whether HPV causes cervical cancer or not indicating poor knowledge of the link between HPV and development of cervical cancer. On the other hand, there was better awareness of sexual experience and cervical cancer, including the influence of the number of previous partners similar to findings in this study (Abotchie & Shokar, 2009). However, while certain risk factors have been noted to be associated with cervical cancer development which includes hereditary (Williams et al., 2013), this study found that majority of women who reported being aware of cervical cancer disagreed that hereditary is a risk or predisposing factor to cervical cancer development. Thus,

participants of this study who may have family members with the disease are likely not to undertake preventive measures so as to ensure early detection since they do not believe cervical cancer could be hereditary.

With respect to knowledge of participants on prevention of cervical cancer, there was widespread knowledge among young female adults in this study about the fact that cervical cancer can be prevented with over eighty percent of those who had awareness of cervical cancer agreeing that cervical cancer can be prevented. Regular screening as a preventive measure was identified by more than half of the participants who reported awareness of cervical cancer and this is significant considering the low utilization of the two screening methods (PAP smear and VIA) available in Ghana (Opoku et al., 2016). This corroborates the findings of Arulogun and Arabunmi(2012), that analysis of knowledge of prevention of cervical cancer among study participants revealed that about 50% opined that regular screening can be used to prevent cervical cancer. The similarity in finding is rather interesting considering the vast difference in the study participants. While participants in the study done by Arulogun and Arabunmi (2012) were all nurses and thus health workers and thus are expected to be more knowledgeable than women in the community, more than half of the participants in this study attained only SHS education.

Surprisingly, this study found that majority 67 (77.9%) of young female adults who were aware of cervical cancer at the time of the study indicated that vaccination does not prevent one from getting cervical cancer. This shows very low knowledge in terms of the HPV vaccine which is presently available for vaccination against cervical cancer. This is contrary to findings by Maharajan et al., (2015) that majority of young female students knew that HPV vaccine prevents cervical cancer. Meanwhile, despite majority agreeing that sexual promiscuity is a predisposing factor, over sixty percent did not

know whether the use of condom during sexual intercourse reduces the risk of getting cervical cancer thus putting those who have multiple sexual partners at risk.

In terms of knowledge of cervical cancer among study participants relative to signs and symptoms, majority reported not having knowledge of any signs and symptoms of the disease. This finding is in keeping with a study conducted among primary school teachers in Kenya. The study sought to find out to know if the women knew of the signs and symptoms of cervical cancer. The majority of the women were not aware of the common signs and symptoms of cervical cancer (Ombech et al, 2012). Other participants however, mentioned foul vaginal discharge, abnormal menstrual bleeding as well as bleeding between sexual intercourse among others. This is consistent with results of a study which found that participants who reported knowledge of the signs and symptoms of cervical cancer mentioned bleeding between periods/menses, smelly vaginal discharge, pain and discomfort during sex, heavy menstrual period, vaginal bleeding after menopause, and bleeding during or after sexual intercourse (Ombech et al, 2012).

5.4 Screening for Cervical Cancer

Despite the fact that more than half of the participants with awareness of cervical cancer in this study recognized regular screening as a preventive measure, only 2 (2.3%) of them ever screened for the disease using pap smear. This confirms findings that despite the high prevalence of cervical cancer in developing countries, studies have shown that screening for the disease is very low (Assoumou, Mabika, Mbiguino, & Mouallif, 2015). On the other hand, the fact that almost 91% of the over 97% who had never screened for cervical cancer were willing to screen indicates high level of willingness by the young female adults to screen for cervical cancer. This is comparable to findings in

another study in Nigeria (Ndikom & Ofi, 2012). Botchie and Shokar (2009) also found in their study that about half of study participants stated that they would be willing to obtain the cheaper alternative cervical cancer screening using visual inspection and mild acetic acid, if a doctor recommended it. It was obvious among those unwilling to seek screening for cervical cancer that, the dominant reason was fear of the outcome rather than cost and this was also reported by Arulogun and Alubunmi, (2012) that fear of the results was among the reasons cited by study participants who had never gone for screening.

