Factors affecting the uptake of cervical cancer screening services among women aged 25 to 65 years at Hoima Regional Referral Hospital (HRRH), Uganda.

A postgraduate dissertation presented to the faculty of Health Sciences/Public Health-Population and Reproductive Health, in partial fulfillment of the requirements for the award of the Master Degree of Public Health, Reproductive Health.

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Dedication

I dedicate this dissertation to my family. To my husband Robert who has been with me since the beginning of this journey. Thank you for putting up with me through the years, may God bless you. To my children who continue to amaze me with love, support, and dedication to the path I chose for myself. I love you so much and I am so proud of you Koolbert, Albert, Mary Charlotte and Gloria, providing constant encouragement, believing in me and celebrating my success. I appreciate and may God bless you in the struggle for greater horizons.

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List of Abbreviations

A	agree
D	disagree
FIGO	International Federation of Gynecology and Obstetrics
HBM	Health Belief model
HIV	Human Immunodeficiency Virus
HPV	Human papilloma virus
HRRH	Hoima Regional Referral Hospital
ICC	Invasive cervical cancer
N	Neutral
SA	strongly agree
SD	strongly disagree
sd	standard deviation
VIA	visual inspection with acetic acid
WHO	World Health Organisation

Definitions of operational terms

Perceived susceptibility: Refers to the views of the participants regarding their risk of having cervical cancer.

Perceived severity: Refers to a subjective assessment of how serious cervical cancer is viewed by these women.

Perceived benefits: Viewed as the gain that doing cervical cancer screening will result to like early detection of cervical cancer, delay progression of cervical cancer and subsequently leading to decrease mortality due to cervical cancer.

Perceived barriers: Refers to obstacles that prevent those eligible for cervical cancer screening from uptaking the available cervical cancer screening programs.

Cervical cancer: Cervical cancer is a cancerous tumor of the cervix uteri where by cervical cells are not normal and begin to multiply without control, forming tumors (Kumar, Abbas, Abul, Fausto, & Mitchell, 2013).

Cervical cancer screening: Steps taken to identify women with any form of cervical changes.

Uptake of cervical cancer screening: The action of making use of cervical screening service that is available.

Women: In this study women referred to all females aged between 25 and 65 years who were attending health services in Hoima Regional Referral Hospital.

Abstract

Background: Cervical cancer is a public health concern that stretches from a local to global scale. This can be detected through early and regular cervical cancer screening. Cervical cancer screening was introduced in Hoima Regional Referral Hospital free of charge to all women of aged 21years and above. Despite this initiative by the government to decrease the mortality and morbidity rates resulting from cervical cancer, the uptake of cervical cancer has remained low among women in Hoima (DHIS statistic report, 2017).

Purpose: The study aimed at determining factors that affect the uptake of cervical cancer screening among women aged 25 to 65 years attending health services in Hoima regional Referral Hospital using the Health Belief Model.

Methods: A health facility based quantitative and qualitative cross sectional study design was used. The target population was women aged 25 to 65 years attending health services in Hoima Regional Referral Hospital during the study period. A total of 300 participants were selected using systematic sampling technique to assess their perceived susceptibility to cervical cancer, their perceived severity of cervical cancer, their perceived benefits of doing cervical cancer screening and their perceived barriers of seeking cervical cancer screening. Data was collected using a structured questionnaire. Data was analyzed using Statistical Package for Social Science (SPSS) Version 16.0 and findings presented using descriptive and inferential statistics with 0.05 as the significance threshold.

Results: Cervical cancer screening rate was 39%. Participants were aware of the perceived severity of cervical cancer (average response 2.58-3.60), perceived benefits of cervical cancer screening (average response 3.10-4.33) and perceived barriers to seeking cervical cancer screening (average response 2.0-3.44) but these were not significantly associated with screening. The highest predictor of cervical cancer screening was perceived susceptibility and those with high perceived susceptibility were 3.2 times more likely to do cervical cancer screening than those with low perceived susceptibility.

Conclusion: Even though participants were aware of cervical cancer existence, they had inadequate knowledge about cervical cancer screening services. Perceived susceptibility to cervical cancer was significantly associated with cervical cancer screening. Health education to both women and men towards increasing perceived susceptibility to cervical cancer can significantly improve the uptake of cervical cancer screening in Hoima as well as address issues of barriers and misconceptions associated with low uptake of cervical cancer screening. There is great need for the MOH to integrate cervical cancer screening services with other existing services in all health centers.

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

Cervical cancer occurs when abnormal cells on the cervix grow uncontrollably resulting in a cauliflower appearance that bleeds easily upon contact (Smeltzer, Bare, Hinkle, & Cheever, 2014). It may present with vaginal bleeding, however, symptoms may be absent until the cancer is at an advanced stage. Treatment consists of surgery namely; local excision in early stages and hysterectomy. In advanced stages, chemotherapy and radiotherapy are the treatments of choice (Hinkle, & Cheever, 2014). When advanced, it is often associated with high mortality and morbidity as the prognosis is very poor. Therefore, early detection and treatment of the precancerous stage is the key to success in achieving a reduction in mortality and morbidity that result from cervical cancer.

According to research on cancer (IARC) report of December 2013, cervical cancer is the second-most frequently diagnosed and the fourth most common cancer affecting women worldwide. Even though cervical cancer is preventable (Juckett & Hartman-Adams, 2014; Luciani, Jauregui, Kieny & Andrus, 2013), it remains a big burden to women in high and low income countries with 528,000 new cases estimated globally every year and 90% of cancer cases are found in developing countries. Every year more than 270,000 women die from cervical cancer and more than 85% of these deaths are in low and middle income countries, basically because of inadequate knowledge on cervical cancer and its prevention services.

According to DHIS2 cervical cancer is the leading diagnosed cancer in Hoima district followed by colon cancer.

Ever since the concept of cervical smears was first described by Papanicolaou and Traut in 1941, screening for cervical cancer has been one of the few tests which have been shown to be able to directly reduce mortality and morbidity resulting from cervical cancer (Centers for Diseases Control and prevention,2012). Cervical cancer screening using a Pap smear or by Visual Inspection using Acetic acid (VIA) has been used for early detection of cervical cancer in women, thus preventing development of cervical cancer and as a result saving many women from unnecessary mortality and morbidity resulting from cervical cancers

It is recommended that the first screening for cervical cancer should be done in the third year after the first sexual intercourse or at the age of 21 years depending on what comes first. Those classified as being at high risk for cervical cancer include those infected with HIV, smoking, overweight, physical inactivity and other immune compromising conditions such as diabetes, those with associated Human papilloma virus, women with multiple sexual partners, those with uncircumcised sexual partners, those with history of other cancers and with family history of cervical cancer (Saslow, Boetes and Burke, 2012). More than 90% of women in Hoima district diagnosed with cervical cancer never had a cervical cancer screening before. Therefore, cervical cancer screening is very important and should be done regularly as most cervical cancers take up to 10-12 years to develop. Unlike in developed countries, the incidence of cervical cancer and the mortality and morbidity resulting from it, has decreased significantly since the institution of routine cervical cancer screening using Pap smear (Saslow, Boetes and Burke, 2012).

Based on this premise, cervical cancer screening was introduced by Ministry of Health as a free of charge health service for eligible women seeking health services in all government hospitals in Uganda in 2008 with the aim of reducing morbidity and mortality which could result from cervical cancer. Despite the government's efforts to have cervical screening services available and accessible to women, there is low uptake of cervical screening services by women in Hoima district which result into late detection leading to poor prognosis. Less than 2% of eligible women attending the hospital have had cervical cancer screening with only eight women confirmed with cervical cancer in two years namely 2016 and 2017, (DHIS2 report, 2017). This has become a threat to the achievement of Ministry of Health vision 2020, as more women keep presenting with cervical cancer in late stage and eventually die from it despite effective preventive screening programs initiated in regional Referral Hospitals in Uganda.

However, to the best of the current researcher's knowledge, no research has been conducted for Hoima Regional Referral Hospital in Uganda. It was therefore important in this study to assess the knowledge of women aged 25 to 65 years on cervical cancer and screening. Perceived susceptibility to cervical cancer, perceived severity to cervical cancer, perceived benefits of cervical cancer screening and perceived barriers to seeking cervical cancer screening. The study will have implications of positive social change because the study will be useful in developing interventions that will reduce morbidity and mortality from cervical cancer among women in Hoima region and the whole nation.

1.1 Background to the study

The Uganda Ministry of Health (MOH) policy and regulations on cervical cancer screening recommend that all women aged 25 to 49 years should have cervical cancer screening and girls aged 10 to 14 years should be vaccinated against Human Papilloma Virus (HPV). This vaccination and screening campaign aimed at achieving 80% coverage by 2015 (MOH, 2010). The Uganda Ministry of Health in partnership with Non-Governmental Organizations (NGOs), the World Health Organization (WHO), and Private Not for Profit (PNFP) hospitals established cervical cancer screening programs and set up screening centers in regional hospitals in the country including Hoima Regional Referral Hospital. These centers provide health education, screening, advocacy and treatment of cervical precancerous lesions (MOH, 2010) despite the efforts by Ministry of Health and its partners this has not been realized in Hoima Regional referral Hospital in Hoima district.

The exact prevalence rate of cervical cancer in Uganda is unclear although World Health Organization in 2012 estimated that more than 1,900 women die every year while 2,400 women each year are diagnosed with cancer of the cervix in its late and advanced stage beyond recovery. There are reports indicating that cervical cancer contributes to 85% of gynecological deaths. Over 40% of radiotherapy patients in Mulago National Referral Hospital are treated for advanced cervical cancer (Mutyaba, Mmiro, &Weiderpass, 2013).

The level of awareness on cervical cancer is still questionable because women who get chance to be diagnosed of cervical cancer usually go seeking treatment for sexually transmitted diseases or unknown cause of bleeding from the birth canal, with signs and symptoms of advanced stages of the disease when so little can be done to reverse the condition. Relative to

the norms recommended in the MOH Service delivery guidelines for cervical cancer screening (AOGU 2011), It is against this background that the researcher proposed to conduct a study at the hospital targeting the women aged 25 -65 years who are patients, clients and care takers given that at the age of 25 years regardless of the HIV status, the HPV virus is evident, its assumed that the HPV virus spends about 10- 20 years in the body and can therefore be detected on screening. It is in this context that this study is planned to inform policy and practice within the ministry of health so as to improve women's health by placing cervical cancer on the priority agenda for Uganda.

1.2 Statement of the Problem

The incidence of cervical cancer reported among women in Hoima district is very high. Out of 137,000 target population for Hoima Regional Referral Hospital catchment area, 2% are diagnosed with cervical cancer (DHIS, 2016) and this cannot be neglected. This can be attributed mainly to low uptake of cervical screening service which is very effective in early detection of pre-cancerous lesions for timely intervention. Low uptake of cervical cancer screening services leads to late diagnosis of preventable pre-cancerous lesions which will develop into cervical cancer leading to increased number of women dying from invasive cervical cancer. In a similar way, due to women not up taking cervical screening services that have been introduced in Hoima Regional Referral Hospital, has led to affected women reporting to hospital when the disease has grown out of control in advanced stage resulting in increased number of hospitalization leading to high expenditure to the patient while in hospital yet doctors can only give treatment for pain and symptom control. This of course leaves women vulnerable to economic work hence affecting all dependants in the family.

To address this problem, the Ministry of Health Uganda issued a directive to provide cervical cancer screening in all regional referral hospitals as a routine health service to be offered to all women above the age of 18 years attending government hospitals free of charge aiming at reducing morbidity and mortality among the target population and therefore achieve the vision of "Health for all by 2020". Despite this initiative by the government, the number of women in Hoima district that have actually had cervical cancer screening is still very low. This has become a hindrance to achieving the 2020 vision, as more women keep presenting in late stage of cervical cancer disease and eventually die despite the effective preventive screening programs that are available in the Regional Referral Hospitals at no cost.

With the high incidence of cervical cancer and the low uptake of cervical screening services, the study undertook to determine the factors affecting the uptake of cervical cancer screening services among women aged 25-65 years attending health services in Hoima Regional Referral Hospital in Hoima district using a Health Belief Model.

1.3 Objectives of the Study

1.3.1 Major objective

The study aimed at determining the factors affect uptake of cervical cancer screening services among women aged 25-65 years at Hoima Regional Referral Hospital.

