

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



**KNOWLEDGE ON CERVICAL CANCER AND CERVICAL CANCER SCREENING
AMONG WOMEN ATTENDING AGOGO PRESBYTERIAN HOSPITAL, ASHANTI
REGION**

**BY
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DECLARATION

I, Comfort Kyeiwaa declare that this dissertation is my original work with the exception of references to the literature and work of other researchers which have been duly cited.

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.....

.....

Date

Date

DEDICATION

This work is dedicated to the Most High God, His son Jesus Christ and to the Holy Spirit, my inspirer.

Also to my dear husband “Mr. Appiagyei Sarpong and lovely kids, Afrifa, Aboagyewaa, Okyere-Boapea and Aseda Appiagyei who made a lot of sacrifices to make this entire programme a success.

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ABSTRACT

Introduction: Cancer of the cervix is said to be the commonest cancer second to breast cancer worldwide yet it causes the highest cancer deaths occurring among women. Cervical cancer prevalence rate remains very high in most developing countries including Ghana despite the introduction of its prevention as well as treatment options. The study therefore sought to assess the knowledge and awareness of cervical cancer and cervical cancer screening among these women in the Asante Akim area.

Methods: The study was a cross-sectional study which was carried out at the Agogo Presbyterian Hospital employing a quantitative approach. Three hundred and forty one women were randomly selected to be part of the study. The data was collected using an interview with a structured questionnaire and analyzed using STATA version 15. Continuous variables such as age were summarized using descriptive statistics and were expressed as means as well as standard deviation, whilst categorical variables were summarized into frequencies and percentages.

To assess the relationship and strength of association between the independent and the dependent variables, the Fisher's exact test analysis was used.

Results: Based on the responses received, cervical cancer and screening awareness level was low with a percentage of 20.4% and the percentage of women with adequate knowledge among those who were aware of cervical was equally low with 25.0%. The main source of cervical cancer information as elicited by the study was the media consisting of radio, television and internet. The study also reported low cervical cancer screening uptake with a percentage of 2.9% and also found out that majority of the women (54.4%) did not intend or had not decided to go for the cervical cancer screening which was largely due to low cervical cancer and screening

knowledge and awareness. The results show that educational status, type of occupation as well as access to information and services are statistically significant in determining the individual respondents' awareness and knowledge level regarding cervical cancer and screening, with a P-value of 0.001, 0.000 and 0.011 respectively.

Conclusion: Cervical cancer knowledge and awareness level is low among reproductive aged women attending the Agogo Presbyterian Hospital. Hence there is the need to implement strategic interventions to help increase the awareness and knowledge level among women in the Asante Akim district and its environs.

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LIST OF ABBREVIATIONS

ACS	American Cancer Society
AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Clinic
CC	Cervical Cancer
CCS	Cervical Cancer Screening
CWC	Child Welfare Clinic
GHS	Ghana Health Service
HIV	Human Immuno- Deficiency Virus
HPV	Human Papilloma Virus
NHIS	National Health Insurance Scheme
OPD	Out Patient Department
PNC	Post Natal Clinic
STI	Sexually Transmitted Infections
VIA	Visual Inspection with Acetic Acid
WHO	World Health Organization

DEFINITION OF TERMS

Knowledge: This implies where a woman knows what cervical cancer is, the cause of cervical cancer, its risk factors, signs and symptoms, prevention, treatment as well as screening methods and centers.

Awareness: This implies whether a woman has ever heard about cervical cancer as well as cervical cancer screening before.

CHAPTER ONE

1.0. INTRODUCTION

1.1. Background

Cervical cancer is said to be the number one cause of cancer death among Ghanaian women. Williams and Amoateng, (2012), reported that cervical cancer prevalence and its associated death rates in the country include the highest rates in the world. They mentioned that the rapidly increasing rates are in contrast with rates in the developed countries which have been decreasing.

The World Health Organization (WHO) reported that about more than a million women all over the world are currently having Cervical Cancer. It also documented that 528,000 new cases of the cervical cancer were diagnosed in 2012 and 266,000 women died out of the disease and also an estimated 90% of all cancer cases and death occurs in the Low-to-Middle-income countries, with a projected rise of about 25% over the next 10 years (WHO, 2014).

The knowledge of cervical cancer and seeking help early could decrease the morbidity and mortality associated with the disease. The correct knowledge and awareness level as well as proper attitudes are important factors for embracing healthy lifestyles that will affect human behaviours and cause people to accept newly introduced preventive measures (Azam, 2016).

With regards to cervical cancer, deficits in knowledge of signs and symptoms, risk factors as well as prevention at both the primary and secondary level has been established in studies conducted in most developed and developing countries (Mutambara et al., 2017; Ebu et al., 2015; Adanu et al., 2013). Adequate knowledge of cervical cancer remains relatively low with percentages as low as 28% in Ghana; (Ziba et al., 2015; Ebu et al., 2015; Adanu et al., 2013);

31% in Ethiopia (F. Getahun et al., 2013, Shiferaw et al., 2016; Mulatu et al., 2017) and 23% in Nigeria (Ingwu et al., 2016; Mwaka, 2016).

Lack of cervical cancer and screening knowledge and awareness is said to be a major setback to the timely detection and treatment or prevention of cervical cancer and its associated complications (Kessler, 2017). Majority of women report cases of cervical cancer to the hospital when the disease have progressed due to inadequate knowledge on cervical cancer, its seriousness and available interventions. A study conducted in Elmina reported that majority (68.4%) of the respondent were not aware of cervical cancer, 93.6% did not know about cervical cancer risk factors whilst 92% had no knowledge with regards to the prevention and treatment of cervical cancer (Ebu et al., 2015).

Studies have suggested that, various factors including marital status, occupation and level of education among some other factors such as misconceptions, negative beliefs and other social barriers including partner refusal and cost have a stronger relationship with knowledge on cervical cancer and screening among women (Chinaka et al., 2013; Ebu et al., 2015).

The study therefore sought to assess the knowledge and awareness of cervical cancer and cervical cancer screening among women attending the Agogo Presbyterian Hospital.

1.2. Problem Statement

Cervical cancer is the cancer that affects the uterine cervix of women. Studies conducted worldwide have shown the grave consequences of cervical cancer on women's health and on the world's population as a whole. Globally, as reported by the ICO HPV (2017a), cervical cancer is ranked fourth among the most common cancers that affects women. A worldwide population of 2,784 women aged 15years and above stands the risk of contracting cervical cancer. The present

estimated annual incidence as well as mortality figures of cervical cancer are 527,624 and 265,672 respectively (ICO/ HPV, 2017a).

Cervical cancer epidemics is said to affect one of the most vulnerable population worldwide, thus women living in the Low-to-Middle-Income-Countries (Huchko et al., 2015); with annual incidence and mortality of 27,326 and 16,546 respectively (ICO/HPV, 2017a).

The cervical cancer incidence and associated mortality rates in Ghana is ranked highest among all cancer cases, with annual incidence of 3,052 as well as annual mortality of 1556 (28.3%), thus cervical cancer is the leading cause of female cancer and also the commonest female cancer among women aged 15 to 44 (ICO/HPV, 2017b).

A research conducted to determine the cervical cancer prevalence and the challenges of expanding cervical cancer screening in the Ashanti Region, established that Agogo in the Asante Akim North District has a higher cervical cancer prevalence rate of 12.6% as compared to that of Nkawie in the Atwima Nwabiagya District who had prevalence rate of 3.5% (Roberts & Maclaughlin, 2016).

Ghana as a developing country faced with increased cervical cancer incidence and mortality rates have major issues regarding knowledge and awareness on cervical cancer which is believed to have contributed to the reduced patronage of cervical cancer screening programmes as well as late treatment of the disease (Williams & Amoateng, 2012; Ziba et al., 2015).

In Ghana, several researches have established that the knowledge and awareness level of cervical cancer and screening is low even though there is high prevalence and mortality rates of cervical cancer (Adanu et al., 2013; Ebu et al., 2015; Ziba et al., 2015). These and other studies have reiterated the fact that lack of appropriate knowledge and information on cervical cancer, it's

prevention and treatment options significantly leads to late reporting to health facilities resulting in reduced prevention of the disease and high prevalence and mortality rates of cervical cancer in the country (William & Amoateng, 2012; Roberts & Maclaughlin, 2016).

The various studies that have been conducted in Ghana on cervical cancer knowledge and awareness, concentrated much in the major cities in the country such as Accra, Kumasi, Bolgatanga, and Elmina among others, with most studies among university students, healthcare workers and among men. There is therefore not much information regarding the level of knowledge and awareness among women in the peri urban communities. And with the relatively high cervical cancer prevalence in Agogo and its environs, there is the need to assess the level of cervical cancer knowledge and awareness as well as the influencing factors in these areas, hence the study sought to assess the knowledge and awareness of cervical cancer and cervical cancer screening among women attending the Agogo Presbyterian Hospital, in the Asante Akim North District of the Ashanti region, Ghana.

1.3. Conceptual Framework

A conceptual framework outlines the interaction of a number of factors which influences a programme, situation or an action. This conceptual framework was created by the author to suit the purpose of the study. The variables in this framework have been classified into dependent and independent variables for easy measuring of these variables. The dependent variable from the diagram is the knowledge and awareness of cervical cancer and cervical cancer screening among women and the independent variables are the various factors influencing cervical cancer knowledge and awareness. To lower the high incidence of cervical cancer morbidity and mortality, there is the need for women to undertake various preventive measures. The knowledge

and awareness on cervical cancer is the most significant factor that influences the adoption of these cervical cancer preventive measures.

The knowledge and awareness on cervical cancer and cervical cancer screening among women can be influenced by various factors such as; socio-demographic factors, access to information and health services, social norms, myths and misconception regarding cervical cancer as well as intentions to screen for cervical cancer.

Factors such as socio-demographic characteristics including age, marital status as well as educational status may expose women to health care information which may include information on cervical cancer and their utilization of cervical cancer preventive interventions. People with higher educational status may have more access to information channel like television (TV), internet, radio and other information media than people with lower educational status. Moreover, experiences such as pregnancy, child bearing, seeking for treatment for children or other medical conditions that a woman is likely to suffer from, which is associated with age and marital status increases women's visit to the health facility and this can also expose them more to information regarding cervical cancer. Women who are currently suffering from the condition or suffering from similar conditions, may have more knowledge on the condition than those who have not experienced it. Also the availability of healthcare personnel and facilities providing services regarding cervical cancer can influence a woman's knowledge and awareness of the condition. Furthermore some social norms including religious restrictions and cultural beliefs and practices causes fear and create some form of myths or misconceptions regarding cervical cancer among women. The community attitude and practices toward healthcare intervention may also influence their intention to seek for cervical cancer information. This could also affect their acceptance of information given to them regarding cervical cancer. In addition women's

intention to prevent cervical cancer will cause them to seek for information regarding cervical cancer.

All these individual factors influences women's the knowledge and awareness of cervical cancer.

The figure below presents the interrelation of the various factors that influence the knowledge and awareness on cervical cancer and cervical cancer screening among women.