5.5 Limitations to the study

Due to time constraints few hours were spent in the community during every interview session and the available eligible participants were interviewed but there could have been young female adults who were equally eligible and could even been aware and knowledgeable on cervical cancer but unavailable during the interview sessions.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 Summary

The aim of the study was to examine the awareness of cervical cancer among young female adults of Madina Zongo and to determine their willingness to screen. Cross-sectional design was used for the study. The modified random walk method and random sampling was used to recruit 360 young female adults into the study. Well-structured questionnaire was designed and used to collect data from respondents. The data collected was cleaned, coded and entered into Microsoft Excel and exported into STATA version 14 for analysis. The conclusions drawn from the study are presented below.

6.2 Conclusion

The study found that there was low awareness of cervical cancer among young female adults of the Madina Zongo. However, there was good understanding of the predisposing factors of cervical cancer among participants who reported awareness of cervical cancer especially in relation to sexual behavior and many of them think cervical cancer can be prevented. There was also poor knowledge of preventive measures and signs and symptoms of the disease

The age, marital status and educational levels of young female adults in the study area were found to have strong association with awareness of cervical cancer and willingness to screen for cervical cancer was high.

6.3 Recommendations

The following recommendations were made in view of the findings of the study.

6.3.1 Government

The government should develop and incorporate into the NHIS, a policy on free screening for cervical cancer since willingness to screen was found to be high among study participants. This will enable young female adults to screen for the disease without being deterred by the cost of screening.

6.3.2 Healthcare Facilities

In light of the low awareness of cervical cancer and the fact that less number of participants identified the healthcare facility as their source of information on cervical cancer, all healthcare facilities should undertake regular outreach programs within surrounding communities to create awareness about the disease and educate them on the need for regular screening.

6.3.3 Future Research

There is the need for future research into the factors responsible for low awareness of cervical cancer among young female adults.

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APPENDICES

Appendix A: Participant's Consent Form

**School of Public Health
College of Health Sciences
University of Ghana**

Research Topic: Awareness of cervical cancer and willingness to screen among young female adults in Madina Zongo, Accra.

Introduction

My name is and I am working with (Ms) Franklina Aboagye, a student pursuing Masters in Public Health in the School of Public Health, University of Ghana. We are conducting a research on Awareness of cervical cancer and willingness to screen among young female adults in Madina Zongo, Accra. . This is an academic research, which forms part of the requirements for the award of a Masters degree in Public Health. It will be appreciated if you could participate in this study.

Voluntary Participation

Your participation in this study is entirely voluntary and you can choose not to be part of the research without any consequences to you. However, I will encourage you to fully participate in the study since your opinions are important in this study.

Procedures

If you agree to be part of this research, you will be answering questions from a four (4) page questionnaire for about 30 minutes. You will be asked questions about yourself (such as your age, your level of education, religion) your awareness and knowledge about cervical cancer and whether you have screened or are willing to screen for cervical cancer in the next

one year. You can decide not to answer a question you don't want to give responses to or if the questions are embarrassing without any consequences to you.

Risk and Benefits

There will be no direct benefits to you for taking part in this study however, your response may be of help in coming out with the true picture of the subject under investigation. This may aide in policy decisions to improve reproductive health care of all women. Since you are answering only questions there will not be any harm to you.

Compensation

You will not be paid any money for taking part in this research but you will be given some refreshment (bottle of drink). You don't have to pay anything for taking part in this study and you don't have to pay anything for participating in this research.

Confidentiality

Every single information you provide will be held in absolute confidence and data collected in this research are strictly for research purposes and will be stored with passwords on electronic media and in safely locked boxes. Access to the data will be limited strictly to the researcher. We are not going to put your name on any identifiable document. Anonymity will be ensured in dissemination of findings from this study in the community.