1.3.2 Specific objectives

The objectives of the study were;

1. To identify the women's perceived susceptibility to cervical cancer.
2. To determine the women's perceived severity of cervical cancer.

3. To determine the women's perceived benefits of doing cervical cancer screening.
4. To identify the women's perceived barriers to seeking cervical cancer screening.
5. To determine the level of uptake for cervical cancer screening services among women aged 25-65 years who seek health services at Hoima Regional Referral Hospital.
6. To identify the association between socio-demographic characteristics and perceived susceptibility to cervical cancer, socio-demographic characteristics and perceived severity of cervical cancer, socio-demographic characteristics and perceived benefits of cervical cancer screening and socio-demographic characteristics and perceived barriers to seeking cervical cancer screening.

1.4 Research questions

A research question depicts the problem that is to be assessed in a study (Lobiondo-wood & Haber, 2010). In this study, the researcher wished to find answers to these questions:

1. What are the women's perceived susceptibility to cervical cancer?
2. What are the women's perceived severity of cervical cancer?
3. What are the women's perceived benefits of cervical cancer screening?
4. What are the perceived barriers of women from seeking cervical cancer screening?
5. What is the level of uptake for cervical cancer screening among women aged 25-65 years who seek health services at Hoima Regional Referral Hospital?
6. What is the association between socio-demographic characteristics and perceived susceptibility to cervical cancer, perceived severity of cervical cancer, perceived

benefits of doing cervical cancer screening and perceived barriers to seeking cervical cancer screening?

1.5 Scope of the Study

The study was conducted in Hoima Regional Referral hospital (HRRH), a government aided hospital. It is among the few hospitals that were selected by Ministry of Health to start cervical cancer screening and treatment services in Uganda. Hoima Regional Referral Hospital, commonly known as Booma Hospital a government aided hospital is found in Hoima Town, Hoima district, Mid-Western Uganda. It is mandated to handle referred cases from ten districts in the region namely Buliisa, Hoima, Kagadi, Kikube, Kibaale, Masindi, Kakumiro, Kiryandongo, Kyankwanzi and Kiboga. The population in the catchment area totals to approximately three million. Hoima Hospital is approximately 230 kilometers (by road) North-West of Uganda's capital city Kampala. It is one of the thirteen (13) Regional Referral Hospitals in the country and it is also designated as one of the fifteen (15) Internship Hospitals in Uganda where graduates from the various accredited graduate medical schools can serve one year of internship under the supervision of seasoned specialists/consultants. The hospital has a modest capacity of 320 beds as reported by the administrator of the same hospital.

1.6 Significance of the Study

Incidence and mortality rates of cervical cancer among women are high in Hoima despite the limited documentation on the reported cases. The benefits of cervical cancer screening are that it will lead to early detection and management of cervical cancer so that related mortalities can be reduced. Unfortunately, the uptake of cervical cancer screening services is low in Hoima and this poses difficulties in the early detection and management of

cases (Adanu et al., 2010). Hence this study sought to identify the factors that affect the uptake of cervical cancer screening among women seeking health services at Hoima Regional Referral hospital, Hoima district.

Awareness of the factors that affect the uptake of cervical cancer screening services among women attending Hoima Regional Referral Hospital in Hoima district may assist in bringing on board many women to screen early and regularly, hence reducing the incidence of cervical cancer. Also, National Cervical Cancer Day to create awareness of cervical cancer screening and its benefits, increasing public health education on cervical cancer screening and increasing number of cervical cancer screening centers in both the district hospitals and health centres in Hoima will help increase the uptake of cervical cancer screening services.

1.7 Justification of the study

Cervical cancer remains a major public health problem in developing countries, especially in Africa where an estimated 53,000 women die of the disease every year (Arbyn et al., 2011; Catarino et al., 2015). Fortunately, measures for preventing cervical cancer that devastates families are available, efficient, low-cost screening approaches suitable for low-resource areas and vaccines that are efficacious in preventing the precancerous lesion that can lead to cervical cancer.

According to Hoima Regional Referral Hospital Annual Report, 2013/2014, 27 deaths were registered as a result of cervical cancer and more than 137 were referred to Mulago National Referral Hospital in advanced cervical cancer stages. The Medical director of HRRH said that “most women come to the hospital for gynecological treatment only to diagnose

cervical cancer in advanced stages yet the hospital has screening services which would help detect precancerous cells early enough for early diagnosis and treatment if cells found reactive before developing into cancer."

It is therefore evident that cervical cancer is the leading health problem causing death of women in Uganda today and if not well handled leads to several economic and social consequences to the families and Uganda's economy as a whole. The study therefore intended to determine women perceived susceptibility, perceived severity, perceived benefits and perceived barriers to cacx screening. This study will be essential in south western region and Hoima district in particular where HRRH is located because there is very limited self-driven demand, if any, from women seeking for cervical cancer screening services.

Therefore, to achieve SDG 3 on good health and wellbeing, by ensuring healthy lives and promoting wellbeing for all by 2030, the study will generate sound background information that can be used by key stakeholders such as Ministries of Health and Local Government in evolving and developing strategies to detect early and reduce the prevalence of cervical cancer and its related consequences in the district, region and the rest of the country. The study will add to the body of knowledge regarding factors affecting the uptake of cervical cancer screening among women in Hoima district. It will also assist incoming researchers by serving as a reference for future and further research.

The study has implications for positive social change because the findings from the study can be useful in developing interventions that can reduce the morbidity and mortality of cervical cancer not only among the study population but also among women worldwide.

The findings of this study will lead to recommendations that will enable the Ministry of Health to re-enforce cervical cancer screening program in Hoima regional referral Hospital with the aim of increasing cervical screening uptake among the eligible age group. This will lead to early identification of those at risk of developing cervical cancer and early interventions taken, thereby reducing the occurrence of the disease as well as decreasing mortality and morbidity resulting from it. This will go a long way in enabling the Ministry of Health and the government of Uganda to contribute to reduction of morbidity and mortality due to cervical cancer worldwide.

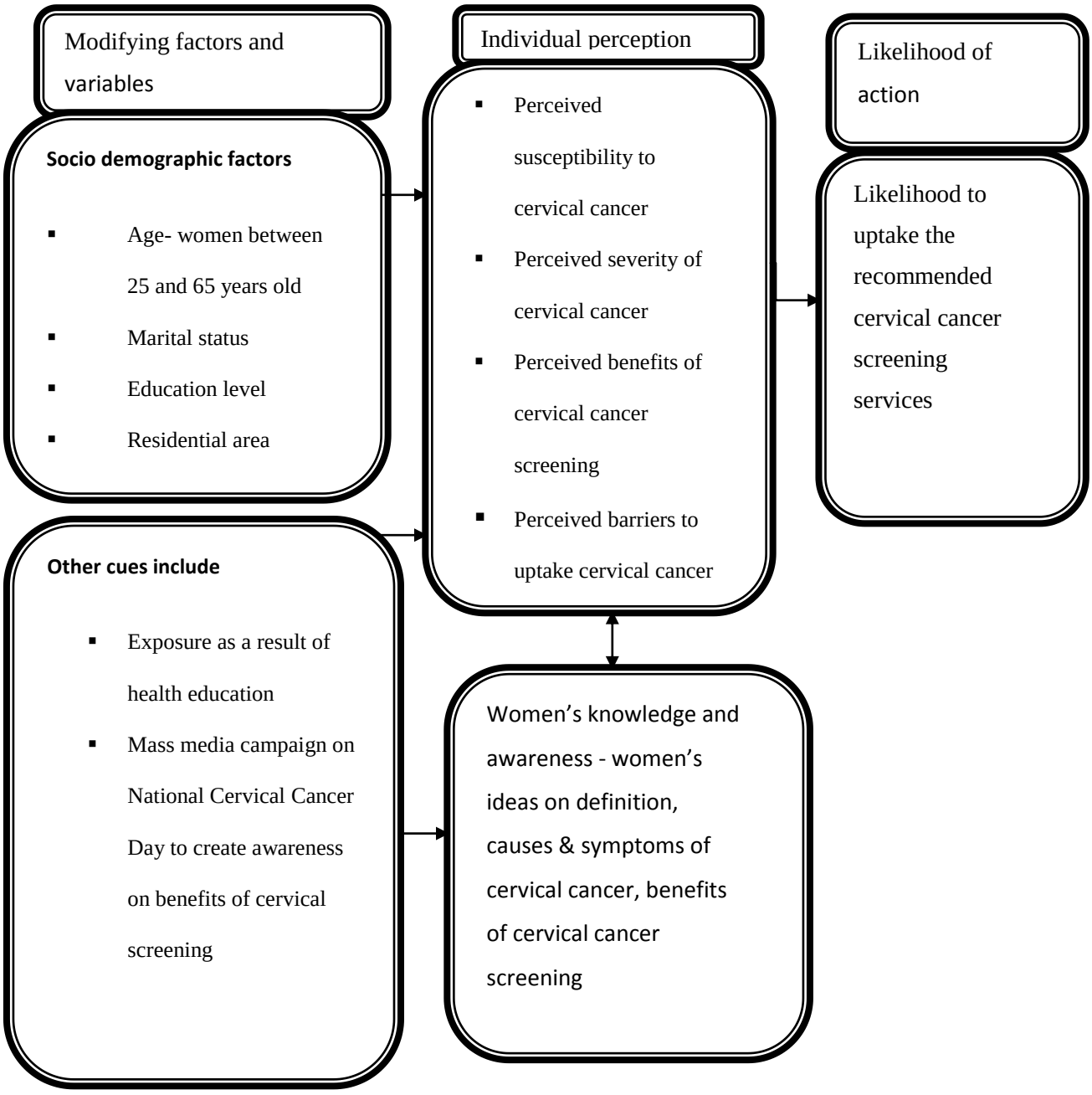
1.9 Theoretical framework

According to Burns, Grove & Gray (2011), a framework is an intelligent, rational structure of meaning such as a part of a theory that directs the study progress and helps the researcher to relate the results to knowledge. The theoretical framework aims at describing socio-demographic factors such as women's age, marital status and educational level.

The Health Belief model was used as a theoretical frame work to guide the study as it addresses issues regarding perceived susceptibility to the disease, perceived severity of the disease, perceived benefits of seeking preventive actions as well as perceived barriers to seeking the preventive actions. The Health belief model was proposed by Rosenstock (1966) in Stanhope and Lancaster for studying uptake of health services, and explains the widespread failure of people to participate in programs that detect and prevent diseases. Later, the model was extended to study peoples' responses to symptoms and their behaviors in response to diagnosed illness, especially adherence to medical regimens (Glanz et al., 2014). Major health behaviors emphasized by the Health Belief Model focus on prevention of diseases at their

asymptomatic stage (Glanz et al., 2014). The Model consists of several primary concepts that predict why people will take action to prevent, to screen for, or to control disease conditions. The model proposes that perceptions of the susceptibility to illness and the perceived severity of the illness affect whether a person denies having the illness, engages in primary prevention, or seeks early treatment. Factors that will be looked at will include women's perceived susceptibility to cervical cancer, perceived severity of cervical cancer, perceived benefits of screening for cervical cancer and perceived barriers to seeking cervical cancer screening.

Figure 1: Framework of the Health Belief Model



Adapted from Stanhope and Lancaster

The three major components of the health belief model are: individual perception, modifying factors and variables affecting likelihood to action.

Individual perception: perception is the process of becoming aware of objects, qualities or relation by a way of sense organ. The individual's perception of being at risk of cervical cancer will motivate the person to regular cervical screening in order to prevent cervical cancer.

Modifying factors: these are variables that change or improve likelihood of action. They include demographic variables, level of education, location of health facility, and mass media among others. They affect perception of threat; increased knowledge on cervical cancer screening will result in correct perception of threat based on scientific knowledge.

Likelihood of action: An individual will take action if he or she understands that there is need and that cervical cancer screening will help in reducing morbidity and mortality resulting from cervical cancer, and if barriers to the uptake of cervical cancer screening services are minimized. Since cervical cancer is not usually noticed until late stage the call to go for screening seems to be ignored. Some women may not consider it as important because they have other competing needs, while others will perceive it as a needful prevention health behavior. It holds that when cues to actions are present, the variations in uptake behavior can be accounted for by beliefs concerning four sets of variables. These include the individual's perception on vulnerability to cervical cancer; if an individual does not see him or herself as being at risk of any problem, he or she will not seek care. Belief on severity of cervical cancer; the associated problem could be seen as minor therefore little attention will be required. The person's perception of the benefits associated with cervical cancer screening to reduce the level of threat or vulnerability and; The individual's evaluation of the potential barrier associated with cervical cancer screening which could be physical, psycho-socio, and financial will determine the decision to uptake the recommended cervical cancer screening services.