CONCEPTUAL FRAMEWORK

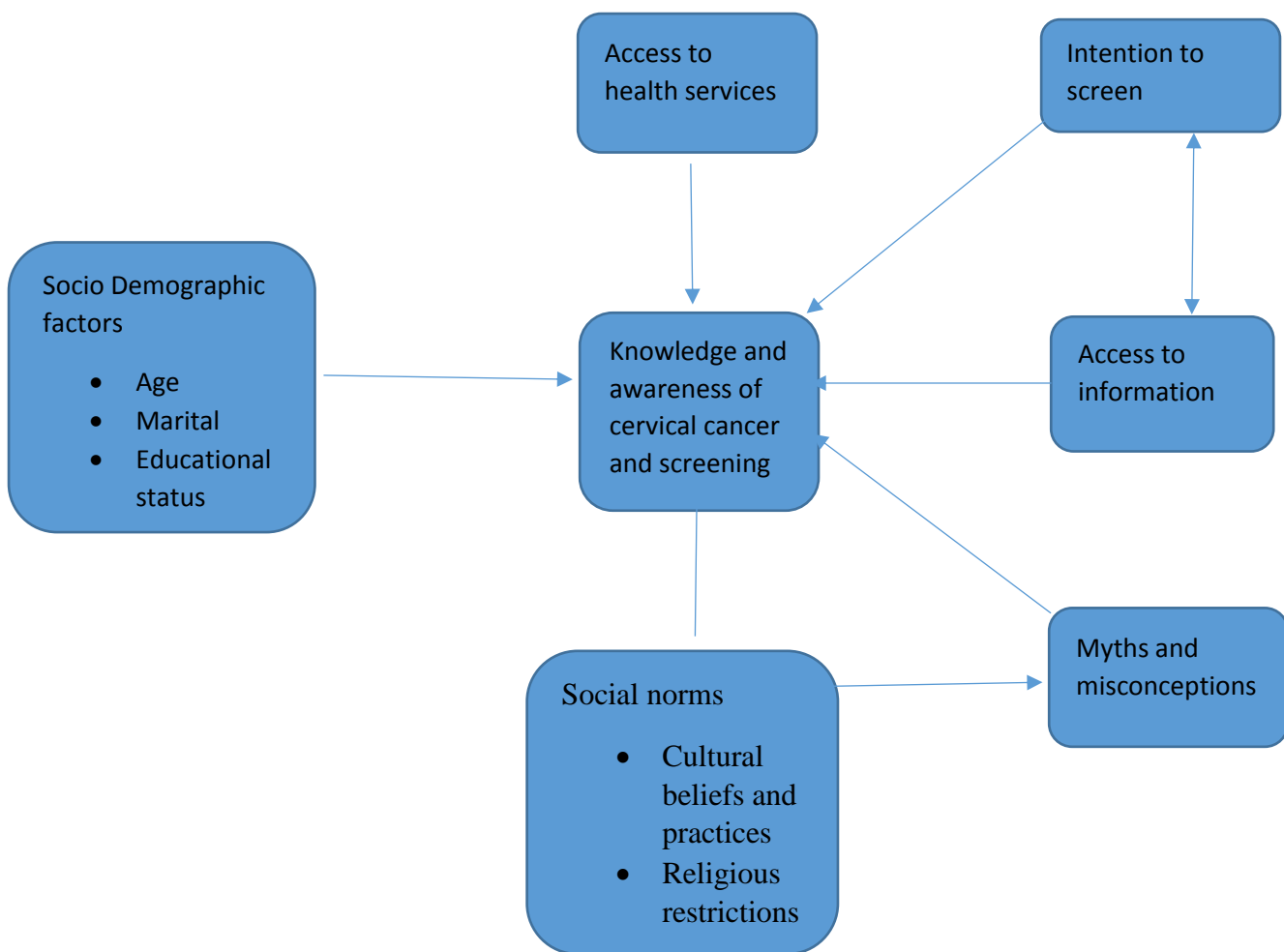


Figure 1: Conceptual framework

1.4. Justification

The consequences of cervical cancer morbidity and mortality in Ghana are very enormous as the incidence keeps increasing. Women within the reproductive age group, thus ages between 15 and 49 years stand a greater risk of developing cervical cancer. In view of this burden, strategies for preventing and reducing cervical cancer incidence and its associated mortalities must be geared towards early detection of the disease at its precancerous state before it progresses to the cancerous state where the prognosis is very poor and treatment is very expensive. In most developed countries where people have better knowledge about cervical cancer and seek help early, the incidence has decreased significantly, whereas in the developing countries including Ghana, where there is inadequate knowledge and awareness regarding cervical cancer, its prevention and treatment options; the incidence and mortalities rates keep on increasing at alarming rates. To achieve massive prevention and reduction in cervical cancer prevalence and mortality rates in the country, educating as well as creating awareness on cervical cancer and its prevention or early treatment must be first on the action plan.

In Ghana, even though studies suggest a low level of knowledge regarding cervical cancer, there is still limited data on the knowledge and awareness of cervical cancer, its cause, risk factors, symptoms and intervention among women in most peri urban communities including Agogo in the Asante Akim North district where there is a relatively high incidence of cervical cancer. The purpose of this study therefore was to explore the knowledge and awareness level of women attending the Agogo Hospital on cervical cancer, its cause and risk factors, symptoms, complications, prevention and treatment options and outcomes.

The study findings may apprise policy makers and stakeholders to help develop specific evidence-based interventions or strategies to promote and increase the education and

sensitization of women on cervical cancer and cervical cancer prevention and treatment options which will be aimed at reducing cervical cancer prevalence and mortality rates in Agogo, the entire Asante Akim area and in the country as a whole. Moreover with the paucity of information regarding awareness and knowledge on cervical cancer and cervical cancer screening in the peri-urban communities, the findings of this study have as well add to literature.

1.5. Research Objectives

1.5.1 General Objective

To assess the knowledge and awareness level of cervical cancer and cervical cancer screening and its influencing factors among women attending Agogo Presbyterian hospital.

1.5.2 Specific Objectives

1. To assess the knowledge and awareness level of women on cervical cancer and cervical cancer screening.
2. To identify the sources of information on cervical cancer among women.
3. To examine women's perception on social norms, myths and misconceptions regarding cervical cancer.
4. To examine the barriers to cervical cancer screening uptake.

1.5.3 Research Questions

1. What is the level of knowledge of cervical cancer among women attending Agogo Presbyterian Hospital?
2. What are the various sources of information on cervical cancer?
3. What are the perceptions of women on social norms, myths and misconceptions regarding cervical cancer?
4. What are the barriers to cervical cancer screening uptake?

CHAPTER TWO

2.0. LITERATURE REVIEW

2.1. Introduction

This chapter entails the review of the relevant literature to the study. It covers the various literature on knowledge and awareness of cervical cancer among women, access to cervical cancer information and health services, perception on cultural beliefs, practices and religion (social norms) as well as myths and misconception of women about cervical cancer. The literature have been arranged under headings in accordance with the research objectives and questions of the study as well as the conceptual framework. The review has been done around the following major themes; burden of cervical cancer, understanding cervical cancer, as well as factors influencing cervical cancer knowledge and awareness levels.

2.2. Burden of Cervical Cancer

Cervical cancer is a major global health concern. It generally affects the mouth of the womb (cervix). Cervical cancer according to Ferlay et al., (2013), is reported to be the third leading malignancy affecting women worldwide, thus after breast and colorectal cancer (Gelband et al., 2015). Studies conducted worldwide have shown the grave burden of cervical cancer on the health of women and on the world's population as a whole. The World Health Organization have estimated that over a million women all over the world presently have cervical cancer. In 2012, 528,000 new cases of cervical cancer were diagnosed, and 266,000 women died out of the disease (WHO, 2014; DHHK, 2016). Also an estimated 4,120 deaths from cervical cancer will occur in 2016 as established by the American Cancer Society. The disease is also ranked the fourth most common cancer among women worldwide (Sankaranarayanan, 2015; ICO/HPV, 2017a).

Cervical cancer is said to be the leading cause of cancer morbidity and mortality in Sub-Saharan African, with about 50,000 deaths (Adefuye et al., 2013). WHO, (2014) also estimated 90% of all cervical cancer cases and mortalities occurs in most Low-to-Middle-income countries, with a projected rise of about 25% over the next 10 years. Out of the 528,000 new cases and 266,000 deaths worldwide, 445,000 new cases and 230,000 deaths estimated to occur in Low-to-Middle-income countries, Sub-Saharan Africa, Asia, Central and South America, and the Oceania (Sankaranarayanan, 2015)

In Ghana according to ICO HPV, cervical cancer is ranked the first most frequent cancer among women between the ages of 15 and 44 years. It has also been established that 3052 women are diagnosed with cervical cancer and 1556 die from the disease (ICO HPV, 2017b; WHO 2012).

Cervical cancer is preventable and can also be treated to prolong women's lives if it is diagnosed early at the pre-cancerous stage. According to WHO, (2014), cervical cancer rates have gone down in most developed countries over the past three decades, which have resulted in decreased mortality rate by up to 60% to 90% (Sankaranarayanan, 2015). This is largely as a result of early screening and treatment programmes. Whereas rates in most developing countries have risen or remained unchanged. In Ghana for instance it has been estimated by WHO that cervical cancer cases may reach over 5,000 with at least 3,300 deaths by the year 2025 (Ubajaka et al., 2015).

It has been reported that the uptake of cervical cancer screening in Ghana is considerably low. According to Adanu et al., (2010), few women have undergone cervical cancer screening; thus only 2.1% of women have ever gone for cervical cancer screening and 14.3% women have reported for regular gynecological examination. From the Ghana Health Service Annual Report on Reproductive and Child Health, (2013), the number of women who had cervical cancer screening done from 2009 to 2013 were; 1083, 1088, 770, 1339 and 1064 respectively.

A study done to determine the prevalence of cervical cancer and challenges for expanding cervical cancer screening in the Ashanti region, established that Agogo in the Asante Akim North District has a higher cervical cancer prevalence rate of 12.6% as compared to that of Nkawie in the Atwima Nwabiagya District which was 3.5% (Roberts & Maclaughlin, 2016).

2.3. Understanding Cervical Cancer

Cancer in general according to the American Cancer Society, is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death (ACS, 2016).

Cervical cancer is the cancer that affects the uterine cervix (mouth of the uterus). Cervical cancer begins when healthy cells develops a genetic change (mutation) that causes them to turn into abnormal cells. Normal healthy cells grow and multiply at a set rate before eventually dying at a set time whereas cancerous cells grow and multiply out of control and they do not die. Cancer cells invade nearby tissues and can break off from a tumour to spread (metastasize) elsewhere in the body.

Cervical cancer presents with various types which includes squamous cell carcinomas, adenocarcinomas and adenosquamous carcinomas. The treatment and prognosis of cervical cancer is largely dependent on the type of cancer.

Most cervical cancers are squamous cell carcinomas and this type begins in the thin flat cells known as squamous cells which lines the outer part of the cervix and projects into the vagina.

A type of cervical cancer that has become frequent in the past twenty to thirty years is the Adenocarcinomas. This type usually starts in the column-shaped grandular cells that lines the cervical canal.

Furthermore there exist another type of cervical cancer which is less common and presents with characteristics of both squamous cell carcinomas as well as adenocarcinomas, hence the name Adenosquamous or Mixed carcinomas. In addition to these major types of cervical cancer, other types of cancers such as Melanoma, Lymphoma and Sarcoma can also develop in the cervix.

The ICO HPV have reported that a population of 2,784 women aged 15 years and above worldwide are at risk of developing cervical cancer. Of this total number according to this report, 2,240.4 are in the less developed countries whereas 544.4 are in the more developed countries (ICO HPV, 2017a).

According to the American Cancer Society, the cause of cervical cancer is not actually known, but it has been shown that frequent infections with some types of the Human Papilloma Virus (HPV) plays a major role in the development of cervical cancer (ACS, 2016). Moreover, current report from the ICO HPV indicate that the HPV infection is now a well-established cause of cervical cancer, with types 16 and 18 being responsible for about 70% of all cervical cancer cases worldwide (ICO HPV, 2017a). Other viral infections such as infection the Herpes simplex virus can also cause cervical cancer (ACS, 2016).

HPV is very common, even though most women with the virus never develop cervical cancer. This implies that other factors such as environmental factors and lifestyle choices also predisposes women to developing cervical cancer. These factors include having multiple sexual partners, early sexual activity, other sexually transmitted infections, low socioeconomic status, smoking, inadequate nutrition, douching, prolong use of oral contraceptives, as well as immunosuppression.

Women with greater number of sexual partners who also have multiple sexual partners have a higher risk of acquiring HPV. In addition having sex at an early age increases girls risk of being infected with HPV which might result in the development of cervical cancer (ACS, 2016).

Cervical cancer as documented by Arbin et al., (2011), is highly influenced by religious and cultural practices that controls sexual behaviour and HPV transmission. This is because according to them, in countries such as Libya, Sudan, Algeria and Tunisia where sexual behaviours are generally conservative, the incidence rates of cervical cancer reported are below 10 per 100.000 women whereas in countries such as Guinea, Malawi and Zambia, the incidence rate is over 50 per 100,000 women (Gelband et al., 2015).

As noted earlier the HPV infection is mostly sexually related, and in this regard some Sexually Transmitted Infections (STIs) including syphilis, chlamydia, gonorrhoea, and HIV/AIDS predisposes women to infection with HPV which might lead to cervical cancer. Other chronic infections of the cervix can also predisposes one to cervical cancer (ACS, 2016; ICO HPV, 2017a).