Ethical Approval

The study has been reviewed and approved by the Ghana Health Service Ethical Review Committee (GH-ERC). This committee is there to ensure that participants in researches are protected from harm and their rights are respected. In case of any concern you can contact the Ethics Administrator, Miss Hannah Frimpong, GHS/ERC on: 0243235225 / 0507041223.

Participant's Consent Form

I have read the foregoing information/ the foregoing information has been read to me or translated to me in a language that I understand and I have fully understood it. I consent voluntarily to participate in this study (For participants less than 18 years, consent must be obtained from one of the parents or guardian)

(Name and signature of a witness should be provided in a case where the participant cannot speak or read English)

Signature/thumbprint: _____

Name of witness: _____

Signature/thumbprint of witness: _____

Interviewer's Statement

I, the undersigned (your name), have explained this consent form to the participant in simple language that she/he understands, clarified the purpose of the study, procedures to be followed as well as the risks and benefits involved. The participant has freely agreed to participate in the study.

Signature of interviewer

Date / /

Address:

Telephone number:

Email address:

In case of any concern you can contact the Ethics Administrator, Miss Hannah Frimpong, GHS/ERC on: 0243235225 / 0507041223.

Appendix B: Questionnaire

Questionnaire on awareness of cervical cancer and willingness to screen among young female adults in Madina Zongo, accra. Serial No

This questionnaire is to collect data on awareness of cervical cancer and willingness to screen among young female adults in Madina Zongo, Accra. I will be grateful if you could make time to complete it. Every piece of information will be held in absolute confidence.

Thank you

Date.....

Interviewer.....

Please fill in the blanks and mark (✓) unless otherwise indicated.

SECTION 1: SOCIO-DEMOGRAPHIC DATA

1. Age (at last birthday)
2. Marital status a. Single (never married) [] b. Married [] c. Divorced/Separated [] d. Living together [] e. Widowed []
3. Educational level a. Tertiary [] b. Secondary [] c. JHS [] d. Primary [] e. None []
4. What is your occupation?.....
5. What is your average income per month?(GHS)
6. Religion: a.Christian [] b.Muslim [] c.Traditional [] d. Others []

SECTION 2: AWARENESS OF CERVICAL CANCER

7. Have you heard about cervical cancer before? Yes [] No [] If No, END.

8. If yes, from where did you hear about cervical cancer? a. Radio [] b. Television []
c. Hospital [] d. Friends [] e. Posters/banners [] f. Newspapers/Magazines [] g.
Community /Social club meetings []

SECTION 3: KNOWLEDGE

9. The following are some of the things that can increase a person's chance of developing cancer. Indicate by ticking YES or NO whether you agree or not that each of these can increase a person's chance of developing cervical cancer

A. Multiple sexual partner Yes [] No []

B. Age Yes [] No []

C. Hereditary Yes [] No []

D. Unprotected sexual intercourse Yes [] No []

10. Human Papillomavirus (HPV) is the main cause of cervical cancer

a) True []

b) False []

c) Don't know []

11. Cervical cancer can be prevented? Yes [] No []

12. Vaccination can prevent cervical cancer Yes [] No []

13. Regular screening can reduce the risk of cervical cancer

a) Yes []

b) No []

c) Don't know []

14. Using condom during sex can reduce risks of cervical cancer

a) Yes []

b) No []

c) Don't know []

15. What are the signs and symptoms of cervical cancer? Multiple answers allowed

- a) Abnormal menstrual bleeding []
- b) Pain in the entire body []
- c) Bleeding between menstrual period []
- d) Itching of the vagina []
- e) Foul vaginal discharge []
- f) Don't Know []

SECTION 4: SCREENING FOR CERVICAL CANCER

16. Have you ever screened for cervical cancer? Yes [] No [] if No, go to 18

17a. If YES, which method?

17b. If YES, how many years have passed since you last screened? [] years

18. If No, are you willing to screen for cervical cancer within the next one year? Yes[]No

19. If No, what are your reasons?

- a. Cost of screening []
- b. Fear of the outcome []
- c. Process is embarrassing []
- d. Difficulty in assessing screening services []
- e. Others (Please specify).....

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