CHAPTER TWO:

LITERATURE REVIEW

2.0 Introduction

This chapter presents the conceptualization and theorization of the study with regard to the recognized objectives. The chapter gives a comprehensive overview of literature on the present topic: Factors affecting the uptake of cervical cancer screening among women aged 25 to 65 years attending health services in Hoima Regional Referral Hospital, Hoima district. The literature review focused on the following objectives; women's perceived susceptibility to cervical cancer, their perceived severity of cervical cancer, perceived benefits of doing cervical cancer screening, perceived barriers to seeking cervical cancer screening, level of uptake for cervical cancer screening and the association between socio-demographic characteristics of participants on cervical cancer screening programs with their perceived susceptibility to cervical cancer, perceived severity of cervical cancer, perceived benefits of cervical cancer screening and perceived barriers to seeking cervical cancer screening. The findings in the literature were presented according to the construct of the Health Belief Model. However, it is preceded with overview on cervical cancer screening and knowledge on cervical cancer screening.

2.1 Overview on cervical cancer screening

Over fifty three thousand (53,334) women die of cervical cancer each year in Africa due to several factors, which can be broadly categorized as socio-cultural, health system, socio-economic and biological factors. Cervical cancer is a rising public health concern as it is a

growing cause of high morbidity and mortality rates among women in Africa, It is the most commonly diagnosed cancer among women in Southern or Sub-Saharan Africa (SSA) and Central America. Of 274,000 deaths due to cervical cancer each year, more than 80% occur in developing countries, and this proportion is expected to increase to 90% by 2020 (Ferlay, J. 2013). An estimate of 274,000 deaths is too high and this is because access to cervical screening services is still inadequate in government health facilities in developing countries but also women have poor health seeking behavior (Dennyas, 2012).

According to Twinomujuni et al., (2015), at least 2,464 women are dying in Uganda from cervical cancer annually. Over 3,577 more are diagnosed with the disease that has become Uganda's leading cancer. According to (Mugisha et al.,2015), cervical cancer is the most common form of cancer affecting Ugandan women, reports indicate that every year, 3,577 women are diagnosed with cervical cancer and 2,464 die from the disease. About 33.6 percent of women in the general population are estimated to harbor cervical human papilloma virus infection - the main cause of cervical cancer at any given time annually. The American Cancer Society (2009) revealed that the primary causative agent of cervical cancer is the human papilloma virus (HPV) and high risk types HPV-16, -18, -31, - 45 account for more than 90% of cervical carcinoma of which HPV-16 is the most often found). The recognized predisposing factors for cervical cancer include sexual intercourse from a young age, multiple sexual partners, smoking, and immune-suppression (Siegel, Jemal, 2013).

The cervix is the inferior part of the uterus that opens into the vagina (Kumar, Mitchell, 2015). Cervical cancer is when the cells of the cervix grow out of control in the tissue layers of the cervix. Unlike normal cells which divide and grow in an organized fashion, malignant

cancer cells continue to divide to form a growth or tumor which may look like a cauliflower that bleeds easily on contact (Smeltzer et al 2011). In some cases, the cancer cells become invasive, spreading to tissues and organs outside of the cervix. Most cervical cancers develop slowly in the lining of the cervix as pre-cancerous changes known as cervical dysplasia which can potentially develop into cancer if not treated early, but some dysplasia cells may not be malignant and can disappear without treatment (Obiechina&Mbamara, 2012).

The cervical cancer screening test is conducted by a trained medical worker in health facilities by taking a small sample of cells from the surface of the cervix a process called Pap smear. The test can also be done through visual inspection using acetic acid. These tests look for cell changes on the cervix that may become cervical cancer if not treated appropriately (recommended for women between 21-65 years), and the other test is the HPV test which looks for the virus (HPV) which can cause change. The best technique to use in Cervical Cancer screening is still a matter of debate (Meijer, 2012). Cervical screening is very important because cervical cancer can be stopped from developing in the first place; it is among the few cancers that are preventable because abnormal cell changes can be identified before they have a chance to develop into a cancer (Moyer, 2012).

The American Cancer Society (2009) recommends that, every woman who is sexually active, or 21 years of age or more, should have a cervical cancer screening done annually for the first three consecutive years. After three years of a normal Papanicolou smear, the woman can then screen less regularly. For example once every three years if she is classified as being at low risk for cervical cancer. An annual Pap smear should be done if she is classified as being at high risk (Saslow et al, 2013). Women classified as being at high risk for cervical cancer

include persons with human immunodeficiency virus, persons with associated human papilloma virus infection, those with multiple sexual partners, those with a history of other cancers and those with a family history of cervical cancer (Saslow et al, 2013).

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According to Labeit, and Peinemann, (2013), Cervical Cancer screening involves testing apparently healthy people for signs and symptoms that could show that a cancer is starting to develop. Cervical screening is a way of preventing cervical cancer by finding and treating early changes in the cervix. These changes could lead to cancer if left untreated. According to Ali, Wassie, &Kuelker, (2012) early detection predicts better prognosis, one of the most effective ways of preventing and controlling cervical cancer is regular screening and early diagnosis. Despite the fact that more than 80% of cervical cancer cases are in developing countries, only 5% of women have ever been screened for cervical abnormalities. This study aims at examining the reasons why most women come to Hoima Regional Referral Hospital seeking for cervical treatment when it is too late to reverse the condition and they end up dying.

All women are potentially at risk of developing cervical cancer at some point in their lifetime. The most common risk factors for cervical cancer include an early age of first intercourse, having multiple sexual partners, and having experienced a weakened immune system. Cervical cancer is most often diagnosed in women in their late 30s. It can, however, be diagnosed in younger as well as older women. Most times, there is vaginal discharge, and discomfort during intercourse as symptoms of cervical cancer also, women who have had their menopause may experience new bleeding. While these symptoms can be caused by other

conditions rather than cervical cancer, they should raise your doctor's suspicion that you may have cervical cancer (Release, 2013).

Regular screening of women between the ages of 25 and 65 years with VIA and the Pap test decreases the chance of dying from cervical cancer (Saslow et al., 2012). The guidelines show that women with certain risk factors need to have more frequent screening or to continue screening even beyond 65 years. These risk factors include being HIV infection, being immune suppressed, and having been treated for a precancerous cervical lesion or cervical cancer (Smith et al., 2014).

According to the In-depth interviews conducted with 20 Malaysian women aged 21-56 years and who have never had a Pap smear test as documented by Wong et al., (2013), with the aim to explore their knowledge on cervical cancer screening, it was found out that there was lack of knowledge on cervical cancer and the Pap smear test among the respondents. Many women did not have a clear understanding of the meaning of an abnormal cervical smear and the need for the early detection of cervical cancer. Many believe the purpose of the Pap smear test is to detect existing cervical cancer, leading to the belief that Pap smear screening is not required since the respondents had no symptoms. Despite considerable awareness of a link between cervical cancer and sexual activity, as well as the role of a sexually-transmitted infection, none of the respondents had knowledge of the human papilloma virus (Low, Khoo, &Shuib, 2009).

According to the Saslow et al., (2012), cervical cancer is the easiest gynecologic cancer

to prevent, if there is regular screening tests and follow-up. Two screening tests can help prevent cervical cancer or find it early and they are the Pap test or Pap smear which looks for pre-cancers, cell changes on the cervix that might become cervical cancer if they are not treated appropriately and the HPV test that looks for the human papilloma virus (HPV) that can cause these cell changes. The Pap test is recommended for all women between the ages of 21 and 65 years old. Cervical cancer screening is recommended every three years for all women starting at age 21 who are or ever have been sexually active. Sexual activity includes sexual intercourse, as well as digital or oral sexual activity involving the genital area with a partner of either gender. Women who are not sexually active by 25 years of age should delay cervical cancer screening until sexually active. Regardless of sexual history, there is no evidence to support screening women under 25 years of age. However, based on the latest clinical evidence, cervical cancer screening every three years is effective and Pap tests can stop at age 70 in women who have had three or more normal tests in the prior 10 years.

According to US National Cancer Institute, women who have been vaccinated against HPV still need to be screened for cervical cancer because HPV vaccines do not protect against all HPV types that cause cervical cancer, it is therefore important for vaccinated women to continue undergo routine cervical cancer screening (Smith et al., 2014 and 2016).

Although cervical cancer screening tests are highly effective, there are could be errors in reporting results. Sometimes a patient can be told that she has abnormal cells when the cells are actually normal (a false-positive result), or she can be told that her cells are normal when in fact there is an abnormality that was not detected (a false-negative result) Saslow et al., (2012). However the above has big implications on one's health in such a way that if a client gets a

false positive result she is going to be subjected to treatment which may have a cost implication as well as psychological impact on that client hence a health concern for that client and on the other side, a client with a false negative will be declared cervical cancer free and yet her life is being torn away by the virus, therefore, it is always good to do a routine cervical cancer screening to rule out all issues related to specificity and sensitivity.

The screening intervals in the US (2012) guidelines are intended to minimize the harm caused by treating abnormalities that would never progress to cancer while also limiting false-negative results that would delay the diagnosis and treatment of precancerous condition or cancer. With these intervals, if HPV infection or abnormal cells are missed at one screen, chances are good that abnormal cells will be detected at the next screening exam where they can still be treated successfully (Smith et al., 2014).

Use of the Pap smear for routine screening of women has resulted in a dramatic decline in cervical cancer deaths over the past four decades in wealthier countries. A key reason for continuing high mortality in the developing world is the shortage of efficient, high-quality screening programs in those regions. with support from the Bill & Melinda Gates Foundation, the partners i.e. Alliance for Cervical Cancer Prevention (ACCP)worked on a coordinated research agenda aimed at assessing a variety of approaches to cervical cancer screening and treatment (especially ones that may be better suited to low-resource settings), improving service delivery systems, ensuring that community perspectives and needs are incorporated into program design, and increasing awareness of cervical cancer and effective prevention strategies, however a general issue was a lack of consensus about the most effective and

feasible options for improving cancer screening and treatment services(Sankaranarayanan, et al, 2012).

2.2 Knowledge on cervical cancer screening

According to a study conducted by Nwankwo et al. 2011) to ascertain the Knowledge, attitudes and practices of cervical cancer screening among urban and rural Nigerian women noted that factors that hindered the use of available cervical cancer screening services were lack of knowledge (49.8%) and the feeling that they had no medical problems (32.0%). It was noted that there was poor knowledge on cervical cancer screening among Nigerian women. Effective female education and free mass screening are necessary for any successful cervical cancer screening program.

According to Twinomujuni et al., (2015), low levels of awareness on the importance of screening, low knowledge about the common symptoms associated with cervical cancer, lack of skilled service providers, inadequate equipment and supplies, and the lack of treatment facilities when there is a pre-cancers or cancer diagnosis. On the policy front, historically there has been inadequate monitoring and evaluation of existing programs and low to moderate prioritization of cervical cancer among policy makers and opinion leaders. Therefore, as the world marks International women's day, there is an opportunity to step back and reassess strategic options for dealing with cervical cancer both today and in the future.

In a study to assess knowledge on the risk factors associated with, and detection methods of cervical cancer among female undergraduate students at Mangosuthu University of Technology, findings suggested that there were low level of knowledge on cervical cancer and

its risk factors and detection method among these female university students (Hoque, & Kader, 2013). A total of 389 students were selected by stratified random sampling techniques. Results indicated that 51.2% students were currently involved in a sexual relationship, with 19.2% reporting two or more sexual partners in the past year. Less than half (42.9%) of the participants had heard of cervical cancer and of these, 26 (15.6%) did not know any risk factors for cervical cancer, 96(58.6%) of 164 participants who knew of risk factors, did not know that cervical cancer is preventable. One-hundred and sixty-three (41.9%) participants had heard about the Pap smear test. That the Pap smear test is used for detection or prevention of cervical cancer, was known to 62 (38%) of the respondents. Only 16 (9.8%) participants had had a Pap smear test. Among those who knew about the Pap smear test (n=136), 86 respondents did not have the test done mainly because of personal factors such as fear of the procedure, cultural or religious reasons, and were not ill (61.1%).