The incidence and death rates of cervical cancer are very high among the poor and marginalized women and also among relatively young women who often have many children. Cervical cancer may also develop in women who have never given birth. Moreover prolong use of oral contraceptives predisposes women to cervical cancer (ACS, 2016; Huchko et al., 2015).

In addition certain lifestyle behaviours thus smoking is also associated with cervical cancer more specifically squamous cell carcinoma. Cervical cancer can also occur as a result of exposure to radiations and some chemical toxins. Also women may be more likely to develop cervical cancer if their immune system is weakened by some health conditions such as HIV/AIDS. Lack of fruits

and vegetables in the diet resulting in deficiencies of vitamins A and C and folic acid can also predispose women to cervical cancer. Furthermore douching or inserting certain substances into the vagina can alter the normal flora and pH of the vagina and may be a predisposition to cervical cancer (Laura & Martin, 2018; Small et al., 2017).

Pre-invasive cervical lesions usually are symptomless. When the abnormal cell multiply and become more cancerous, they invade other tissues and causes symptoms. One major symptom associated with cervical cancer is vaginal bleeding that occurs during or after intercourse, douching or pelvic examination, between periods or bleeding after menopause. Some of these vaginal bleeding associated with cervical cancer may also be unexplained. In addition to the vaginal bleeding, there may also be watery, bloody vaginal discharge that may be heavy and have a foul odour or smell. Furthermore unexplained pelvic pain and pain during and after sexual intercourse may also be associated with cervical cancer. There may also be pain in the back and in the legs. Other clinical manifestations of cervical cancer include anaemia, bloody urine (haematuria), pain during urination (dysuria), rectal bleeding as well as weight loss with occasional fever (Laura & Martin, 2018).

Cervical cancer can be managed effectively when diagnosed early at the precancerous stage. The cervical lesions which are at the precancerous stage can be managed with a loop electrosurgical excision procedure (LEEP). This destroys the abnormal tissues with a wire loop heated by electric current. Other therapies includes; cryotherapy which is the removal of cells by extreme cold; laser ablation – the destruction of tissue; or conization – the destruction of a coned- shaped tissue surrounding the abnormal tissue. However the overall survival for women with recurrent, persistent or metastatic cervical cancer, was said to have improved with the combination of targeted therapy and standard chemotherapy (ACS, 2016).

On survival; it has been established that there is five to ten year relative survival rate for patients with cervical cancer as 68% and 64% respectively. According to these report, almost half of the patients with a percentage of 46 were detected when the cancer was localized, and the 5-year survival was 92% (ACS, 2016).

Cervical cancer is preventable. Two new strategies have been introduced into the cervical cancer prevention protocol. These are; the primary prevention of HPV infections in the pre-adolescent and adolescents, thus girls within the ages of 9 and 18 by vaccination; and the early detection of cervical precancerous lesions by screening for HPV in women above 30 years (Sankaranarayanan, 2015).

According to the American Cancer Society, vaccines have been made to prevent the commonest types of HPV that causes cervical cancer but the HPV vaccines cannot protect against all types of HPV as well as existing infections. Thus women who have been vaccinated should still be screened for cervical cancer.

Vaccination against HPV is currently part of the National Immunization Programmes in sixty two countries which targets pre-adolescent and adolescent girls and ‘catch-up’ immunization of the older women with upper age limits up to 26 years (Sankaranarayanan, 2015).

Cervical cancer prevention is largely based on screening, which detects the disease early at the precancerous stage and treated before it progresses to the carcinoma state. Screening for cervical cancer involves; the PAPs smear and the Visual Inspection with Acetic Acid (VIA).

Moreover cancer of the cervix can also be prevented by tackling the predisposing factors to the development of the disease, thus avoiding multiple sexual partners and early sexual activity,

reducing childbirth, avoiding the prolong use of oral contraceptives, avoiding douching and smoking as well as including more fruits and vegetables in the diet.

2.4. Factors Influencing the Knowledge and Awareness of Cervical Cancer and Cervical Cancer Screening

Cervical cancer is the cancer that affects the uterine cervix. It occurs when healthy cells of the uterine cervix develop genetic mutation that causes them to turn into abnormal cells. Women aged 15 years and above are at risk of developing this condition. The major cause of the condition has been shown to be frequent infections with some types of the Human Papilloma Virus as well as other lifestyle challenges. Cervical cancer is preventable and can be managed appropriately if detected early at the precancerous state, and this could largely be influenced by knowledge and awareness of the condition.

Improving knowledge on cervical cancer is said to play a very important role in improving women's healthcare seeking behaviour for cervical cancer prevention services, thus adequate information on cervical cancer, its causes and risk factors, signs and symptoms, is very important for women to adopt preventive measures (Shiferaw et al., 2016).

Lack of knowledge and awareness on cervical cancer and screening is said to have been a major setback to the prompt diagnosis of cervical cancer and subsequent management of the condition (Kessler, 2017). Momberg et al., 2017, reported that there is a significant gap in the knowledge of women on cervical cancer, its screening as well as its subsequent treatment. According to Shiferaw et al., (2016), there is considerable low cervical cancer knowledge in most African countries including Ghana, Ethiopia and Nigeria. In this regard, various studies have established that there are significant gaps in cervical cancer knowledge and awareness among women in most Sub-Saharan African Countries including Gabon (Assoumou et al., 2015); Ethiopia

(Getahun et al., 2013; Shiferaw et al., 2016; Mulatu et al., 2017); Nigeria (Ingwu, 2016); and Tanzania (John, 2011).

According to Mwaka et al., (2016), there is evidence that, increasing awareness of cervical cancer symptoms and signs might increase people's ability to detect early symptoms and signs of the disease. Adequate knowledge on cervical cancer and its warning signs has been associated with early help seeking, thus it has been established in the United Kingdom that knowledge and understanding of cervical cancer risk factors and outcomes of treatments have influenced individual's intentions and actual participation in cervical cancer screening programmes (Mwaka et al., 2016).

Inadequate knowledge regarding cervical cancer and screening programmes have been reported among women in South Africa and as well as other Low and Medium Income Countries (Momborg et al., 2017). According to Mutambara et al., (2017), a section of Zimbabwean women had low to no knowledge about cervical cancer and the age at which they could become prone to developing the disease.

This is not different from what pertains in Ghana as studies have also reported lack of knowledge of cervical cancer in certain parts of the country (Adanu et al., 2013; Williams & Amoateng, 2012; Ebu et al., 2015; Ziba et al., 2015).

Some factors that may influence a woman's knowledge on cervical cancer and cervical cancer screening may include; socio-demographic factors, sources of cervical cancer information, access to health services, social norms including religious restrictions, cultural beliefs and practices, myths and misconception as well as perceived susceptibility among others.

2.4.1. Socio-Demographic Factors That Influences Women's Knowledge on Cervical Cancer and Cervical Cancer Screening

The socio-demographic factors such as age, marital status, occupation, level of education, religion, ethnicity among others may influence women's knowledge and awareness on cervical cancer. A study has shown that among African women, the knowledge and awareness on cervical cancer most essentially its early detection, treatment and prevention is significantly low (Azam, 2016). The study noted that some socio-demographic characteristics such as place of residence, level of education, marital status, occupation and religion affected the knowledge and awareness, attitude and practice of some Ethiopian women (Azam, 2016). It was found in Nigeria that, age of women, marital status, work and level of education have a stronger relationship with their knowledge and awareness of cervical cancer (Chinaka & Nwazue, 2013).

The knowledge on cervical cancer may be relatively higher among more educated women than the less educated ones, most especially among health workers and tertiary students. As reported by Shiferaw, et al., (2016), university students and women sampled from health facilities were very likely to identify some risk factors of cervical cancer. In addition, it was noted that among some HIV-infected women who were sampled for a study, knowledge on cervical cancer was relatively higher with 71% of the participant having some knowledge on cervical cancer. The reason being that due to their condition they were more likely to have much exposure and interaction in terms of healthcare services (Shiferaw et al., 2016).

2.4.2. Sources of Cervical Cancer Information

There are means through which women could have access to information on cervical cancer. The various sources of cervical cancer information may include; health workers, social media and the internet, television and radio, school, family and friends. Among women who were studied on

their knowledge on cervical cancer, those who had ever heard about the condition, mentioned their sources of information as follows; more than half (57%) of participant had their information from health facilities, whilst 23% stated the media. Comparatively as indicated by Shiferaw et al., (2016), a study by Getahun et al., (2013) established that 61% of women that were studied sourced their information on cervical cancer from the media and 35% stated health facilities and health providers. Furthermore most women surveyed in Nigeria mentioned the mass media and health talks by health workers as their source of information whereas one person from a focused group discussion mention hearing it from a talk given in a bus (Modibbo et al., 2016).

2.4.3. The Role of Health Services and Healthcare Professionals on Women's Knowledge on Cervical Cancer Cervical Cancer Screening.

One major role of health services is the provision of accurate information on various health issues. The performance of such significant roles may be affected by factors such as the inadequate health education programmes, poorly developed health services, the relatively low access of rural inhabitants to health care services, the lack of expertise, and lack public awareness in totality (Azam, 2016). Furthermore this same study reported awareness level, skills of the health care worker and their major role in health education is very crucial in influencing the knowledge of women about cervical cancer.

2.4.4. The Effects of Social Norms, Myths and Misconceptions on Women's Knowledge on Cervical Cancer and Cervical Cancer Screening

Social norms including religious restrictions, cultural beliefs and practices among others can also influence knowledge on cervical cancer and screening. Attitudes of women as well as some myths and misconceptions may one way or the other affects their health seeking behaviour and thus seeking health information with regards to cervical cancer. Myths and misconceptions about

cervical cancer may be varied according to one's religion, ethnic or geographical location among many others. According to Ebu et al., (2015), social and negative misconceptions, negative beliefs and other social barriers have a stronger relationship with knowledge on cervical cancer and screening among women. The study reported that, women perceived cervical cancer screening test to be embarrassing and uncomfortable and were also scared of diagnosis and treatment of cancer. Some of these women also reported they did not feel at risk or were not sexually active and hence did not felt the need to seek services regarding cervical cancer and they also perceived that services regarding cervical cancer could be expensive.

Some Ghanaian women might not seek information on cervical cancer and screening because of lack of trust in the health service delivery system (Williams & Amoateng, 2012). Furthermore their study goes on to state that because of the sensitive nature of Ghanaian women and their concern about confidentiality when considering factors bothering the sexual and reproductive system, they may not seek cervical cancer information. Most of these women believes that it is not culturally accepted to discuss issues bothering the reproductive organs outside and may feel uncomfortable seeking such information. In addition, most married men that were surveyed by William and Amoateng, (2012) stated that it is bad or taboo for another man, being it a health worker to see the nakedness of wife of another man, except during giving birth and would therefore not be very comfortable for their wives to seek information on cervical cancer as it is associated with their sexual life. Ebu et al., (2015) reported again in a study at Elmina that partners of women were not allowing them to seek cervical cancer screening services.

Also religion deters women from seeking services regarding cervical cancer. As reported by a study done in Zimbabwe, most local churches in that country prevents their females from seeking medical attention but rather to have faith in the healing power of God which is also

similar to the traditional cultural practices (Mutambara et al., 2017). The study goes on to report that women who will defy the church orders to seek medical services are faced with some forms of punishment such as shaming, confession, prohibition of using church clothing as well as undergoing rebaptism. In this regard most women will not seek health services and health information concerning cervical cancer. Furthermore per a study conducted in the South Western Nigeria, Muslims who participated in a focused group discussion had never heard about cervical cancer (Modibbo et al., 2016). Also majority of Christian women surveyed in Abuja, Nigeria attributed cervical cancer to the activities of witches and wizards (Modibbo et al., 2016).

2.4.5. The Role of Perceived Susceptibility on Knowledge and Awareness of Cervical Cancer and Screening

Women may seek information on cervical cancer and utilize cervical cancer screening services based on perceived susceptibility to cervical cancer. In a study conducted to assess the perception of risk of cervical cancer among university of Ghana students, even though, majority of the participants had sufficient knowledge about cervical cancer affecting the cervix of a woman (93.9%), only 24.5% knew that cervical cancer was caused by HPV, 26.3% said it was sexually transmitted, while more than half of them (67.4%) perceived it to be spiritual (Nelson, 2015). From the same study, it was reported that majority of the respondents did not see themselves at risk of developing cervical cancer and hence did not see the need for seeking cervical cancer information.