According to Ali et al., (2012), noted that several studies showed poor knowledge of cervical cancer throughout southern Africa, cutting across different literacy levels. A study in Malawi found low levels of knowledge regarding cervical cancer in Mulanje, especially with respect to the need for cervical cancer screening. Without adequate information on the disease, the associated risk factors and prevention measures, women are unable to make decisions to take preventative measures to minimise the risk of getting the disease. Based on Eastern Africa studies performing HPV detection tests in cervical samples, about 35.8% of women in the general population are estimated to harbor cervical HPV infection at a given time, and 76.5% of invasive cervical cancers are attributed to HPVs 16 or 18 (Brotons M, Cosano R, 2014).

Studies in Japan, Malaysia and South Africa revealed that the respondents had inadequate knowledge on cervical cancer and early screening using the Pap smear test, and were thus unaware that it could save their lives (Oshima & Maezawa, 2013). A study in Cameroon found that, notwithstanding the awareness of cervical cancer by 28% of 171 women studied, only a minority of them, 4 of 48 (8.3%), had undergone cervical cancer screening Only 71 of 171 (41.5%) women stated they would have a screening test in the future. The awareness of cervical cancer by women in Cameroon is still inadequate (Tebeu et al., 2015).

According to the study by Saslow et al., (2012), it was noted that women did not know what screening entailed but they believed that screening was good as it would help those that have cervical cancer signs to know early so they can be treated early to maintain good health. A study of influences on uptake of reproductive health services revealed that knowledge about cervical cancer among the women was very low. Prominent in their finding was the fact that patients are not given adequate information on cervical cancer and screening. This indicates that women are willing to know about their health but nurses are not using their vantage positions to provide necessary information on cervical cancer. In this study, the researcher will assess the level of awareness creation on cervical cancer screening among the study population.

In a similar study, majority of the study subjects said that they had never heard about cervical cancer, only a few accepted to have heard about cervical cancer and had responses such as there are signs and symptoms which may also be caused by other conditions other than cervical cancer and may include an infection leading pain or bleeding. Still, it is advisable to seek for medical attention in case any of the above mentioned conditions are noticed. If it is

early signs of cancer, ignoring symptoms might progress into a more advanced stage and lower chances of effective treatment. Even better, don't wait for symptoms to appear. Be screened regularly (Smith et al., 2014).

A study on knowledge and attitude towards cervical cancer among female university students in South Africa reported limited knowledge on the benefits of cervical cancer screening and only thirty-eight percent (38%) knew that cervical cancer screening was used for detection or prevention of cervical cancer (Hoque, 2013). Also, a study carried out in Peru and El Salvador specifically sought to inquire about perceived benefits obtained by women who had had a Pap smear. The response included peace of mind in 97% of cases, specifically if found to be negative for cervical cancer, 67% of the study subjects responded that there would be increased responsibility to self-care since cervical cancer screening could find changes in the cervix before becoming cancerous, and increased chances of cervical cancer prevention.

Early detection of cervical cancer has not been achieved as the knowledge and attitude towards cervical cancer and prevention is low (Lyttle & Stadelman, 2015). Prognosis of cervical cancer can be good if it is detected early (Boetes & Burke, 2016). According to the WHO, 2008 women's knowledge of cervical cancer is inadequate and the majority of women in developing countries are not aware of cervical cancer and cervical cancer screening.

A community based cross-sectional survey conducted among women of age 15 and above in Gondar town revealed that knowledge about cervical cancer(risk factors, signs and symptoms) was poor in spite of the majority of the women had heard about the disease

(Getahun, &Birhanu, 2013). A total of 633 women aged 15 and above years were included in the study making the response rate 100%. Of the participants, 436 (69.3%) were aged between 20-39 years with a mean age of 31 years and 281 (44.6%) were married. A series of questions regarding risk factors, main symptoms, treatment options and prevention and early detection measures of cervical cancer were asked to evaluate the respondents' knowledge on cervical cancer screening. About 47.5% of the respondents did not know whether there are risk factors for cervical cancer or not and 17 (2.7%) stated that there is no risk factor for cervical cancer. One hundred eighteen (18.8%) of the study participants were unable to mention a risk factor although they said that cervical cancer has a risk factor. In general, 195 (31.0%) of them were able to identify at least one risk factor for cervical cancer.

According to the study conducted in Malaysia on women aged 21-56 years and who have never had a Pap smear test as documented by Wong et al 2011, with the aim to explore their knowledge on cervical cancer screening, it was found out that there was lack of knowledge on cervical cancer and the Pap smear test among the respondents. Many women did not have a clear understanding of the meaning of an abnormal cervical smear and the need for the early detection of cervical cancer. Many believe the purpose of the Pap smear test is to detect existing cervical cancer, leading to the belief that Pap smear screening is not required since the respondents had no symptoms. Despite considerable awareness of a link between cervical cancer and sexual activity, as well as the role of a sexually-transmitted infection, none of the respondents had knowledge of the human papillomavirus (Wong, Wong, Low, Khoo, & Shuib, 2011).

According to a study that was conducted by Mwaka, Okello, (2014) on understanding cervical cancer: an exploration of lay perceptions, beliefs and knowledge about cervical cancer among the Acholi in northern Uganda, it was noted that the community had limited knowledge on cervical cancer screening. It was concluded that while some lay beliefs about the causes of cervical cancer suggest some understanding of the causes of the disease, other perceived causes particularly those related to use of family planning and condoms are potentially hurtful to public health.

Factors associated with reducing uptake of cervical cancer screening programs by women are poor awareness of the indications and benefits of screening, lack of knowledge of cervical cancer and its risk factors, fear of been embarrassment by health care workers, fear of pain and fear of finding a positive result (Bruni L, Barrionuevo-Rosas L, Serrano B, 2014) Lack of female screening personnel in health facilities, convenient clinic times, anxiety caused by receiving an abnormal cervical smear result, poor understanding of the cervical cancer screening procedures and a need for additional information are other barriers for uptake in cervical cancer screening programs.

A study of socio-demographic factors associated with non-participation amongst Taiwanese women by Wangi and Lin (2013) in which 40% of women sampled had never had a Pap smear and 86% did not have one in the past year, reported age as the strongest factor affecting cervical cancer screening, particularly for women below the age 30 and above 65 year olds. The study also found that, women with lower levels of education, who were unemployed, never-married and those who live outside the city tend to underuse Pap smear screening services (Wangi and Lin, 2013). Significant determinants of lack of cervical cancer

screening among Taiwanese women living in Taiwan by Wangi and Lin (2013) and Hayward and Swan (2012) include living in the southern part of the urban area, lower level of education, unemployment status, and an unmarried status. Socio-demographic characteristics (age, marital status, educational qualification, employment status, residential area etc) varied between women who had never had a Pap smear and women who had not had one in the past year (Hayward and Swan, 2012). Regarding age, women aged 65 years and older were 13 times more likely not to have had a Pap smear in the past year, while women aged less than 30 years are more likely to have had a Pap smear test in the past 3years Wangi and Lin, (2013), reported that age was the most important factor in determining Pap smear use with higher rates of participation among the middle aged group (40-60years).

Wangi and Lin (2013) reported that higher level of education was related negatively to never having had a Pap smear and unemployment was more strongly related to the lack of a recent Pap smear. Illiterate woman had the greatest risk of never 26 having cervical cancer screening in the multivariate model. Nathoo (2015) reported that typical estimates of the percentage of women who fail to utilize Pap smear screening services range from 30% to 44% and have been reported to be observed among younger women, those lacking health insurance, those with less than a high school education, and those that are unmarried women.

A study conducted by the National Cancer Institute, Cancer Screening Consortium for Underserved Women in 2015 also reported that women in poor and minority communities have been identified as being less likely to utilize screening by Pap smears and they are less likely to follow up after an abnormal Pap smear. The reasons for the poor uptake among these women are grouped into 3 broad categories namely demographic, psychosocial, and

organizational. The demographic category includes such factors as age, income level, education level, and marital status. The psychosocial category includes beliefs about susceptibility to and the severity of cervical cancer, general knowledge about cervical cancer and cervical cancer screening, and barriers to screening including fear of pain and embarrassment. The organizational category includes barriers such as limited access to testing facilities and limitations in services.

In Botswana, Mc Farland (2003) reported that lack of cervical cancer screening or infrequent use of cervical cancer was noted for different reasons like lack of knowledge, lack of access to health care, financial constraints, and attitudes of health care workers etc. Perceived susceptibility to cervical cancer, perceived severity to cervical cancer, perceived benefits to doing cervical cancer screening and perceived barriers to seeking cervical cancer screening are the major factors that determines a woman's likely hood to do cervical cancer screening although attitudes of health providers, availability and cost are other important determinants. Therefore, the assumption is that if these screening services are available and accessible at no cost, the uptake of cervical cancer screening will depend largely on the perceived susceptibility of women to cervical cancer, perceived severity of cervical cancer, perceived benefits of doing cervical cancer screening and perceived barriers to seeking cervical cancer screening. If the uptake is to be increased to achieve the desired goals, these issues must be recognised and taken into account when planning and implementing effective cervical cancer screening programs in order to reduce the mortality and morbidity resulting from cervical cancer. Therefore, determining ways of overcoming these problems is a pre-requisite for improving female uptake in cervical cancer screening program.

2.3 Perceived susceptibility to cervical cancer

While in developed countries, people who perceive susceptibility to an illness take preventive actions early, the case is entirely different in most developing countries where preventive actions are usually viewed as an unnecessary practice (Sawadogo, Gitta, et al., 2012). Most people in developing countries do not view preventive health actions such as cancer prevention as a 27 priority but rather believe in curative health actions instead of preventive health practices. As a result, majority of women in less develop countries believe that screening for cervical cancer is not necessary. Shrestha, Saha, Tripathi (2013), reported that majority of women perceived cervical cancer screening as an unnecessary diagnostic procedure rather than a preventive health measure. A National Health interview survey conducted in 2011 revealed that most women understood that cervical cancer screening successfully detects cervical cancer early, but they do not see themselves as been at risk of developing cervical cancer especially if they do not have any symptoms or have any family history of cervical cancer (Mutyaba et al., 2011).

Barron et al., (2015) conducted a study on Ethnic influences on body awareness, trait anxiety, perceived risk, and breast and gynecological cancer screening practices among women in Finland and found that majority of women below the age of 40 years (about 73%) believed that older women are at greater risk of having cervical cancer than themselves, 57% disagreed or strongly disagreed that every woman of child bearing age is at risk of cervical cancer and 62.5% thinks that cervical cancer is a disease of the elderly and as a result, their susceptibility to developing cervical cancer increases with age usually above the age of 50years.

Similarly, Shrestha, Saha, Tripathi (2013) in a study among Muslim Women in Songkla concerning their health belief regarding cervical cancer screening reported that majority of women either disagreed or strongly disagreed that the risk of cervical cancer increases with parity (68.8%) but agreed or strongly agreed that cervical cancer is more common to women who are HIV positive (81.6%) and since there is an association between multiple sexual partners and HIV positive, the risk is also higher (79.8%) among women with multiple sexual partners. Therefore, the studies above suggest that, while most women are aware that cervical cancer screening detects cervical cancer at an early stage, they did not perceive themselves as vulnerable if they do not have symptoms or family history of cervical cancer. A significant proportion believed that susceptibility to cervical cancer is higher among older women, those with multiple sexual partners and those who are HIV positive. Majority did not think that the risk to developing cervical cancer increases with parity or that every woman of child bearing age is at risk. Knowledge of these risk factors determines the way each individual woman perceive susceptibility to cervical cancer but whether this influences uptake in participating in cervical cancer screening programs especially in developing countries needs to be explored.

Another study conducted in Nigeria by Udigwe, 2016, identified that the most common reason for women not uptaking Pap smear was the perception that they were not at risk of contracting the disease (34.4%). Despite the high awareness by our respondents of the link between cervical cancer and sexual activity, as well as the place of sexually transmitted diseases, a large proportion of study subjects still believed they were not at risk. The perception of one's susceptibility can on the long run affect screening behavior. A similar finding was also observed from the study in Ghana where 47% of their subjects felt they were not at risk of the disease (Abotchie and Shokar, 2009).

2.4 Perceived severity of cervical cancer

Most women know that cervical cancer is a serious disease and studies on the perceived severity of cervical cancer have not been carried out in many developing countries (Schulterman, Greenberg (2013). A survey on the perceived severity of cervical cancer among adult females in Quebec found that 57% of women were afraid of developing cervical cancer sometime in their life, and 93% thought developing cervical cancer has serious consequences, Cervical cancer related anxiety and perceived seriousness did not vary by age group or level of education (WHO, 2012).