Most women in Ethiopia have the perception that cervical cancer is caused by the effects of breaking social taboos and engaging in undesirable behaviours, and hence modern treatment are rumored to be ineffective in such cases (Azam, 2016). In a study conducted in Elmina, majority of the women did not know the risk factors of cervical cancer, and some women also reported

that they felt healthy and did not feel at risk and hence there was no need for seeking services regarding cervical cancer (Ebu et al., 2015).

However exposure to certain medical conditions may also influence the knowledge on cervical cancer and the intention to screen for cervical cancer. Women who have had problems with their reproductive organ; or have a family member or friend with such problems are more likely to feel susceptible to cervical cancer and might seek information and help regarding cervical cancer. A study among HIV- infected women by Shiferaw et al., (2016), reported relatively higher cervical cancer knowledge among them which may be due to their frequent interactions with healthcare providers.

CHAPTER THREE

3.0. METHODS

3.1. Introduction

The chapter outlines the methods and tools that were used for the study. It entails the study design, study area or location, study population, sampling methods or techniques, data collection technique and tools, data processing and analysis, ethical issues among many others.

3.2. Study Design

The study adopts a descriptive cross-sectional design using the quantitative approach to assess the knowledge and awareness of cervical cancer and cervical cancer screening among women at the Agogo Presbyterian Hospital. The quantitative research method was an appropriate option since this project intends to study a large population size.

3.3. Study Area

The study was conducted in Agogo in the Asante Akim North District of the Ashanti Region of Ghana, who has a population of 32,859. The inhabitants of the town are mainly Ashantis, with few others from the other regions of the country who are either here for schooling or working purposes. The major economic activities in the town are farming and trading, with tomatoes and plantain being the major plants being cultivated on large scale. There is also the rearing of cattle mostly by the nomadic Fulani herdsmen. The town is blessed with a hospital, University, Nurses and Teacher training colleges, two Senior high schools and a number of Basic schools, yet the natives of the town are not much interested in education but rather engage in farming and trading. Majority of the inhabitants are Christians with other religions such as Islam and the Traditional African religion.

The study was carried out at the Agogo Presbyterian Hospital in the Asante Akim North District of the Ashanti Region of Ghana. Agogo Presbyterian hospital is a 250 bed capacity hospital which has over the years been noted for its special eye care services. The hospital also provides medical, surgical, child health, obstetrics and gynaecology, family planning, mental health services as well as other special services. The hospital serves the people of the Asante Akim North, the Asante Akim Central and the Asante Akim South Districts and even beyond since it is a hospital of choice for many people in these areas and the second major referral facility after the Okomfo Anokye Teaching Hospital in Kumasi in the Ashanti Region of Ghana.

3.4. Study Population

The population used for the study was women who attended the Agogo Presbyterian Hospital during the period of study and consented to be recruited for the study. The study participants were women in the reproductive age group; that is women between the ages of 15 and 49 with majority of them being between the ages of 20 - 29. These participants were chosen because women within this age group are usually sexually active and as such are at risk of cervical cancer since the infection of the HPV is mostly associated with early sexual activity and having multiple sexual partners; which is likely to occur within this age group. Also these women are likely to engage in lifestyles such as smoking, use of contraceptives, douching among other cervical cancer risk factors. Majority of the respondents were either married or co- habiting and had between 1 to 4 children. Most of the respondents were Akans and Christians, and majority of them were educated to the JHS level and self-employed.

3.5. Variables

The Dependable Variable was Cervical Cancer and Screening knowledge and awareness among women.

The independent variables were as follows;

- Socio demographic characteristics of women such as age, marital status, educational status, occupation and location.
- Sources of information regarding cervical cancer among women.
- Perception of women on social norms, myths and misconception regarding cervical cancer.
- Women's readiness and intentions to screen for cervical cancer.
- Barriers to the uptake of cervical cancer screening services.

3.6. Data Collection Techniques and Tools

The technique and tool for data collection adopted for the study was in the form of interviewer administered semi-structured questionnaire. The design of the questionnaire was based on the study objectives, thus it was grouped into themes in respect of the study objectives. In all, a total of thirty-six questions were asked. The questions included both open and closed ended questions. The close-ended questions had response options from which the respondents chose suitable answers whilst the open-ended questions had no answer options provided to allow respondents freely bring out their views on the subject. The questionnaire covered the socio-demographic characteristics such as age, marital status, educational background, religion, place of residence and parity. It also explored the knowledge and awareness on cervical cancer, perception of women on social norms, myths and misconceptions about cervical cancer, sources of cervical cancer information as well as access to health services with regards to cervical cancer, intentions and barriers to cervical cancer screening. For respondents who could not read and understand English, research assistants were trained to read, interpret and explain the questionnaire in the

language they understood and to tick or write the appropriate response from the participants and those who could read and write English, were given the questionnaires to respond appropriately.

3.7 Sample Size Calculation

The sample size for the study was calculated using the Fisher's formula. Similar study conducted in Bolgatanga estimated knowledge of cervical cancer amongst the respondents to be 28% (Ziba et al., 2015) and this was used in the Fisher's formula to calculate the sample size for the study.

$$N = \frac{(Z\alpha/2)^2 \times p(1-p)}{e^2}$$

Where: N= sample size to be determined, $Z\alpha/2$ = Reliability coefficient (z-score) of 1.96 at 95% confidence interval (CI), P= estimated knowledge level on cervical cancer of 28% or 0.28, e= margin of error of 5% = 0.05

$$N = \frac{(1.96)^2 \times 0.28(1-0.28)}{(0.05)^2} = 310$$

Adjusting for a 10% non-response rate = $0.10 = 310 \times 0.1 = 31$

Thus $310 + 31 = 341$

Therefore, the calculated sample size used for the study was 341 women between the ages of 15 and 49 who attended the Agogo Presbyterian Hospital during the period of the study.

3.8. Sampling Technique

Multistage sampling design was adopted for this study. First purposive sampling was used to select the, Antenatal/Postnatal and the Child Welfare clinics of the Agogo Presbyterian Hospital. Enrollment of respondents was based on quota sampling which was proportional to the average daily attendance of each of the three clinics.

At each clinic, participants were selected by simple random sampling technique from the study population of women between the ages of 15 and 49 who attended these Clinics during the period of the study.

3.9. Pretesting

A sample of the questionnaire was pretested at Juansa health center. Juansa is a town in the Asante Akim North District and it was chosen because the people within that town shares similar socio-demographic characteristics of the people of Agogo.

3.10. Inclusion and Exclusion Criteria

Women within the reproductive ages (15-49) who agreed to participate in the study were selected. Women below or above the reproductive age were not included in the study.

3.11. Quality Control

To ensure the reliability and validity of data collected, research assistants were trained on the ethics of conducting interviews, how to introduce themselves well to participants so as to effectively establish rapport, as well as taking them through the rationale of the study. Research assistants were also trained to translate the questions correctly from English into the local dialect so as to ensure that the actual meaning of the question is not lost and get accurate responses from participants. One person translated the questionnaire from English to the local dialect and another translated it back from the local dialect to English after which the two were compared to ensure that there was no loss of meaning. Double entry of data into the computer software was done cautiously and raw data cleaned afterwards. A backup of data was done.

3.12. Data Analysis

Data that was collected from the field was managed cautiously. The answered questionnaires were examined for errors and inconsistencies. Each questionnaire was coded and entered into Microsoft Excel. The data was then imported into STATA version 15 software for cleaning and analysis. Descriptive statistics was used to summarize continuous variables such as age, which was expressed in means and standard deviation and categorical variables were expressed in the form of frequencies and percentages. Fisher's exact test, a type of chi test was employed as an appropriate test of significant with P-values < 0.05 considered statistically significant.

3.13. Ethical Consideration

The study was approved by the Ethical Review Board of the Ghana Health Service Institutional Review Committee. Permission was also given by the Management of Agogo Presbyterian Hospital to conduct the study at the selected clinics of the hospital. Participants were assured of confidentiality, thus their identities were remained anonymous. They were also told that each participant had the right to opt out of the study if they so wish. Answered questionnaires were kept under lock and key in a cupboard immediately after coding and the key kept by the principal investigator. Coding and data entry was done within 24hours of collection and saved with a password that was only known to the principal investigator. External hard drive and CD-ROM used to store copies of the data is being kept by the principal investigator for about 3 to 4 years for possible further publication of research, after which it will be destroyed.

3.14. Limitations of the Study

The limitation of this study was the pretesting of the questionnaire at Juansa Health Center which was within the same district as Agogo Presbyterian Hospital.

CHAPTER FOUR

4.0. RESULTS

4.1. Introduction

The findings of the study have been presented in this chapter. Responses from a total of 334 women between the ages of 15 and 49 using a structured questionnaire have been presented in this chapter. The results are presented in tables and graphs. This chapter is organized into sub sections, which includes; socio-demographic characteristics of study respondents, awareness of CC and CCS, knowledge of CC ,sources of CC information, experience with CCS, barriers and intentions to undertake CCS services as well as perception of social norms, myths and misconceptions regarding CC. The association between knowledge and awareness of CC and the various independent variables is also presented in this chapter.

4.2. Socio-Demographic Characteristics of Study Respondents

The socio-demographic characteristics of respondents are presented in table 1. The age of respondents ranged from 15 to 49 years having a mean age of 26.67 years with a standard deviation of 6.095 years. Majority of the respondents (55.9%) were within the age category of 20 to 29. Surprisingly the percentage of respondents (35.0%) who were married was the same as respondents who were co-habiting, and a large number of them (74.6%) had between 1 and 4 children. With the educational status of respondents, majority of them (41.3%) reached the Junior high school level whilst (9.3%) had no formal education, and 44.0% of respondents were self-employed. Most respondents (86.2%) were Christians with 80.2% being Akan.

Table 1: Socio-demographic Characteristics of Respondents

Characteristics	Variables	Frequency (N)	Percentage (%)
Age category (year) (Adjusted age groups)	15 – 19	50	15.6
	20 – 29	187	55.9
	30 – 39	61	18.3
	40 – 49	34	10.2
Marital Status	Single	83	24.9
	Married	117	35.0
	Co-habitation	117	35.0
	Separated/divorced	9	2.7
	Widowed	8	2.4
Educational level	No formal education	31	9.3
	Primary	59	17.7
	JHS	138	41.3
	SHS	72	21.6
	Tertiary	34	10.2
Occupation	Unemployed	126	37.7
	Self-employed	147	44.0
	Government employed	35	10.5
	House wife	13	3.9
	Student	13	3.9
Number of children	None	55	16.5
	1 – 4	249	76.6
	5 or more	30	8.9
Religion	Christian	288	86.2
	Muslim	41	12.3
	Traditionalist	5	1.5
Ethnicity	Akan	268	80.2
	Ga	12	3.6
	Ewe	16	4.8
	Others	38	11.4
	Total	334	100

4.3. Awareness of Cervical Cancer and Cervical Cancer Screening

Out of 334 respondents, only 20.4% said they had heard of CC, whilst majority of the respondents (79.6%) had never heard of the condition as presented in the table 2 below. With regards to awareness of CCS, 70.6% respondents out of the 68 respondent who had heard of CC were aware that there is screening for CC. Out of the 48 respondents who had heard of CCS, 18.7% of the respondents mentioned Pap smear as a screening method, whilst majority of the respondents (79.2%) had no idea of the screening methods and 2.1% said screening could be done using herbal preparations.

When asked about places where screening could be done, majority of the respondents (85.4%) stated hospitals and clinic but were not specific about the names of those facilities. 4.1% and 2.1% of the respondents mentioned KBTH and KATH as places where screening could be done respectively.