Studies conducted among college women reported that, 98% of college women felt that cervical cancer is a very serious condition and half of them think that it is not a treatable disease (Burak and Meyer, 2017). Similarly, Price et al., (1206), found that 92% of women believed that cervical cancer is the second most serious type cancer a woman can have (first being breast cancer) and most women who develop cervical cancer certainly die from it. Studies that compared participants of cervical cancer screening and non-participants of cervical cancer screening programs found that these women equally agreed that cervical cancer is a serious disease but twice the proportion in the participants group believed that cervical cancer is easily cured if identified early as opposed to the non-participant group who believed that cervical cancer is not treatable irrespective of time of identification (Leyva et al., 2016). If most women are aware that cervical cancer is a serious disease, the reasons why they do not expedite preventive measures like cervical cancer screening to prevent such a serious disease especially in less developed countries needs to be explored especially as the service is provided at no cost.

2.5 Perceived benefits of doing cervical cancer screening

One of the decisive factors in adopting proactive health behaviors, according to the health belief model, is obtaining benefits from the said behavior. The primary reason given by forty-one percent (41%) of women who failed to participate in cervical cancer screening programs was that they believe they did not need it (Bessler et al., 2017). The same women who indicated they did not need cervical cancer screening frequently reported lack of symptoms as their justification (Tavafian, 2012.)

A study on knowledge of and attitude towards cervical cancer among female university students in South Africa reported a low knowledge about the benefits of cervical cancer screening and only thirty-eight percent (38%) knew that it is used for detection or prevention of cervical cancer (Hoque et al., 2012). Studies carried out in Peru and El Salvador specifically sought to inquire about perceived benefits obtained by women who had done a Pap smear. The response include peace of mind in ninety- seven percent (97%) of cases particularly if found to be negative for cervical cancer, increased responsibility to self care since cervical cancer screening can find changes in the cervix before they become cancer in sixty-seven percent (67%) of responses and increased chances of early detection and therefore cure of cervical cancer in eighty-three percent (83%) of cases (Agurto et al., 2004).

According to a study by Redhwan Ahmed, (2014), on factors affecting uptake of cervical cancer screening among clinic attendees in Trelawny, Jamaica; 18% of women who never had Pap smear reported that Pap smear was not necessary as it will only increase a woman's anxiety if found to be suggestive of cervical cancer. Among those who had Pap smear test, 60% reported that cervical cancer was sometimes cured by early diagnosis from

doing a Pap smear 29 and as a result can be used to address problems associated with infertility but 42% of those who never had a Pap smear does not think cervical cancer is treatable (Dehdari, Hassani, Shojaeizadeh, 2016). It is a well established fact that knowledge does not always translate into behaviour but improved knowledge has been found to increase uptake of cervical cancer screening in most research settings (Corral et al., 2012). Successful cervical cancer screening programs depend on the participation of informed target population through programs that build knowledge and address misconceptions of the screening programs and therefore increase acceptability and thus improve uptake in cervical cancer screening programs. Is lack of information, knowledge and awareness an issue in the case of Botswana, where available services at no cost are not utilized? The reasons while at risk groups fail to utilize preventive cervical cancer screening services available at no cost might be due to the fact that they do not see the benefits of the program. This needs to be explored with the aim of addressing them in order to improve uptake of cervical cancer screening.

2.6 Perceived barriers to cervical cancer screening

Many studies have identified fear of a positive result of having cervical cancer, embarrassment, pain, financial constraints, and attitudes of health workers, lack of convenient clinic times and lack of female screeners etc as the major barriers to cervical cancer screening. A study on structured education on knowledge regarding prevention of cervical cancer Screening among students by Nootan, Ramling, (2014) found that about 42% of the study population feared that their health provider would find cervical cancer if they do Pap smear test, 46% reported that their major concern was pain associated with the procedure and 24% reported that not receiving the result back was the main reason why they are not interested in doing cervical cancer screening.

Cunningham, et al., (2015) compared women who had a Pap smear and those who never had a Pap smear test done. Their findings showed that 82.4% of those who had a Pap smear test felt very sure or completely sure that they could discuss with their healthcare provider, issues regarding Pap smear test and therefore provider's attitude was not a barrier. However, 78% of those who never had cervical cancer screening felt they could get a Pap test done even if they were worried that it will be painful (74% vs. 57%), and that they could get a Pap test done even if they were worried that it would be embarrassing (49.6% vs. 22%). Therefore, fear as a result of pain and non-participation due to embarrassment was not a problem among the nonparticipant subgroup. The study also found that those who had never had a Pap test were more likely than those who had to say they felt sure or completely sure that they could make an appointment to have a Pap test (87% vs. 84%) and that they would be able to reschedule, if an appointment was missed (95.5% vs. 90%). This study therefore suggests that provider's attitude, pain of the procedure, embarrassment and convenient clinic time was not a contributory factor among the non-participant groups.

A study on Cervical cancer and Pap smear screening in Botswana; Knowledge and perceptions by Mcfarland (2013) found that only 40.0% of study participants had ever had Pap smear tests and the major barriers to obtaining Pap smear tests included inadequate knowledge about benefits of Pap smear screening, insufficient information about the Pap smear screening procedure, provider's attitudes, and limited access to physicians. Reasons for limited knowledge included cultural norms of secrecy, providers not informing the public, and policy makers' limited attention to cervical cancer.

Providers' major barriers to providing Pap smear tests was found to include clients' inadequate knowledge of Pap smear screening, providers' inability to see the importance of Pap smear tests, workload and staff shortages (Brun,2014). Thus, if these barriers to doing cervical cancer screening are addressed, the uptake of cervical cancer screening can improve given that the barriers deter most women from doing cervical cancer screenings especially misconceptions and cultural beliefs.

2.7 Level of uptake of cervical cancer screening services

According to the strategic plan for cervical cancer prevention and control in Uganda 2010-2014, it is recommended that sexually active women be screened for cervical cancer at least once in every two years (HSSP, 2014). And according to (Moyer, 2012), it is important for one to continue getting a Pap test/smear (looking for cell changes in the cervix) if 21-65 years old as directed by your doctor. On the other hand, according Smith et al., (2014), if one has screened and results are negative, the recommended period is three years for HIV free clients and one year for HIV infected clients. In a case where Pap smear or VIA test indicate abnormal results, further management will be done urgently

Studies in developed countries reported that frequent cervical cancer screening, with a follow-up of identified cervical abnormalities can significantly reduce the rate of cervical cancer, and therefore the death and morbidity linked with it (Juckett & Hartman-Adams, 2012). The occurrence of and mortality from cervical cancer is reduced in developed countries

because of the provision of resources to prevention initiatives. Cervical cancer screening is essential so as to ensure early detection of pre-cancer lesions in order to reduce the occurrence and mortality due to cervical cancer in the population (Adanu et al., 2010).

While studies in the developed countries (Sawadogo, Gitta, et al., 2013), have reported a high percentage of participation in cervical cancer screening of about 86% and a follow up rate of 76% within 3 years after initial screening, studies in less developed countries (Carey et al., 2013 and Lerman et al., 2015) reported low participation rates of 23% and follow up rates of 46% within 3 years after initial screening. The reasons for nonparticipation among these women in less developed countries according to a study carried out in Southern Brazil (Cesar et al., 2012) in which 1,302 women were interviewed and 57% had never had a Pap smear, reported the factors most closely associated with non-participation in cervical cancer screening programs were black or brown skin colour, young age, low family income, low schooling, living alone, and first childbirth after 25 years of age.

2.8 Association of socio-demographic characteristics with the constructs of health belief model

The higher the perceived susceptibility to cervical cancer, the more likely an individual will take steps to initiate preventive actions as predicted by the health belief model. Studies that looked at the relationship between perceived susceptibility and socio-demographic characteristics reported positive association with high monthly income, high educational level, marital status and residential area, thus suggesting that these groups are more likely to participate in cervical cancer screening that their counterparts (Lyimo & Beran,2012).

Boonpongmanee (2015) looked at the association between socio-demographic characteristics and perceived susceptibility to cervical cancer screening and reported an association between perceived susceptibility with marital status (P0.05). This could be explained by the fact that, Thai women and other Asian women were concerned that Pap smear will take away their virginity. Because premarital sex is unacceptable for respectable women in Thai society, majority of unmarried women are not sexually experienced, and unmarried women consider themselves at low risk of cervical cancer because they are not sexually active.

Financial constraints was significantly associated to never doing a Pap smear as was with cost of transportation among poor women who had to travel some distance to do Pap smear test. Lyimo & Beran,(2012) reported significant association between perceived barriers to cervical cancer screening with employment due to lack of convenient clinic time. Educational qualification, income, marital status and age were negatively associated with perceived barriers to cervical cancer screening as those who are educated, have high family income, above the age of 35 years and are married were more likely to have done cervical cancer screening that their counterparts (Shrestha, Saha, Tripathi,2013).

Therefore, socio-demographic characteristics can play a role in uptake of cervical cancer screening programs as education, income, marital status, age etc are known to affect the perceived susceptibility, perceived severity, perceived benefits and perceived barriers to cervical cancer screening of different groups of at risk women.

2.8 Conclusion

Cervical cancer screening is an important screening test for women at risk of developing cervical cancer. Depending on usage which actually depends on the women's perceived susceptibility to cervical cancer, perceived severity of cervical cancer, perceived benefits of doing cervical cancer screening, and perceived barriers to seeking cervical cancer screening etc, cervical cancer screening can reduce mortality and morbidity among women due to cervical cancer. This is because with effective utilization, early identification and treatment can be initiated hence improving the quality of life of the women at risk. This study using the Health Belief Model therefore, sought to elucidate the perceived susceptibility to cervical cancer, perceived severity of cervical cancer, perceived benefits of doing cervical cancer screening and perceived barriers to seeking cervical cancer screening among adult women attending Hoima regional Referral Hospital in order to recommended ways of improving uptake in cervical cancer screening among the risk group in Hoima region.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

Research methodology is the logical study of the approaches and processes for collecting and analysing data in a field of study (Burns & Grove, 2011). This chapter details the techniques the researcher used to collect the relevant data for the study. It presents methodological aspects that were used in executing the study titled; Uptake of Cervical Cancer Screening Services among Women (25-65years) in Hoima Regional Referral Hospital

The chapter describes (1) Research Design (2) Area of Study (3) study Population, (4) Sampling Procedures (5) Sample Size (6) Sampling Techniques (7) Data Collection Methods and Instruments (8) Quality control Methods (9) Data Management and processing (10) Data Analysis (11) Anticipated study limitation (12) Ethical consideration (13) Ethical Considerations.

3.1 Research design

De Vos, Strydom, Fouche & Delport (2011), defined a research design as a blueprint for maximal regulation of factors that may affect the validity of the study findings. The study was analytical cross sectional survey that enabled the researcher to gather information from the women attending Hoima Regional Referral Hospital at a single point in time.

The aim of the study was to identify the women's perceived susceptibility to cervical cancer, women's perceived severity of cervical cancer, women's perceived benefits of doing

cervical cancer screening, women's perceived barriers to seeking cervical cancer screening, and the association between socio-demographic characteristics and perceived susceptibility to cervical cancer, socio-demographic characteristics and perceived severity of cervical cancer, socio-demographic characteristics and perceived benefits of cervical cancer screening and socio-demographic characteristics and perceived barriers to seeking cervical cancer screening.

3.2 Area of Study

The study was conducted in Hoima Regional Referral Hospital (HRRH) commonly known as Booma Hospital found in Hoima municipality, Hoima district, western Uganda. It is the Referral hospital for nine districts namely Buliisa, Hoima, Kibale, Kakumiro, Kagadi, Masindi, Kiryandongo, Kyankwanzi and Kiboga. Hoima Hospital is approximately 230 kilometers (140 miles), by road, northwest of Kampala- Uganda's capital city. According to USAID (2013), HRRH is a public hospital of 350 bed capacity funded by the Ministry of Health Uganda and general health care in the hospital is free. It is one of the thirteen (13) Regional Referral Hospitals in Uganda. The hospital is designated as one of the fifteen (15) Internship Hospitals in Uganda where graduates from medical, paramedical and nursing schools can carry out their internship under the supervision of qualified specialists and consultants.