Table 2: Awareness of Cervical Cancer and Cervical Cancer Screening

Response	Frequency (N)	Percentage (%)
<i>Heard of cervical cancer</i>		
Yes	68	20.4
No	266	79.6
Total	334	100
<i>Heard of cervical cancer screening</i>		
Yes	48	70.6
No	20	29.4
Total	68	100
<i>Known screening methods</i>		
Pap smear	9	18.7
VIA	0	0.0
Herbal	1	2.1
No idea	38	79.2
Total	48	100
<i>Cervical Cancer Screening point</i>		
Hospital/clinic	41	85.4
Herbal clinic	3	6.3
KBTH	2	4.1
KATH	1	2.1
No idea	1	2.1
Total	48	100

4.4. Knowledge of Cervical Cancer

Responses on the level of knowledge on CC have been presented on table 3. The knowledge level was assessed based on responses on the causes, risk factors, signs and symptoms, prevention and treatment of CC. Responses on these were scored and given score one for good knowledge and zero for poor knowledge. Four correct answers on risk factors, three correct

answers for both signs and symptoms as well as preventive measures were scored one for good knowledge. This cut offs was based on basic information that should be known regarding CC.

Out of the 68 respondents who had heard of CC, only 25.0% had good knowledge. 10.3% of the respondents stated HPV as the actual cause of CC whilst majority (80.9%) had no idea regarding the actual cause of CC.

On the part of the body affected by CC, 30.9% mentioned the reproductive system and 13.2% stated the cervix. Some respondent even mentioned the breast and bladder. This is presented on figure 2.

With regards to the risk factors of CC 23.5% listed at least four risk factors correctly and 35.3% of the respondents were able to mention at least three symptoms. On prevention and treatment of cervical cancer 72.1% stated it could be prevented even though only 19.1% respondent were able to list at least three preventive measures correctly and 55.9% respondent said CC could be treated.

Table 3: Knowledge of Cervical Cancer

Responses	Frequency (N)	Percentage (%)
<i>Cause of cervical cancer</i>		
HPV	7	10.3
Herpes simplex virus	1	1.5
Infection	5	7.4
No idea	55	80.9
<i>Risk factors of cervical cancer</i>		
Early sexual activity	25	36.8
Multiple sexual partners	55	80.9
Smoking	19	27.9
Other STIs	36	52.9
Nulliparity/multiparity	5	7.3
Douching	31	45.6
Witchcraft/curse	12	17.7
Disobedience to elders/infidelity	7	10.3
<i>Symptoms of cervical cancer</i>		
Bleeding in between periods	37	54.4
Bleeding after menopause	26	38.2
Vaginal discharge	31	45.6
Pelvic pain/pain during intercourse	20	29.4
Bleeding after intercourse	26	38.2
Others	5	7.4
<i>Woman in reproductive age can acquire it</i>		
Agree	55	80.9
Disagree	3	4.4
No idea	10	14.7
<i>Cervical cancer preventable</i>		
Yes	49	72.1
No	4	5.9
No idea	15	22.1
<i>Preventive measures</i>		
Vaccination	7	10.3
Early screening	18	26.5
Avoiding early sexual activity	23	33.8
Practicing safe sex	26	38.2
Avoiding smoking	7	10.3
Prayers/sacrifices	20	29.4

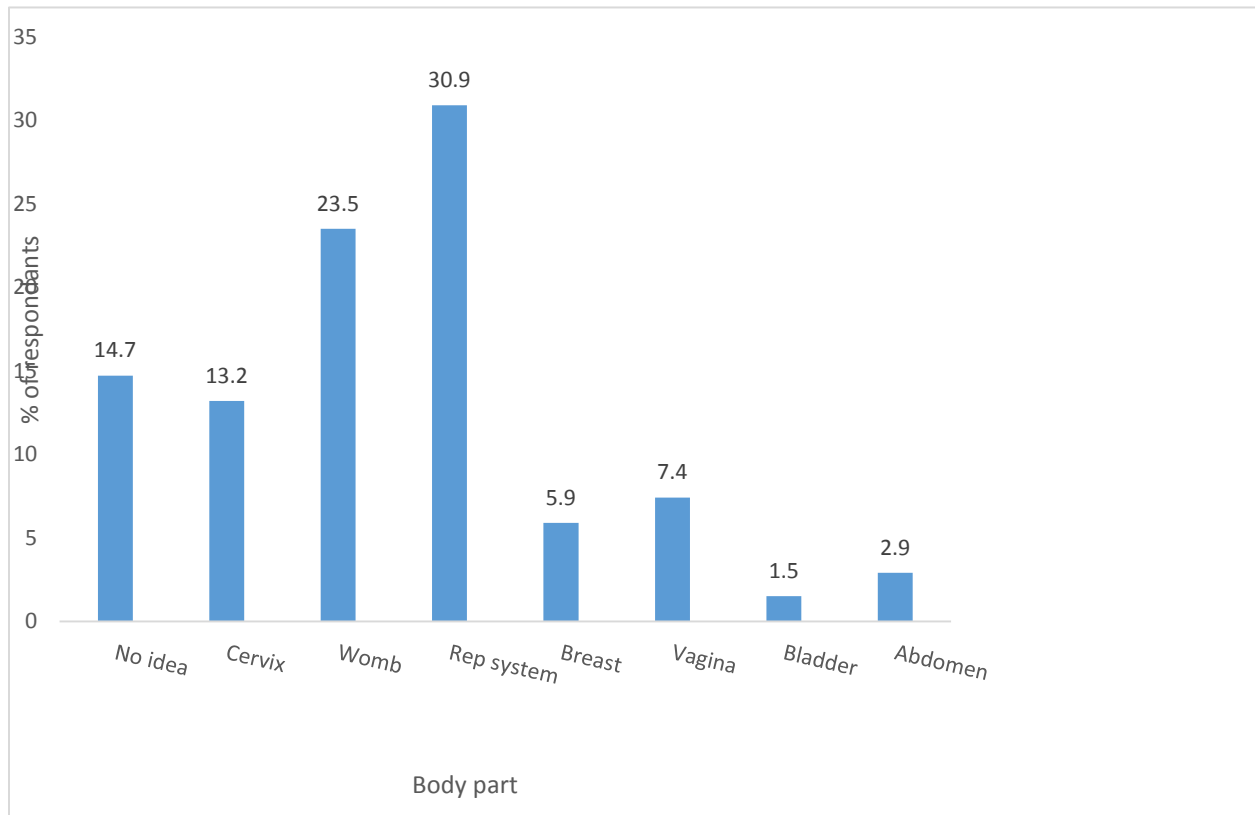
Cervical cancer treatable

Yes	38	55.9
No	20	29.4
No idea	10	14.7

Treatment options

Drugs given at the hospital	27	39.7
Surgery	20	29.4
Radiotherapy	14	20.6
Herbal treatment	13	19.1
Prayers/sacrifices	27	39.7
No idea	9	13.2

Figure 2: Body part affected by cervical cancer



4.5. Sources of Cervical Cancer Information

The various sources of CC information have also been presented in the table 4. Respondents who were aware of CC were asked to choose more than one source of information where applicable, and with this majority of them (73.5%) chose the media (radio/Tv/internet) whilst only 1.5% chose teachers.

Table 4. Sources of Cervical Cancer Information

Response	Frequency (N)	Percentage (%)
Radio/Tv/Internet	50	73.5
Family member	5	7.3
Health worker	17	25.0
Friends/peers	24	35.3
Teacher	1	1.5

4.6. Perception on Social Norms, Myths and Misconceptions Regarding Cervical Cancer and Screening

Respondents were asked about their views on social norms including religious restrictions, cultural beliefs and practices, myths and misconception regarding cervical cancer and screening and their responses have been presented on table 5. With this, 8.8% respondents believed that there were social norms that influence knowledge and awareness of cervical cancer. They therefore listed some of these factors. Also respondents enumerated various myths and misconception about cervical cancer in their communities which have also been shown on table 5.

Table 5: Perception on Social Norms, Myths and Misconception regarding Cervical Cancer and Screening

Response	Frequency (N)	Percentage (%)
<i>Social norms including cultural beliefs and practices regarding cc</i>		
Yes	6	8.8
No	57	83.8
No idea	5	7.4
<i>List of social norms</i>		
Religious restrictions	3	50.0
Discouragement from peers	1	16.6
Not morally right to discuss such issues	1	16.7
Abomination	1	16.7
<i>Misconception/myths</i>		
No idea	33	48.5
It is deadly or incurable	10	14.7
Caused by infidelity	6	8.8
Spiritual causes/witchcraft	6	8.8
Causes bareness	4	5.9
Caused by abortion	3	4.4
It is infectious	3	4.4
Caused by drug abuse	1	1.5
Caused by not breastfeeding	1	1.5
Destroys the bladder	1	1.5

4.7. Experience with Cervical Cancer Screening and Intentions to Undertake Cervical Cancer Screening

Results presented in table 6 shows that out of the 68 respondents who said they were aware of cervical cancer, only 2.9% had ever undergone cervical cancer screening before with KATH and KBTH being the places where the screening was done respectively. The reasons for going for the screening were to know their status and upon the recommendation of a health worker.

Respondents were also asked whether they intend to go for the screening, of which 45.6% respondents said they intend to go for the screening and 50.0% and 4.4% said they do not intend to undertake the screening or have not decided yet. Respondents who did not intend to or had not decided to undertake cervical cancer screening listed various reasons for their decisions which have been presented on figure 2.

Table 6: Experience with Cervical Cancer Screening and Intention to undertake Cervical Cancer Screening

Response	Frequency (N)	Percentage (%)
<i>Ever been screened for cervical cancer</i>		
Yes	2	2.9
No	66	97.1
Total	68	100
<i>Screening center</i>		
KBTH	1	50
KATH	1	50
Total	2	100
<i>Reason for screening</i>		
Wanted to know status	1	50
Health worker's recommendation	1	50
Total	2	100
<i>Intend to screen for cervical cancer</i>		
Yes	31	45.6
No	34	50.0
Not decided	3	4.4
Total	68	100

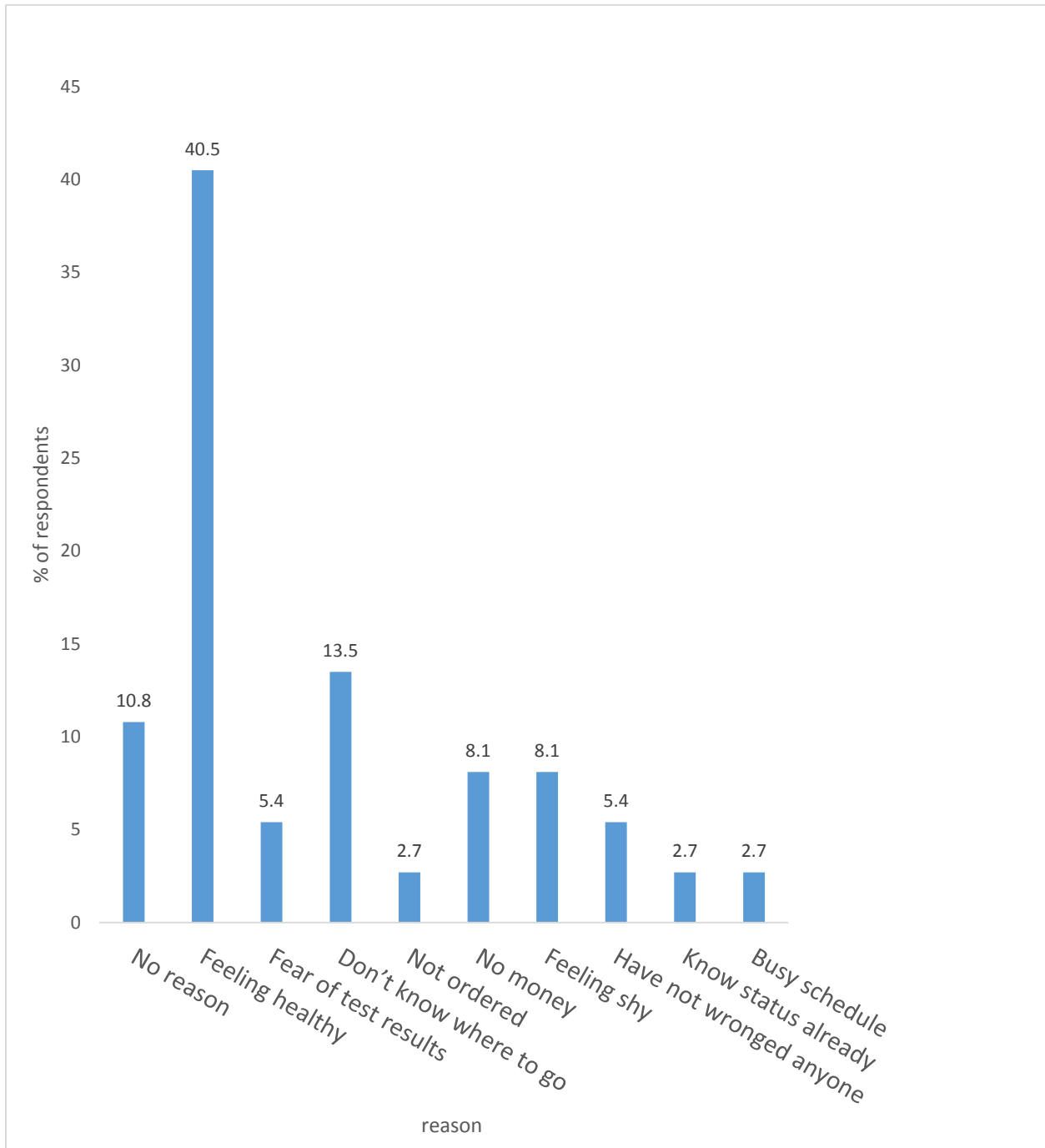
4.8. Barriers to the Uptake of Cervical Cancer Screening

Respondents who had not undergone cervical cancer screening were also asked to mention some reasons for not doing the screening or what they perceive as the barriers to cervical cancer screening uptake, and their responses have also been shown on table 7.