3.3 Study Population

A study population refers to individuals that are eligible for inclusion in a specific study (Burns, Grove & Gray, 2011). The study population for this research included sampled

women between 25 and 65 years who obtained health services at Hoima Regional Referral hospital at the time of data collection. These included female patients, female clients and female care givers. MOH recommends cervical cancer screening at 25 years for HIV free clients and 21 years for HIV clients which led to the researcher conducting her study among 25 to 65 years old women.

3.4 Sampling Procedures

3.4.1 Sample Size

In the first instance, the adequate sample size among female hospital clients, female care givers aged between 25 and 65years was estimated using the (Reid et al, 1991) standard formula which is used for a known population size. The female population size attending HRRH is 57,883 and the sample size was calculated as indicated below;

n = N / [(1+N (e) 2]

Where n= sample size of adjusted population, N= population size and e= accepted level of error taking alpha as 0.05. The average number of women seen in Hoima Regional Referral Hospital monthly according monthly hospital records was 800.

Substituting this figure into the formula below, a sample size of 267 was obtained.

n = N / [(1+N (e) 2]

n = 800 / [1+800(0.05)2]

n=267

However, since convenience sampling was used to interview the participants, the sample size was increased to 300 participants.

3.4.2 Sampling Techniques

Women aged 25 to 65 years who presented for consultation at the hospital during the month of sample collection were approached. The purpose of the research and procedure was explained to them and those who consented to participate were interviewed by the researcher and the assistant. The interviewers ensured that no woman was interviewed more than once by asking if they had previously been interviewed.

3.5 Data collection Methods and Instruments

The researcher was assisted by four trained research assistants who obtained primary data by acquiring information from interviewing consented eligible respondents who had finished consultation with the clinician (OPD and IPD female clients or care givers between 25 to 65 years). The researcher explained to the eligible respondent what the study was about and consent was obtained from the eligible respondent by signing on the consent form for those who can read and write, and a thumb print for respondents who could not read and write (after the research assistant reading the consent form to them). The consented eligible respondents were interviewed from a private room that was provided by the hospital administration to the researcher during the time of conducting the research. The interview was between the respondent and the interviewer for purposes of privacy and confidentiality. There was no respondent who consented and failed to complete the interview.

Below are the methods that were used;

Data was collected using an interviewer administered structured questionnaire. This instrument was adapted from a study on cervical cancer screening beliefs among young Hispanic women (Byrd et al., 2013). The questionnaire comprised of six sections that looked at the socio-demographic characteristics, participation in cervical cancer screening programs, perceived susceptibility of cervical cancer, perceived severity of cervical cancer, perceived benefits of having cervical cancer screening and perceived barriers to seeking cervical cancer screening of respondents.

The questionnaire was also translated in runyoro for those who did not understand English. Each question was scored using a 5 point Likert scale ranging from strongly agree (5) to strongly disagree (1). The scale was reversed for negatively worded questions. Perceived susceptibility which is defined as the views of the women regarding the risk of having cervical cancer had a total of 6 items with a range of possible subscale from 6 to 30. Perceived severity of cervical cancer which is a subjective assessment of how serious cervical cancer is viewed by these women had a total score ranging from 6 to 30 from 6 items. Perceived benefit which is viewed as the perception that cervical cancer screening will result to early detection of cervical cancer, delay progression of cervical cancer and subsequently lead to decrease mortality due to cervical cancer had total score ranging from 5 to 25 from 5 items. The total scores for perceived barrier subscale had a possible range from 12 to 60. The categorical dependent variable rated yes or no was whether a woman had ever had cervical cancer screening. If the answer was yes, the woman was asked if the cervical cancer screening was done within the past 3 years. The assistant was trained by the researcher on how to conduct the interviews and complete the questionnaires correctly through role-playing and going through the process to be followed while completing the questionnaires for the respondents. Respondents were

interviewed in the screening rooms provided by the hospital administration while waiting to be consulted and in patients for those women who were attending to patients on wards during their convenient time. Each interview lasted an average of 15-20mins. Participation was voluntary and no incentives were given to respondents. Those interviewed were those who were still far from being consulted since consultation was based on first come first serve.

3.6 Quality Control

The questionnaire tool and the consent form were developed in English and translated into Runyoro, the commonly spoken language in the area by more than three independent translators to minimize loss of information or altering the meaning and then back translated to English by another set of independent experts different from the ones who had made the initial translations. The two versions were compared by the researcher to ensure that meaning had not been altered. The researcher recruited four research assistants who were trained by the researcher on how to administer the data collection tools and were supervised by the researcher including cross checking on the reliability, accuracy, uniformity, consistency and completeness of the questionnaires on a daily basis for quality control.

3.6.1 Pre-testing

The data collection tool was pre-tested in Kagadi district hospital outside the study area and the findings from the pre-tested tool were used to revise and edit the questionnaire to suit the study objectives.

The data collection tools were pre-tested in Kagadi district Hospital. The tool was administered to the female patients and care givers who understand Runyoro, the researcher

only sampled every third female patient, client or care giver between the ages of 25-65 years as the records indicated the sex, age and tribe. The pre-testing was done in order to help in the editing and revision of the tool if required so that the meaning of the questionnaire and the consent form was not altered or changed.

3.6.2 Pre- visiting

The researcher made a pre-visit to Hoima Regional Referral Hospital to schedule the dates, days and time between which the data was collected.

3.7 Data Management and processing

The researcher obtained an introductory letter from Uganda Martyrs University, Department of Health Science which was presented to the administration of Hoima Regional Referral Hospital seeking for permission to conduct a study in the hospital premises. Hospital administration was requested by the researcher to avail a private room where the interviews took place on the days of data collection to ensure privacy and confidentiality. Four Research Assistants were assisted by the researcher to administer the study instruments. Research assistants explained the instructions concerning the questionnaire to the respondents and obtained consent from eligible respondents at the hospital in order to obtain the required data.

3.7.1 Selection criteria

3.7.1.1 Inclusion

Women between 25 to 65 years old who were attending health services in the hospital at the time of data collection and consented to participate in the study were included.

3.7.1.2 Exclusion

The study excluded all those female clients who were outside the age bracket of 25 to 65 years. Women who were too sick to participate. Women in the age bracket of 25 and 65 years who did not consent. Eligible participants who wanted to be with their husbands or partners at the time of interview were excluded from this study to avoid bias in order to obtain accurate answers without fear due to the presence of their husbands/partners in the interview.

3.7.1.3 Study variable

3.7.1.3.1 Dependent Variable

Uptake of cervical cancer screening services among women aged 25-65years at Hoima Regional Hospital and the dependent variable therefore was the cervical cancer screening.

3.7.1.3.2 Independent variables

The independent variable included the social demographic factors which were the age, education level, marital status and residential area and also perceived susceptibility, perceived severity, perceived benefits and perceived barriers to cervical cancer screening.

3.8 Data Analysis

Analysis of quantitative data is a methodological way in which the researcher transforms data collected into numerical data (Burns, Grove & Gray, 2011). Quantitative data was analyzed using Statistical Package for Social Science (SPSS) Version 16.0. The raw data was entered into the excel spreadsheet and the variables well labeled then exported into SPSS version 16 for analysis. Absolute and relative frequencies (N and %) were obtained for the distributions of

selected variables. The general association Chi-square statistic was used to test for association of selected variables. Proportions were compared using the Z-test for comparison of proportions. Odds ratios and confidence intervals were generated from binary logistic regression as measures of associations for the aggregate score of health belief model constructs. The Health Belief Model constructs: susceptibility, severity, benefits, and barriers scale has 29 items contained in 4 subscales: perceptions of susceptibility (6 items), severity (6 items), benefits (5 items), and barriers to cervical cancer screening (12 items). Each item was scored using a 5-point Likert-type scale ranging from strongly agree (5) to strongly disagree (1). Negatively worded questions had their scales reversed. In order to analyze associations, the total scores, average and percent were generated for each construct. A high score was considered 75% and higher, and a low score was considered as less than 75%.

3.9 Ethical considerations

Approval to conduct the study was sought from Uganda Martyrs University Research and Ethics Committee as well as Hoima Regional Referral Hospital Administration. Consent was sought from the respondents before being included into the study, the rights, and benefits, associated risks during and after the study was clarified to the respondents. The identity of the respondents was kept confidential by delinking the identifiers from the respondents. Privacy for respondents was adhered to by conducting the interviews in a private rooms provided by the hospital administration.

3.10 Limitations of the Study

This study was carried out in one Regional referral therefore the findings may not be generalized to other contextually different areas.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

This chapter addresses the data analysis and interpretation of the data collected during the research study. De Vos et al., (2011) described quantitative data analysis as "the way by which data is changed to a numerical form and exposed to statistical analysis". The aim of the study was to determine the factors affecting the uptake of cervical cancer screening among women attending health services in Hoima Regional Referral Hospital. The findings were discussed and concluded according to the objectives of the study. The results were grouped into major categories in the application of Health Belief model in understanding the cervical cancer screening behavior of the study population. They include descriptive statistics of the study population, analysis of cervical cancer screening using the Health Belief Model construct and finally an exploration of the relationships throughout the categories. Limitations of the study were outlined and recommendations were made basing on the study findings.

4.1 Presentation of findings

4.1.1 Socio-demographic characteristics of respondents

Table 4.1 summarizes selected socio-demographic characteristics of the study participants. A total of 300 participants were recruited in the study, with age range from 25 to 65 years and a mean of 45 years (SD = 11.04). One hundred and eighty six (62%) of the respondents were between the ages of 25 and 39 years. Most of them were single 212 (71%).

Only 23 (8%) indicated that they did not receive any formal education and 208 (68%) had attained at least a secondary education of education. The residential status was almost equally distributed with rural 156(52%) and urban 144 (48%).

Table 1: Socio-demographic characteristics of respondents

Variables		Frequency (n)	Percentage (%)
Age (years)	21-29	108	36
	31-39	78	26
	41-49	62	20.7
	51-59	52	17.3
	Total	**300**	**100**
Marital Status	Single	212	70.7
	Married	62	20.7
	Divorced	7	2.3
	Widowed	10	3.3
	Cohabiting	9	3.0
	Total	**300**	**100**
Education level	None	23	7.7
	Primary	69	23.0
	Secondary	121	40.3
	Tertiary	87	29.0
	Total	**300**	**100**
Residential area	Urban	145	48.3
	Rural	155	51.7
	Total	**300**	**100**

4.2 Perceived susceptibility to cervical cancer of respondents

As indicated in table 3, most of the participants were aware of their perceived susceptibility to cervical cancer (the average response to perceived susceptibility questions was greater than 3). Many of the participants perceived susceptibility to cervical cancer to be associated with older age (mean = 3.14; St Dev = 1.0) with 75% either agree or strongly agree.

However comparing individual items in the susceptibility section, there was a low mean score (3.14) for "occurrence of cervical cancer to only women above 60 years"

Table 2: Responses to statements of perceived susceptibility to cervical cancer of respondents

	Rating (%) N = 300						
Perceived Susceptibility	**SD**	**D**	**NS**	**A**	**SA**	**Average Score**	**sd**
Higher risk of cervical cancer in older women	6.8	24.6	12.7	33.9	22.0	3.40	1.3
Risk in every women of child bearing age	2.0	6.7	21.0	49.7	20.7	3.96	1.0
More prone in women with multiple sexual partners	2.0	6.3	19.0	39.0	33.7	4.06	1.1
Common in HIV infected women	3.0	7.7	28.4	31.4	29.4	4.11	1.0
Susceptibility increases with parity	2.7	16.0	33.7	35.7	12.0	3.62	1.0
Occurs only to women above 60 year	21.3	50.7	17.0	9.3	1.7	3.14	1.0

4.3 Perceived severity of cervical cancer of participants

Table 3 gives a summary of the perceived severity to cervical cancer of women attending Hoima Regional Referral Hospital. In general most of the women were sure about the severity of cancer according to their responses to statements about severity of cervical cancer, with range of average responses being 2.58 to 3.56.

Table 3: Response to statements of perceived severity to cancer of participants

Perceived Severity	Rating (%)					Average Response	SD
	sd	D	NS	A	SA		
Effective treatment for cancer	2.7	19.3	31.7	39.7	6.7	3.28	0.94
Cervical cancer makes woman's life difficult	3.7	16.3	12.7	54.7	12.7	3.56	1.02
Cervical cancer not serious as other cancers	24.0	26.3	23.3	20.3	6.0	2.58	1.22
Cervical cancer is easily cured	6.3	22.7	37.3	25.7	8.0	3.06	1.03
Cervical cancer can result in infertility	3.3	9.4	27.4	43.5	16.4	3.60	0.98
Death from cervical cancer is rare	9.7	19.1	33.6	27.9	9.7	3.09	1.12

When the ever screened and the never screened for cervical cancer was compared as revealed in table 3, it was observed that both groups equally believed that there is no effective treatment for cervical cancer, and that cervical cancer makes a woman's life difficult. Participants believed that cervical cancer is as serious as other cancers; that it causes infertility and that death from cervical cancer is common.

Table 4: Screening status and response to statements of perceived severity of cervical cancer by respondents

Perceived Severity	cervical cancer screen ever					
	no		yes		Total	
	n	%	n	%	N	%
Effective treatment for cancer						
strongly disagree	4	2.2	4	3.4	8	2.7
Disagree	24	13.2	34	28.8	58	19.2
Not sure	69	37.9	26	22.0	95	31.7
Agree	75	41.2	44	37.3	119	39.7
strongly agree	10	5.5	10	8.5	20	6.7
Total	**182**	**100**	**118**	**100**	**300**	**100**
Cervical cancer makes woman's life difficult						
strongly disagree	8	4.4	3	2.5	11	3.6
Disagree	30	16.5	19	16.1	49	16.3
Not sure	19	10.4	19	16.1	38	12.7
Agree	102	56.0	62	52.6	164	54.7
strongly agree	23	12.6	15	12.7	38	12.7
Total	**182**	**99.9**	**118**	**100**	**300**	**100**
Cervical cancer not serious as other cancers						
strongly disagree	34	18.7	38	32.2	72	24.0
Disagree	49	26.9	30	25.4	79	26.3
Not sure	57	31.3	13	11.0	70	23.3
Agree	34	18.7	27	22.9	61	20.4
strongly agree	8	4.4	10	8.5	18	6.0
Total	**182**	**100**	**118**	**100**	**300**	**100**
Cervical cancer is easily cured						
strongly disagree	10	5.5	9	7.6	19	6.3
Disagree	30	16.4	38	32.2	68	22.7
Not sure	80	44.0	32	27.1	112	37.3
Agree	46	25.3	31	26.3	77	25.7
strongly agree	16	8.8	8	6.8	24	8.0
Total	**182**	**100**	**118**	**100**	**300**	**100**
Cervical cancer can result in infertility						
strongly disagree	3	1.6	7	6.0	10	3.4
Disagree	19	10.4	9	7.6	28	9.3
Not sure	58	31.9	24	20.3	82	27.3
Agree	70	38.6	60	50.8	130	43.4

strongly agree	32	17.5	17	14.5	49	16.3
No response	-	-	1	0.8	1	0.3
Total	**182**	**100**	**118**	**100**	**300**	**100**
Death from cervical cancer is rare						
strongly disagree	13	7.1	16	13.6	29	9.7
Disagree	28	15.4	29	24.6	57	19.0
Not sure	68	37.4	32	27.1	100	33.3
Agree	53	29.1	30	25.4	83	27.7
strongly agree	19	10.4	10	8.5	29	9.7
No response	1	0.6	1	0.8	2	0.6
Total	**182**	**100**	**118**	**100**	**300**	**100**

4.5 Participants' perceived benefits for having cervical cancer screening

Table 5 provides information on the rating of the perceived benefits to cervical cancer screening. Overall, the majority of the participants responded positively to statements about perceived benefits of cervical cancer screening.

Table 5: Perceived benefits to cervical screening by the women

	Ratings (%)						
Perceived Benefits	**SD**	**D**	**NS**	**A**	**SA**	**Response Average**	**sd**
screening important to be done	0.7	6.0	5.4	35.9	52.0	4.33	0.88
screening can find changes before they become cancer	1.0	3.0	21.0	45.7	29.3	3.99	0.85
easily curable when found early	0.7	1.7	13.0	53.2	31.4	4.13	0.75
Cervical cancer screening improves chances of pregnancy in infertile women	6.7	20.9	34.0	32.0	6.4	3.10	1.02
Cervical cancer screening Decreases chances of abortion	8.4	17.1	38.6	27.5	8.4	3.10	1.05

Overall, 261 (87%) the participants agreed that screening is important to be done, 225 (75%) believed screening could find changes in the cervix before full cancer sets on; 252 (84%) believed when found early cervical cancer can be easily be treated and cured. On the other hand, very few 114 (38%), and 105 (35%) believed cervical cancer screening improves chances of pregnancy and decreases abortion, respectively.

4.6 Perceived barriers to seeking cervical cancer screening of respondents

Table 6 gives a summary of the responses to perceived barriers to cervical cancer screening. In general most of the ratings were below 3.0. That is, most participants disagreed or strongly disagree about the statements on perceived barriers listed in table 6. This means for instance, that most participants believe that: doing cervical cancer screening is not embarrassing (69%) and doing cervical cancer screening does not suggest someone is having sex (48%) in table 6.

Table 6: Perceived barriers to cervical cancer screening of respondents

Perceived barriers	Rating (%) SD	D	NS	A	SA	Response average	sd
Embarrassing	25	43.9	8.1	14.9	8.1	2.37	1.23
Cervical cancer screening is painful	15.1	33.1	26.8	15.1	10	2.72	1.19
Screening means one is having sex	14.3	46	12.3	22.7	4.7	2.57	1.13
Screening makes one worry	16	44.3	10.3	26.3	3	2.56	1.13
Screening takes away virginity	16	30	29.3	17.3	7.3	2.70	1.15
Not knowing where screening is done	7.7	37.7	10.3	32.3	12	3.03	1.22
Only mothers needs cervical screening	25.3	54.2	7.7	10.8	2	2.10	0.97
Partner resisting Cervical cancer screening	26.8	56	8.7	7	1.3	2.0	0.87
Lack of female screeners in health facilities	17.1	40.6	6.4	27.2	8.7	2.70	1.28
Attitudes of health workers	11	46.2	7.4	22.7	12.7	2.8	1.27
Lack of convenient clinic time is a barrier to routine cervical cancer	7.4	29.8	8	39.5	15.4	3.26	1.24
Lack of information is also a barrier to cervical cancer screening	6.7	28.4	4.3	35.5	25.1	3.44	1.31

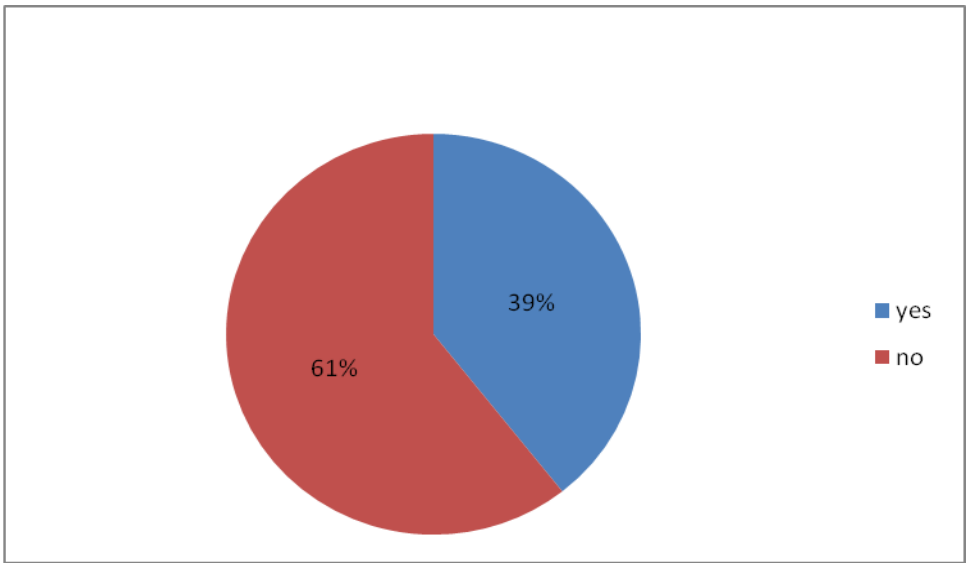
Table 7: Screening status and barriers to seeking cervical cancer screening

Perceived Barriers	cervical cancer screen ever					
	no		yes		Total	
	n	%	n	%	N	%
Not knowing where to go is the reason for not screening						
strongly disagree	13	7.1	10	8.5	23	7.7
disagree	56	30.8	57	48.3	113	37.7
Not sure	22	12.1	9	7.6	31	10.3
agree	67	36.8	30	25.4	97	32.3
strongly agree	24	13.2	12	10.2	36	12.0
Total	**182**	**100**	**118**	**100**	**300**	**100**
Only those with babies need to do Cervical cancer screening						
strongly disagree	43	23.6	32	27.1	75	25.0
disagree	90	49.5	71	60.2	161	53.7
Not sure	18	9.9	5	4.2	23	7.6
agree	23	12.6	9	7.6	32	10.7
strongly agree	6	3.3	- 1	- 0.9	6	2.0
No response	2	1.1			3	1.0
Total	**182**	**100**	**118**	**100**	**300**	**100**
Lack of information is a barrier to Cervical cancer screening						
strongly disagree	11	6.o	9	7.6	20	6.7
disagree	39	21.4	46	39.0	85	28.3
Not sure	11	6.0	2	1.7	13	4.4
agree	68	37.4	38	32.2	106	35.3
strongly agree	52	28.6	23	19.5	75	25.0
No response	1	0.6	-	-	1	0.3
Total	**182**	**100**	**118**	**100**	**300**	**100**

4.7 Level of uptake for cervical cancer screening services by respondents

Figure 2: shows the level of uptake for cervical cancer screening services among women attending Hoima Regional referral Hospital

Figure 1: Percentage of uptake for cervical cancer screening services among respondents



Out of 300 participants, only 39% had ever screened for cervical cancer. Of the 118 respondents that had ever screened for cervical cancer, 76 (64%) actually did the screening within the past 3 years.

4.8 Association between socio-demographic characteristics and the constructs of the health belief model of participants

4.8.1 Association between socio-demographic characteristics and perceived susceptibility to cervical cancer

The association between socio-demographic characteristics and perceived susceptibility to cervical cancer is presented in table 8. One of the respondents did not answer one of the questions on perceived susceptibility and therefore was not rated. When comparing perceived 57 susceptibility scores (low, high) by socio-demographic variables, there was a significant association with marital status (2 = 9.44; p = 0.051) and residential place (2 = 14.280; p = 0.001).

Education and age were however nearly significantly association with perceived susceptibility scores; 2 =1.528; p=0.676 and 2 =1.516; p=0.678 respectively.

Table 8: Association between socio-demographic characteristics and perceived susceptibility to cervical cancer

	Perceived susceptibility						
	Low		High		Grand total		Statistic P value
Socio demographic Variables	**n**	**%**	**n**	**%**	**N**	**%**	
Grand total	**211**	**70.6**	**88**	**29.4**	**299**	**100**	[1] Z = 5.798;P<0.001
Age (years)							χ^2=1.516; p=0.678
21 - 29	79	37.4	28	31.8	107	35.8	
30 - 39	56	26.6	22	25.0	78	26.1	
40 - 49	42	19.9	20	22.7	62	20.7	
50 – 59	34	16.1	18	20.5	52	17.4	
Total	**211**	**100**	**88**	**100**	**299**	**100**	
Marital status							χ^2=9.44; p=0.051
single	159	75.4	52	59.1	211	70.6	
Married	37	17.5	25	28.4	62	20.7	
Divorced	4	1.9	3	3.4	7	2.2	
widowed	7	3.3	3	3.4	10	3.3	
Cohabiting	4	1.9	5	5.7	9	3.0	
Total	**211**	**100**	**88**	**100**	**299**	**100**	
Educational level							χ^2=1.528;p=0.676
none	17	8.1	6	6.8	23	7.7	
Primary	50	23.7	19	21.6	69	23.1	
secondary	87	41.2	33	37.5	120	40.1	
Tertiary	57	27.0	30	34.1	87	29.1	
Total	**211**	**100**	**88**	**100**	**299**	**100**	
Residential area							**χ^2=14.280;p=0.001**
urban	40	19.0	14	15.9	54	18.1	
peri-urban	50	23.7	40	45.5	90	30.1	
Rural	121	57.3	34	38.6	155	51.8	
Total	**211**	**100**	**88**	**100**	**299**	**100**	

[1]Z- statistic for comparison of proportions

[x]N=299 as one of the respondents did not answer all the questions on perceived susceptibility and was therefore not rated. * Low perceived susceptibility<75% of total score, **High perceived susceptibility ≥75% of total score. Significant findings are highlighted in bold**.**

4.8.2 Association between socio-demographic characteristics and perceived severity of cervical cancer

Table 9 presents the association between socio-demographic characteristics and perceived severity to cervical cancer. Three (3) respondents did not answer all the questions on perceived severity and therefore were not rated. As shown in the table, residential area (x^2=15.457; p=0.004) were significantly associated with perceived severity. Marital status (x^2=9.435; p=0.051) and educational level (x^2=9.44; p=0.051) were nearly statistical significant with p-value slightly greater than 0.05. All other socio-demographic variables were not significantly associated with perceived severity of cervical cancer.