Table 7: Barriers To The Uptake Of Cervical Cancer Screening

Response	Frequency (N)	Percentage (%)
<i>Reasons for not screening/barriers to screening</i>		
Lack of information	61	89.7
Lack of access to screening services	29	42.6
Cost of screening	31	45.6
Attitudes of health care providers	19	27.9
Feeling shy	31	45.6
Partner refusal	13	19.1
Busy schedule	25	36.8
Sex of provider	13	19.1
Societal disapproval	4	5.9
Feeling healthy/not at risk	24	35.3
Fear of test results	10	14.7
Not ordered/recommended by health worker	8	11.8

Figure 3: Reasons for not intending to undergo Cervical Cancer Screening



4.9. Association between Knowledge and Awareness of Cervical Cancer Screening and the Various Independent Variables

To further examine the association between respondents' knowledge and awareness of Cervical Cancer and Screening and the various independent variables of the study, a bivariate analysis was done using the Fisher's exact tests as appropriate test of significance. The result is presented in tables 8 to 10. The results show that educational status, type of occupation as well as access to information and services are statistically significant in determining the individual respondents' knowledge and awareness of CC and Screening, with a P-value of 0.001, 0.000 and 0.011 respectively.

Table 8: Association between Knowledge and Awareness of Cervical Cancer Screening and the Socio-demographic Characteristics of Respondents

Variable	Total N (%)	Knowledge of CC N (%)	No knowledge of CC N (%)	P-value
SOCIO-DEMOGRAPHICS				
Age (years)				0.112
15-19	4(5.9)	0(0.0)	4(100.0)	
20-29	29(42.6)	4(13.8)	25(86.2)	
30-39	21(30.9)	8(38.1)	13(61.9)	
40-49	14(20.6)	5(35.7)	9(64.3)	
Marital status				0.262
Single	19(27.9)	3(15.8)	19(84.2)	
Married	35(51.5)	11(31.4)	24(68.6)	
Co-habitation	6(8.8)	0(0.0)	6(100.0)	
Separated	4(5.9)	1(25.0)	3(75.0)	
Widowed	4(5.9)	2(50.0)	2(50.0)	
Educational level				0.001
No formal education	3(4.4)	0(0.0)	3(100.0)	
Primary	4(5.9)	0(0.0)	4(100.0)	
JHS	10(14.7)	1(10.0)	9(90.0)	
SHS	29(42.6)	3(10.3)	26(89.7)	
Tertiary	22(32.4)	13(59.1)	9(40.9)	
Occupation				0.000
Unemployed	15(22.1)	1(6.7)	14(93.3)	
Self-employed	26(38.2)	2(7.7)	24(92.3)	
Government employed	21(30.9)	13(61.9)	8(38.1)	
Housewife	1(1.5)	0(0.0)	1(100.0)	
Student	5(7.4)	1(20.0)	4(80.0)	
Number of children				0.427
None	17(25.0)	3(17.7)	14(82.4)	
1 – 4	42(61.8)	13(30.9)	29(69.1)	
5 and more	9(13.2)	1(11.1)	8(88.9)	
Religion				0.588
Christian	56(82.4)	13(23.2)	43(76.8)	
Muslim	11(16.2)	4(36.4)	7(63.6)	
Traditionalist	1(1.5)	0(0.0)	1(100.0)	
Ethnicity				0.311
Akan	50(73.5)	10(20.0)	40(80.0)	
Ga	3(4.4)	1(33.3)	2(66.7)	
Ewe	5(7.4)	2(40.0)	3(60.0)	
Others	10(14.7)	4(40.0)	6(60.0)	

Table 9: Association between Knowledge and Awareness of Cervical Cancer Screening and Access to Information and Services

Variable	Total N (%)	Knowledge of CC N (%)	No knowledge of CC N (%)	P-value
ACCESS TO INFORMATION AND SERVICES				
No	39(57.4)	5(12.8)	34(87.2)	0.011
Yes	29(42.6)	12(41.4)	17(58.6)	

Table 10: Association between Knowledge and Awareness of Cervical Cancer Screening and Perception on Social Norms, Myths and Misconception Regarding Cervical Cancer and Screening and Intentions towards Screening

Variable	Total N (%)	Knowledge of CC N (%)	No knowledge of CC N (%)	P-value
MYTHS/PERCEPTION				0.282
No idea	33(48.5)	8(24.2)	25(75.8)	
Incurable/deadly	10(14.7)	2(20.0)	8(80.0)	
Abortion	3(4.4)	0(0.0)	3(100.0)	
Drug abuse	1(1.5)	0(0.0)	1(100.0)	
Barrenness	4(5.9)	0(0.0)	4(100.0)	
Infectious/contagious	3(4.4)	0(0.0)	3(100.0)	
Not breastfeeding	1(1.5)	0(0.0)	1(100.0)	
Infidelity	6(8.8)	3(50.0)	3(50.0)	
Spiritual/witchcraft	6(8.8)	4(66.7)	2(33.3)	
Destroys the bladder	1(1.5)	0(0.0)	1(100.0)	
SOCIAL NORMS /CULTURAL BELIEFS				1.000
Religious restrictions	3(50.0)	1(33.3)	2(66.7)	
Discouragement by peers	1(16.7)	0(0.0)	1(100.0)	
Not morally right	1(16.7)	0(0.0)	1(100.0)	
Abomination	1(16.7)	0(0.0)	1(100.0)	
INTENTION TO UNDERTAKE CERVICAL CANCER SCREENING				0.904
No	34(50.0)	9(26.5)	25(73.5)	
Yes	31(45.6)	7(22.6)	24(77.4)	
Not decided	3(4.4)	1(33.3)	2(66.7)	

CHAPTER FIVE

5.0 DISCUSSION

This chapter discusses the results of the study in relation to the objectives and key variables of the research. The study showed that majority of the respondents fell within the age category of 20-29years which is consistent with the findings of the Ghana Demographic Health survey 2008 suggesting that more than half of Ghanaian population are below age 30years. This age group consist of sexually active women who are also likely to be involved in such activities such as having multiple sexual partner, practicing unsafe sex, overuse of oral contraceptives, smoking among other factors that put them at risk of cervical cancer. Hence this group requires adequate knowledge and awareness about CC to help take up CC preventive actions. With regards to their educational level, a greater proportion of the respondent were educated up to the JHS level, with a considerable portion having no formal education. This might have accounted for the low CC knowledge and awareness among the respondents, since women with higher educational level are more likely to have some knowledge on the disease.

Increasing CC knowledge and awareness reflects in better health care seeking behaviour regarding CC prevention and treatment services. Findings of this study indicated that the awareness of CC and CCS is low. The CC awareness level among the respondents was 20.4% thus out of the 334 respondents only 68 of them were aware of CC. And similarly the awareness of CCS was low. Thus, despite the fact that forty eight out of the sixty eight respondents that were aware of CC said they knew about the availability of CCS services, majority of them had no idea about the various screening methods as well as the specific facilities where cervical cancer screening could be done. This finding is consistent with a previous study in Ethiopia that reported that women had poor knowledge with regards to screening for CC (Mulatu et al., 2017).

The main source of information regarding CC as reported by 73.5% of the respondents was the media including radio, television and the internet, whilst 25% mentioned health workers. This is similar to previous studies by Getahun et al., (2013) and Modibbo et al., (2016), that reported that majority of women studied sourced their CC knowledge from the mass media. But this is contrary to a study done in Ethiopia by Shiferaw et al., (2016), where the major source of information among women recruited from health facilities were health workers. This may suppose that health workers at the Agogo Presby Hospital are not doing much in providing CC education to their clients. One major role of health services is the provision of accurate information on various health issues. The performance of such significant roles may be affected by factors such as the inadequate health education programmes, poorly structured healthcare services, the low access of rural population to health care services, the lack of expertise, and lack public awareness in general (Azam, 2016). Furthermore this same study reported awareness level, skills of the health care worker and their major role in health education is very crucial in influencing the knowledge of women about cervical cancer. These findings are very significant when considering avenues and strategies for disseminating CC information to women. It is also relevant to ensure the accuracy of information being given, since most information on the media cannot be always be authenticated.

Research has continuously proven that adequate knowledge on CC among women influences greatly their efforts to prevent the disease (Azam, 2016). Yet knowledge about the cause, risk factors, symptoms, as well its prevention and treatment of CC among women in the country is limited (Binka et al., 2017) . The findings of the study support this fact by indicating that the knowledge of CC among women attending Agogo Presbyterian hospital is low, thus only seventeen respondents out of the sixty eight respondents who were aware of CC had good

knowledge on the condition. The results of this study are consistent with published literature that reports that CC knowledge and awareness is low among Sub-Saharan African women (Shiferaw et al., 2016; Ebu et al., 2015).

Emerging from this study also is the fact that CC awareness does not necessarily translate into adequate knowledge of the disease and this is also similar to other researches by Adanu, (2013) and Ziba et al., (2015), that shows that despite the fact that majority of women are aware of CC, they lack adequate knowledge on the disease.

As said earlier having adequate knowledge about the cause and risk factors of CC is important for women to seek for prevention. With regards to the actual cause of the disease, majority of respondents had no idea and only 10.3% respondents knew HPV as the actual cause which is consistent with study in Lagos, Nigeria where only 8% mentioned the virus as the cause (Idowu et al., 2016). Majority of the respondents did not even know specifically the part of the body affected but mentioned the reproductive organ and surprisingly some persons even mentioned the breast and bladder. This supports the fact that more attention has been given to breast cancer at the expense of CC (Adanu, 2013). The various risk factors listed by some of the respondents included; early sexual activity, multiple sexual partners, other STIs, smoking and douching. And even with this only 23.5% were able to mention at least four risk factors correctly whereas some respondents stated witchcraft and curses as well as infidelity as risk factors of CC. With regards to the symptoms of CC that was listed including; bleeding in between periods, after menopause or after sexual intercourse; foul discharges from the vagina; pelvic pain or painful sexual intercourse, 35.3% of the respondents were able to mention at least three symptoms correctly with some persons mentioning pain in the breast, abdominal pain and urinary difficulties as symptoms of CC. According to Ziba et al., (2015) and Binka et al., (2017), the lack of relatively

good knowledge about CC is as a result of the low or absence of intensive education or sensitization on disease among women in Ghana as compared to those done on other conditions such as breast cancer, malaria, and HIV.

Despite the low level of knowledge on the condition, majority of the respondents agreed to the fact that any woman in the reproductive age can acquire CC. Majority of the women also agreed to the fact that it is possible to prevent and treat the condition, however only 19.1% of the respondents were able to state correctly at least three preventive measures which includes, vaccination of young girls who have not initiated sexual activity, early screening, avoiding early sexual activity, practicing safe sex and avoiding smoking. Most respondents also believed that prayers and sacrifices can also prevent or treat CC. The low CC knowledge level among women may lead to low uptake of screening services which may result in late identification and treatment of the disease. This is in line with previous studies which suggest that women with appropriate CC knowledge and awareness are more likely to undergo CCS (Interis, Anakwenze, Aung, & Jolly, 2015). There is therefore the need for a comprehensive strategy to educate and sensitize women in the Asante Akim district on CC. This can be done by health workers providing comprehensive CC education at the various clinics such as the general OPD, ANC, PNC and CWC. Also community outreach programmes could be embarked upon to send information on CC to the door step of the people in the communities by adopting messages that could be easily understood by the general population which would enhance more accurate and greater understanding of CC (Momborg et al., 2017). Similarly, strategic media interventions including; radio, television, internet, leaflets, posters, newspapers among others could be helpful. The study reports again that some respondents believe that some social norms which includes religious restrictions, cultural beliefs and practices, myths and misconceptions exist which might

influence their health seeking behaviour regarding CC and CCS, which thus affect their knowledge and awareness of the condition. Some of these factors enumerated by these respondents included; the believe that CC is incurable, is a result of infidelity, spiritual causes or bewitchment, abortions, not breastfeeding among others. According to these respondents, religious restrictions, discouragement from peers, and the fact that it is an abomination or not morally right to talk about issues pertaining to the reproductive organs in certain communities prevents women from seeking information and services regarding CC and CCS. According to a study by Momberg et al., (2017), misconceptions and stigma about CC is deep rooted in most LMICs at the community level. These misbeliefs and wondering about CC explains why most women in the district do not seek information regarding CC. This is also similar to other studies, that states that if women believed barriers outweighs benefits of screening, they have difficulties going for it (Hasahya et al., 2016). There is therefore the need for public education and sensitization on CC which will enlighten women and reduce these barriers and hence facilitate prevention and early diagnosis and treatment of CC. This can be done through outreach programmes within communities to promote CC knowledge and awareness that may result in improved uptake of screening services. The use of community outreach worker according to previous study, have improve the success of education and acceptance of screening services (Momberg et al., 2017).

The uptake of CCS among women attending the Agogo Presbyterian hospital is extremely low according to the study findings as only 1.4% of the respondents had ever undergone CCS at KATH and KBTH respectively. This is comparatively lower than that of studies conducted in Bolgatanga, and Ethiopia where 5.3% and 14.8% of the total participants had ever undergone the screening respectively (Ziba et al., 2015; Mulatu et al., 2017). Also according to Ndejjo et al.,

(2016), the uptake of CCS is also low in rural Uganda, where only 4.8% of the respondents had ever undergone screening. Their reasons for taking such action were to know their status and also upon the recommendation of a health worker. Same have been reported in a study conducted in rural Uganda (Ndejjo, Mukama, Musabyimana, & Musoke, 2016).

The study also reported that, majority of the respondents did not intend to go for CCS. The main reason that informed this decision according to responses received was lack of information about CC and CCS. The uptake of CCS and its success is therefore significantly determined by women's knowledge and awareness of CC (Azam, 2016). Respondents also gave several perception-related factors which also influences the uptake of screening services and these included; non availability of screening services, feeling of being healthy, feeling shy to expose their private parts to strange men, fear of test results among many others. Similar barriers have also been reported elsewhere (Ndejjo et al., 2016). All these barriers reflected a lack of knowledge about screening services which are also in line with other studies (Hasahya et al., 2016). Another major barrier to the uptake is the fact that, Ghana as a country as well as other developing countries, limited National Cervical Cancer Screening Programmes or policies and there is also scarce availability of screening centers. Most of the screening centers are sited in the regional hospital and thus are not available in the district. (Ziba et al., 2015; Adanu, 2013).

The findings of this study has shown that educational status, type of occupation as well as access to information and services are statistically significant in determining the individual respondents' knowledge and awareness of CC and CCS, with a P-value of 0.00, 0.00 and 0.01 respectively. Thus women with some form of formal education are more likely to be aware of CC, this may be due to exposure of these women to information both in the electronic and print media. This is consistent with earlier studies conducted in Ethiopia among HIV infected women and among

educated women at the University of Ghana that suggested that women with higher educational level or with exposure with the health system were more likely to have knowledge on CC (Shiferaw et al., 2016; Adanu, 2013).

Previous studies till date have not exclusively studied the knowledge of cervical cancer in the peri-urban communities such as Asante Akim North District in the country. This study is the first to present such important information to be added to literature and this information might be very necessary for planning strategic interventions to increase the knowledge and awareness of CC and CCS among women in the district which will in turn increase the uptake of CCS and reduce the relatively high CC prevalence rate in the Asante Akim North District.

CHAPTER SIX

6.1. Summary of Findings

The study assessed the knowledge and awareness of cervical cancer among women attending Agogo Presbyterian hospital in the Ashanti Akim North District of the Ashanti region of Ghana. Responses from a total of 334 women were collected through interview using a structured questionnaire and analyzed.

The key findings of the study have been enumerated below.

1. The study showed that respondents' knowledge and awareness level on CC and CCS was low. Majority of respondents had never heard of CC before. Besides respondents that were aware of CC had inadequate knowledge about the cause, risk factors, clinical presentation, prevention as well as treatment options of CC.
2. The study also showed that the main source of CC information among respondents was the mass media which includes Tv, radio and internet.
3. In addition the study reported an extremely low CCS uptake among respondents.
4. Furthermore, the study also reported some social norms, myths and misconceptions that might influence the knowledge and awareness of CC among respondents.
5. Barriers to the uptake of CCS was also elicited by the study.

6.2. Conclusion

Cervical cancer has become a global health problem and its effect is worst in Ghana and Sub Saharan Africa as a whole. The study reports the significant gaps in women's knowledge and

awareness on CC and CCS which negatively affects the adoption of CC preventive, prompt diagnosis and treatment actions. Thus the knowledge and awareness of CC among women attending Agogo Presbyterian Hospital and by extension women in the Asante Akim North District is very low, which have tremendously affected the uptake of CCS among these women which was also extremely low. The low CC knowledge and awareness level among these women might have accounted for the relatively high cervical cancer prevalence rate in Agogo in the Asante Akim North District that have been reported by a previous study. There is therefore an urgent and stronger need to improve current knowledge and awareness on CC and CCS among women attending the hospital as well as among the communities in Agogo and its environs. This could be achieved through the adoption of a comprehensive strategies to educate and sensitize women in the district regarding CC and CCS.

The main source of CC information among women in the district is the media which includes the radio, television and the internet. Information from the media may not always be adequate and accurate, therefore efforts should be made to provide comprehensive CC education at the various health facilities within the district. Health personnel from these facilities should also visit the local radio stations to provide CC education.

Furthermore, women attending Agogo Presbyterian Hospital believed that there exist certain social norms including cultural beliefs and practices as well as myths and misconceptions which might influence their health seeking behaviours regarding CC and screening, thus affecting the knowledge and awareness of the condition. In addition to these beliefs and practices, study also enumerated other barriers to the uptake of CCS in the district with the non-availability of the screening services in the entire district being the major barrier. All these factors might have contributed to the low level of CC knowledge and awareness. These women should be

adequately educated on the causes, risk factors, manifestations, complications, prevention and treatment of CC so as to take away all their negative perception regarding CC.

Also setting up more CCS centers and making CCS services more accessible in the district will help tremendously to increase women's knowledge and awareness on CC as well as increase uptake of CCS services.

6.3. Recommendation

Based on the findings of the study there should be a united effort by the stakeholders to help increase CC knowledge and awareness among women as well as the uptake of CCS services in the Asante Akim North District and the entire nation as a whole to help reduce the high CC prevalence and mortality rates. The following recommendations should be considered.

1. Health workers at the Agogo Presbyterian hospital as well as the other health facilities in the Asante Akim North District should be mandated by the District Health Directorate to provide intensive and comprehensive CC education at the various clinics such as the general OPD, ANC, PNC and CWC as well as the various Public health units.
2. Also community outreach programmes should be embarked upon by the Asante Akim North District Health Team and to send information on CC to the door step of the people at the grass root level by adopting locally understood messages which could enhance more accurate and greater understanding of CC .
3. Furthermore, strategic media interventions including; sensitization through radio, television, internet, leaflets, posters, newspapers among others should be embarked upon the Asante Akim North District Health Team.

4. The District Health Directorate should provide CCS centers in the district and also organize frequent outreach screening sections at places such as churches, market and schools throughout the district.
5. Also Ghana as a country should have a National Cervical Cancer Policy or programme and more cervical cancer screening centers should be opened by the Ministry of Health and Ghana Health Service. These institutions should also incorporate CC education in the calendar and schedules of health facilities to aid periodic health education on CC to women across the country.

REFERENCES

- Adanu, R. M. k. (2013). Cervical Cancer knowledge and screening in Accra, Ghana. *Education for Primary Care*, 24(2), 150. Retrieved from <http://dx.doi.org/10.1016/j.jfca.2017.12.012>
- American Cancer Society. (2016). Cancer Facts & Figures 2016. *Cancer Facts & Figures 2016*, 1–9.
- Azam, S. (2016). Awareness and Perspectives on Cervical Cancer and Practices Related to it : How far it has Promoted ? *Recent Advances in Cervical Cancer*.
- Binka, C., Doku, D. T., & Awusabo-Asare, K. (2017). Experiences of cervical cancer patients in rural Ghana: An exploratory study. *PLoS One*, 12(10).
- Chinaka, C., & Nwazue, U. (2013). Awareness of Cervical Cancer and Its Screening in Abakaliki, Niger. *African Journal of Cellular Pathology*, 1(1), 47–51.
- Ebu, N. I., Mupepi, S. C., & Siakwa, M. P. (2015). Knowledge , practice , and barriers toward cervical cancer screening in Elmina , Southern Ghana, 31–39.
- Ebu, N. I., Mupepi, S. C., Siakwa, M. P., & Sampselle, C. M. (2015). Knowledge, practice, and barriers toward cervical cancer screening in Elmina, Southern Ghana. *International Journal of Women's Health*, 7, 31–39.
- Gelband, H., Jha, P., Sankaranarayanan, R., & Horton, S. (n.d.). *CANCER, DISEASE CONTROL PRIORITIES*. (H. Gelband, P. Jha, R. Sankaranarayanan, & S. Horton, Eds.) (Third Edit). World Bank.
- Hasahya, O. T., Berggren, V., Sematimba, D., Nabirye, R. C., & Kumakech, E. (2016). Beliefs, perceptions and health-seeking behaviours in relation to cervical cancer: A qualitative study among women in Uganda following completion of an HPV vaccination campaign. *Global Health Action*, 9(1), 1–9.
- Huchko, M. J., Maloba, M., Nakalembe, M., & Cohen, C. R. (2015). The time has come to make cervical cancer prevention an essential part of comprehensive sexual and reproductive health services for HIV-positive women in low-income countries, 18(Suppl 5), 1–5.
- ICO HPV Information Centre. (2017a). Human Papillomavirus and Related Diseases Report, (July).
- ICO HPV Information Centre. (2017b). Human Papillomavirus and Related Diseases Report in Ghana, (July).

- Idowu, A., Olowookere, S. A., Fagbemi, A. T., & Ogunlaja, O. A. (2016). Determinants of Cervical Cancer Screening Uptake among Women in Ilorin, North Central Nigeria: A Community-Based Study. *Journal of Cancer Epidemiology*, 2016(Vili).
- Interis, E. C., Anakwenze, C. P., Aung, M., & Jolly, P. E. (2015). Increasing cervical cancer awareness and screening in Jamaica: Effectiveness of a theory-based educational intervention. *International Journal of Environmental Research and Public Health*, 13(1), 1–11.
- Laura, J., & Martin, M. M. R. (2018). Cervical Cancer, Causes, Symptoms, Diagnosis, Treatment & Outlook. *WebMD*, 1–12.
- Modibbo, F. I., Dareng, E., Bamisaye, P., Jedy-agba, E., Adewole, A., Oyeneyin, L., ... Adebamowo, C. (2016). Qualitative study of barriers to cervical cancer screening among Nigerian women.
- Momberg, M., Botha, M. H., Merwe, F. H. Van Der, & Moodley, J. (2017). Women ' s experiences with cervical cancer screening in a colposcopy referral clinic in Cape Town , South Africa : a qualitative analysis, 1–7.
- Mulatu, K., Motma, A., Seid, M., Tadesse, M., & De Medicina, A. (2017). Assessment of Knowledge, Attitude and Practice on Cervical Cancer Screening among Female Students of Cancer Biology and Therapeutic Oncology. *Cancer Biology and Therapeutic Oncology* *Cancer Biol Ther Oncol*, 1(1), 1–6.
- Mutambara, J., Mutandwa, P., Mahapa, M., Chirasha, V., Nkiwane, S., & Shangahaidonhi, T. (2017). Knowledge , attitudes and practices of cervical cancer screening among women who attend traditional churches in Zimbabwe. *Journal of Cancer Research and Practice*, 4(2), 53–58.
- Mwaka, A. D., Orach, C. G., Were, E. M., Lyratzopoulos, G., Wabinga, H., & Roland, M. (2016). Awareness of cervical cancer risk factors and symptoms: Cross-sectional community survey in post-conflict northern Uganda. *Health Expectations*, 19(4), 854–867.
- Ndejjo, R., Mukama, T., Musabyimana, A., & Musoke, D. (2016). Uptake of cervical cancer screening and associated factors among women in rural Uganda: A cross sectional study. *PLoS ONE*, 11(2), 1–13.

- Nelson, M. F. (2015). *Perception Of Risks Of Cervical Cancer Among University Of Ghana Female Students*. University of Ghana.
- Roberts, L. R., & Maclaughlin, K. L. (2016). Cervical Cancer Screening in Ghana , West Africa : Prevalence of Abnormal Cytology and Challenges for Expanding Screening. *International Journal Of Gynaecological Pathology*.
- Sankaranarayanan, R. (2015). International Journal of Gynecology and Obstetrics Reproductive Health HPV Vaccination : The Most Pragmatic Cervical Cancer Primary Prevention Strategy. *International Journal of Gynecology and Obstetrics*, 131, S33–S35.
- Shiferaw, N., Brooks, M. I., Salvador-Davila, G., Lonsako, S., Kassahun, K., Ansel, J., ... Blumenthal, P. D. (2016). Knowledge and Awareness of Cervical Cancer among HIV-Infected Women in Ethiopia. *Obstetrics and Gynecology International*, 2016.
- Small, W., Bacon, M. A., Bajaj, A., & Chuang, L. T. (2017). Cervical Cancer : A Global Health Crisis.
- Ubajaka, C., Ukegbu, A., Ilikannu, S., Ibeh, C., Onyeonoro, U., & Ezeanyim, A. (2015). Knowledge of Cervical Cancer and Practice of Pap Smear Testing among Secondary School Teachers in Nnewi North Local Government Area of Anambra State , South Eastern Nigeria. *Advances in Sexual Medicine*, (5), 13–21.
- Williams, M. S., & Amoateng, P. (2012). Knowledge and Beliefs About Cervical Cancer Screening Among Men in Kumasi , Ghana. *Ghana Medical Journal*, 46(3), 147–152.
- Ziba, F. A., Baffoe, P., Dapare, P. P. M., Shittu, S. O., & Antuamwine, B. B. (2015). Awareness and knowledge level of cervical cancer among women of reproductive age in Bolgatanga municipality. *Journal of Medical and Biomedical Sciences*, 4(2), 1–6.

APPENDICES

APPENDIX I: INFORMED CONSENT

Title: “Knowledge on Cervical Cancer and Cervical cancer screening among women attending Agogo Presbyterian Hospital, A/R”.

Principal investigator: Comfort Kyeiwaa

Contact of Principal Investigator: capisarp83@gmail.com, 0207884428, 0268162124, 05730069543.

Institution of Affiliation: Department of Social and Behavioural Sciences, School of Public Health, University of Ghana.

General information about the Research:

This research is a study on knowledge on cervical cancer and screening among women which is being conducted at the Agogo Presbyterian Hospital among women aged 18years and above. The purpose of this study is to assess the knowledge and awareness of cervical cancer and its effect on cervical cancer screening among this population. The information obtained from this study will help to develop specific evidence-based strategies in the prevention and control of cervical cancer.

You are randomly selected to participate in the study, of which if you agree may take between 10-20 minutes to complete the questionnaire.

Possible Risk and Discomfort

The risk involved in taking part in this study is minimal. This includes the time you will spend answering the questions. Some of the questions may be slightly personal and sensitive. However you have the right to refuse any question you are not comfortable with.

Possible Benefits

There are no direct benefits for participation in the study as well as no compensation for participation. However, the information that will be obtained from this study will help immensely in improving the prevention and control of cervical cancer.

Voluntary Participation

Your participation in the study is entirely voluntary. The interview will take between 10-20 minutes to answer the question if you agree to participate. You have the right however, to refuse any question you are not comfortable with, or even withdraw your consent to participate in the study. Your decision not to participate in the study will not come with any penalty, loss of benefits or any negative consequences.

INFORMED CONSENT FOR PARENT/GUARDIAN

I would be much appreciative if you could endorse this document on behalf of your child/ward. This is to enable me carry out a study on the “Knowledge on Cervical Cancer and Cervical Cancer Screening among Women Attending Agogo Presbyterian Hospital, A/R. The findings of this study will help develop specific evidence-based strategies aimed at reducing cervical cancer

incidence and mortality rates in Agogo and its environs in the Ashanti Akim municipality and the entire country as a whole.

Responses will be completely anonymous and confidential. Your child/ward will be asked some series of questions on cervical cancer and screening knowledge. Some of the questions may be slightly embarrassing or uncomfortable.

The ward/child have the right to refuse any question she is not comfortable with or withdraw from the study entire. Doing so will not bring any punishment to the child.

Confidentiality and Anonymity

Be assured that any information provided in answering the questionnaire will be treated as confidential and no personal identifying information concerning you will be presented. Your name will is not required in the study and nobody will be able to trace your answers back to you. The information provided will be used only for the purposes this study and it will be accessible to only the Principal Investigator and will not be shared with anyone.

Dissemination of Results

The findings of this study will be made available to the general public through conference presentations, seminars, and general awareness programmes in collaboration with the Media, Government agencies and Academic/Research Institutions in print, electronic and audio forms.

Participant Agreement

I agree that the above document describing the procedures, benefits and risks for this study have been read and explained to me. I have given the opportunity to ask any question about the

research and have been answered to my satisfaction. I therefore voluntarily agree to participate in the study.

.....

Signature or thumbprint of participant

.....

Date of Consent

If you have any questions regarding this study, kindly contact;

Comfort Kyeiwaa;

Contact: 0207884428

OR

Hannah Frimpong

(0507041223/0243235225)

The Chairperson

GHS- Institutional Review Committee

P.O.Box MB190

Accra- Ghana

APPENDIX II: QUESTIONNAIRE

SCHOOL OF PUBLIC HEALTH

UNIVERSITY OF GHANA

Dear Respondent,

I am Comfort Kyeiwaa, a Master of Public Health student from the School of Public Health, University of Ghana. I am conducting a research on **“Knowledge on Cervical Cancer and Cervical Cancer Screening among Women Attending Agogo Presbyterian Hospital, Ashanti Region”** in partial fulfillment for the award of a Master of Public Health degree.

I therefore solicit your cooperation to complete the questionnaire. This is purely an academic work and the information provided will be treated with maximum confidentiality. No part of the information will be disclosed without prior consent from you.

Respondent No.....

INSTRUCTION (INTERVIEWER): Please tick (√) the chosen answer(s).

QUESTIONNAIRE NUMBER.....

SECTION A. BACKGROUND CHARACTERISTICS OF RESPONDENTS

1. Age years

2. Level of Education

- No formal education [] Primary [] J.H.S [] Secondary level []

Tertiary [] Others (specify)

3. Occupation

- Unemployed [] Self-employed [] Government employed []

House wife [] Others (specify).....

4. Marital status

- Single [] Married [] Co-habitation [] Separated/divorced [] Widowed []

4. Number of children

- None [] 1 – 4 [] 5 and more []

5. Religion

- Christian [] Muslim [] Traditionalist [] Others (specify).....

6. Ethnicity

- Akan [] Ga [] Ewe [] Frafra [] Others (specify)

7. Place of residence (specify)

SECTION B. KNOWLEDGE ON CERVICAL CANCER AND ATTITUDE AND PERCEPTION TOWARDS CERVICAL CANCER SCREENING.

8. Have you ever heard about cervical cancer?

- Yes []
- No []

9. If yes, from where? Select all that apply

- Health worker []
- Radio/ TV/ Internet []

- Family members []
- Friends/peers []
- Others (specify).....

10. What is cervical cancer / which part of the body does cervical cancer affects?

.....

11. What is the actual cause of cervical cancer?

- Human papilloma virus []
- Herpes simplex virus []
- No idea []
- Others (specify) []

12. What are some of the risk factors of cervical cancer? Please select all that apply

- Early sexual activity []
- Multiple sexual partners []
- Smoking []
- Other STIs []
- Nulliparity or Multiparity []
- Inserting herbs into the vagina /Douching []
- Witchcraft and curses []
- Disobedience to partner or elders []
- No Idea []
- Others (explain).....

13. What are some of the symptoms of cervical cancer? Please select all that apply

- Bleeding in between periods []

- Vaginal bleeding after menopause []
- Foul smelling vaginal discharges []
- Pelvic pain or pain during intercourse []
- Bleeding after intercourse []
- No idea []
- Other (explain).....

14. Cervical cancer rate is high and it's among the leading causes of women death in

Ghana

- Agree []
- Disagree []
- No idea []

15. Any woman in the reproductive age can acquire cervical cancer

- Agree []
- Disagree []
- No idea []

16. Is cervical cancer preventable?

- Yes []
- No []
- No idea []

17. If yes, How can cervical cancer be prevented? Please select all that apply

- Vaccination of young girl before initiation of sexual activities []
- Early screening and vaccination []
- Avoid early sexual activity []

- Keeping one sexual partner []
- Avoid smoking []
- Prayers / sacrifices []
- No idea []
- Others (explain).....

18. Have you ever heard of cervical cancer screening?

- Yes []
- No []

19. What screening methods do you know of?

- Pap Smear []
- VIA []
- No Idea []
- Other (specify)

20. Where can cervical cancer screening be done?

- Specify
- No idea []

21. What is the cost of cervical cancer screening?

- Free []
- GHc.....
- No idea []

22. Have you ever been screened for cervical cancer?

- Yes []
- No []

If 'No' go to question 26

23. When was the screening done?

- Within the last 1 – 12 months []
- 1 year and over []

24. Where was the screening done?

25. Reasons for doing the screening

- Wanted to know status []
- Health workers recommendation []
- Previous test result []
- Others (specify)

26. Reasons for **not** doing the screening?

- Do not know where to go []
- Feeling of being healthy []
- Cost of screening []
- Fear of test results []
- Other reasons (specify).....

27. What do you think are the barriers to the uptake of cervical cancer screening ?Select

all that apply

- Lack of information []
- Access to health services []
- Cost of screening []
- Attitude of health service providers []
- Feeling shy []

- Partner refusal []
- Busy schedule []
- Sex of provider []
- Societal/ Religious disapproval []
- Other (specify)

28. What do you think can be done to increase the uptake of screening?

- Education []
- More female service providers []
- Availability of services []
- Others (specify)

29. Is cervical cancer treatable/curable?

- Yes []
- No []
- No idea []

30. How can cervical cancer be treated? Please select all that apply

- Drugs given at hospital []
- Surgery []
- Radiotherapy []
- Herbal treatment []
- Prayers / Sacrifices []
- No idea []
- Other (explain).....

31. What are some of the myths or misconceptions about cervical cancer in your community? Please enumerate as many as you can.

.....
.....

32. Are there any social norms, cultural practices or beliefs that you feel may stop you from going for the screening?

- Yes []
- No []

33. If yes, kindly list some of these factors

.....
.....

SECTION E: INTENTIONS TO CERVICAL CANCER SCREENING

34. Do you intend to go for cervical cancer screening?

- Yes []
- No []

35. If Yes, when and where do you intend going for the screening

.....

36. If No, Why?

.....
.....

Thank you for participating in the study.