Table 9: Association between socio-demographic characteristics and perceived severity of cervical cancer

Socio-demographic variables	Perceived severity: Low		High		Grand Total		Statistic P value
	n	%	n	%	N	%	
Grand total	**256**	**86.2**	**41**	**13.8**	**297**	**100**	[1]Z = 5.798;P<0.001
Age (years)							χ^2=2.012; p=0.570
21 - 29	94	36.7	13	31.7	107	36.0	
30 - 39	66	25.8	12	29.3	78	26.3	
40 - 49	50	19.5	11	26.8	61	20.5	
50 – 59	46	18.0	5	12.2	51	17.2	
Total	**256**	**100**	**41**	**100**	**297**	**100**	
Marital status							χ^2=9.435; p=0.051
single	179	69.9	31	75.6	210	70.7	
married	55	21.5	6	14.6	61	20.5	
divorced	6	2.3	1	2.4	7	2.4	
widowed	8	3.1	2	4.9	10	3.4	
Cohabiting	8	3.1	1	2.4	9	3.0	
Total	**256**	**100**	**41**	**100**	**297**	**100**	
Educational level							χ^2=9.44;p=0.051
none	19	7.4	4	9.8	23	7.7	
primary	55	21.5	13	31.7	68	22.9	
secondary	111	43.4	9	22.0	120	40.4	
Tertiary	71	27.7	15	36.6	86	29.0	
Total	**256**	**100**	**41**	**100**	**297**	**100**	
Residential area							**χ^2=15.457;p=0.004**
urban	49	19.1	5	12.2	54	18.2	
peri-urban	81	31.6	9	22.0	90	30.3	
Rural	126	49.2	27	65.9	153	51.5	
Total	**256**	**100**	**41**	**100**	**297**	**100**	

[1]Z- statistic for comparison of proportions.

[x]N=297 as three of the respondents did not answer all the questions on perceived severity and were therefore not rated. *Low perceived susceptibility<75% of total score, **High perceived susceptibility ≥75% of total score. Significant findings are highlighted in bold**.**

4.8.3 Association between socio-demographic characteristics and perceived benefits of having cervical cancer screening

Information presented on table 10 reveals that there were no significant associations observed between perceived benefits of having cervical cancer screening and any of the socio-demographic variables. However, five (5) of the respondents did not answer all the questions on perceive benefits of cervical cancer screening and therefore were not rated.

Table 10: Association between socio-demographic characteristics and perceived benefits of having cervical cancer screening

Socio-demographic	Perceived benefits						Statistic P value
	Low		High		Total		
	n	%	N	%	N	%	
Grand Total	**141**	**47.0**	**154**	**51.3**	**295**	**100**	**[1]Z= 2.91;p=0.03**
Age (years)							χ^2=1.449;p=0.694
21 - 29	49	34.8	56	36.4	105	35.6	
30 - 39	41	29.1	37	24.0	78	26.4	
40 - 49	26	18.4	35	22.7	61	20.7	
50 – 59	25	17.7	26	16.9	51	17.3	
Total	**141**	**100**	**154**	**100**	**295**	**100**	
Marital status							χ^2 =1.394;p=0.845
single	103	73.0	106	68.8	209	70.8	
married	25	17.7	35	22.7	60	20.3	
divorced	4	2.8	3	1.9	7	2.4	
widowed	5	3.5	5	3.2	10	3.4	
Cohabiting	4	2.8	5	3.2	9	3.1	
Total	**141**	**100**	**154**	**100**	**295**	**100**	
Educational level							χ^2 =2.421;p=0.490
none	14	9.9	9	5.8	23	7.8	

primary	30	21.3	38	24.7	68	23.[12]	
secondary	59	41.8	60	39.0	119	40.3	
Tertiary	38	27.0	47	30.5	85	28.8	
Total	**141**	**100**	**154**	**100**	**295**	**100**	
Residential area							χ =3.23 p=0.199
urban	28	19.9	25	16.2	53	18.0	
peri-urban	36	25.5	54	35.1	90	30.5	
Rural	77	54.6	75	48.7	152	51.5	
Total	**141**	**100**	**154**	**100**	**295**	**100**	

[1]Z- statistic for comparison of proportions

[1] N=295 as five of the respondents did not answer all the questions on perceived benefits and were therefore not rated * Low perceived susceptibility<75% of total score, **High perceived susceptibility =75% of total score. Significant findings are highlighted in bold**.**

Table 11 shows no significant association between socio-demographic and perceived barriers to seeking cervical cancer screening (all p-values are greater than 0.05). Thirteen of the respondents did not answer all the questions on perceived barriers and therefore were not rated.

Table 11: association between socio-demographic characteristics of respondents and perceived barriers to seeking cervical cancer screening

Socio-demographic	Perceived barriers *Low		**High		Total		Statistic P value
	n	**%**	**N**	**%**	**N**		^{2}=7.22;p=0.65
21 - 29	101	37.5	3	16.7	104	36.2	
30 - 39	73	27.1	3	16.7	76	26.5	
40 - 49	50	18.6	6	33.3	56	19.5	
50 – 59	45	16.7	6	33.3	51	17.8	
Total	**269**	**100**	**18**	**100**	**287**	**100**	
Marital status							χ^2 =3.129;p=0.536
single	190	70.6	12	66.7	202	70.4	
married	54	20.1	6	33.3	60	20.9	
divorced	7	2.6	-	-	7	2.4	
widowed	10	3.7	-	-	10	3.5	
Cohabiting	8	3.0	-	-	8	2.8	
Total	**269**	**100**	**18**	**100**	**287**	**100**	
Educational level							χ^2 =11.804;p=0.08
none	18	6.7	5	27.8	23	8.0	
primary	61	22.7	5	27.8	66	23.0	
secondary	111	41.3	6	33.3	117	40.8	
Tertiary	79	29.4	2	11.1	81	28.2	
Total	**269**	**100**	**18**	**100**	**287**	**100**	
Residential area							χ^2 =7.752;p=0.101
urban	45	16.7	6	33.3	51	17.8	
peri-urban	86	32.0	1	5.6	87	30.3	
Rural	138	51.3	11	61.1	149	51.9	
Total	**269**	**100**	**18**	**100**	**287**	**100**	

[1]Z- statistic for comparison of proportions

[x]N=287 as thirteen of the respondents did not answer all the questions on perceived barriers and were therefore not rated * Low perceived susceptibility<75% of total score, **High perceived susceptibility =75% of total score. Significant findings are highlighted in bold**.**

4.8.4 Comparison of Health Belief Model constructs of ever screened and never screened for cervical cancer of respondents

Independent-sample t-test was used to examine the difference in perceived susceptibility, perceived severity, perceived benefits, and perceived barriers between women who had ever screened for cervical cancer and women who never screened. There was significant differences between the 2 groups in mean scores of perceived susceptibility ($t = 4.1$; $P < 0.001$). Women who had never screened for cervical cancer had significantly higher perceived severity ($t = -.0$; $P = 0.045$) and higher perceived barriers ($t = -3.3$; $P = 0.001$), but lower perceived benefits ($t = 2.1$; $P = 0.040$).

Table 12: Independent sample t-test for comparison of ever screened of respondents

	Screened		Never Screened			
Predictor Variable	**Mean**	**SD**	**Mean**	**SD**	**t statistic**	**P value**
Perceived Susceptibility	21.3	4.0	19.6	3.1	4.1	0.001
Perceived Severity	18.7	3.6	19.5	3.3	-2.0	0.045
Perceived Benefits	19.1	2.9	18.4	2.8	2.1	0.040
Perceived Barriers	30.6	7.5	33.4	6.6	-3.3	0.001

Bivariate logistic regression was used to examine if perceived susceptibility, perceived severity, perceived barriers and perceived benefits predicted screening for cervical cancer. Perceived susceptibility was the greatest predictor for cervical cancer screening ($P < 0.05$).Women with perceived susceptibility were more likely to screen for cervical cancer (OR = 3.36; 95% CI: 1.9 - 5.8).

Table 13: Logic regression on selected variables on cervical cancer screening of respondents

Predictor Variable	β	Wald χ^2	P value	Odds Ratio	95% CI
Perceived Susceptibility	1.21	18.65	0.00002	3.359	1.9 - 5.822
Perceived Severity	-0.67	3.00	0.08303	0.511	0.2 - 1.092
Perceived Benefits	0.26	0.97	0.32533	1.291	0.8 - 2.146
Perceived Barriers	0.19	0.13	0.71658	1.212	0.4 - 3.424
Constant	-0.86	17.64	0.00003	0.422	1.9 - 5.822

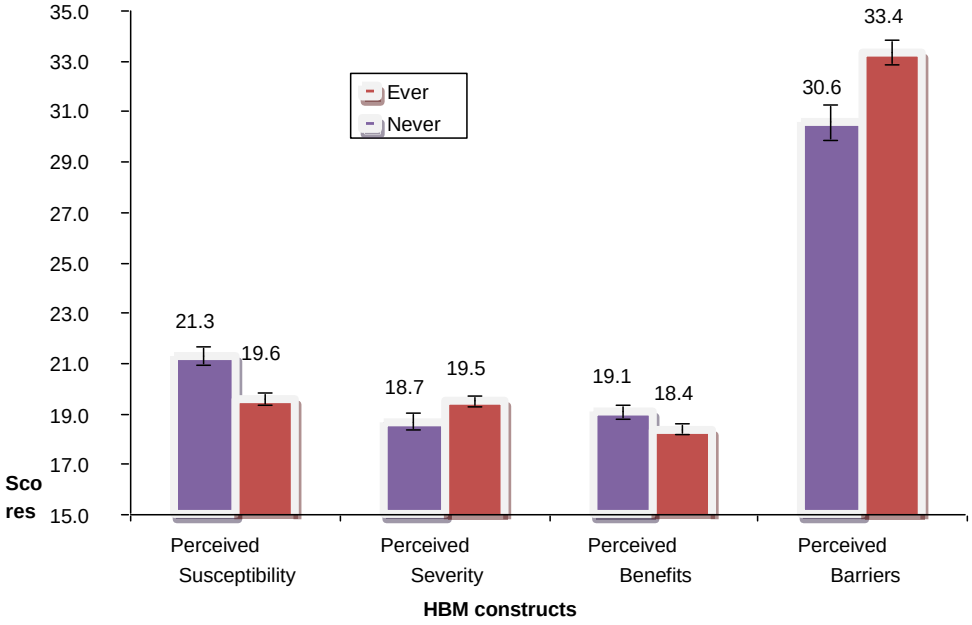
The result of logistic regression analysis for cervical cancer screening of respondents is shown in table 14. According to the results, 39% of the respondents were predicted to have screened for cervical cancer while 86% of respondents were predicted to have never screened for cervical cancer. The overall percentage prediction for cervical cancer screening was 67%.

Table 14: Results of logic regression analysis of ever screening for cervical cancer of respondents

Observed		Predicted Cervical cancer screen ever		Percentage Correct
		no	yes	
Ever screened for cervical cancer	no	146	24	86
	yes	68	44	39
Overall Percentage The cut value is .500				67

Figure 3, indicates the mean score of the construct of the health belief model (HBM). Perceived barrier has the highest mean score of 33.4 for the never screened for cervical cancer and 30.6 for those that had ever screened for cervical cancer.

Figure 3: Mean scores for perceived susceptibility, perceived severity, perceived benefits and perceived barriers to cancer screening of respondents



CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a summary and recommendations on cervical cancer screening participation. The aim of the research study was to determine factors affecting uptake of cervical cancer screening among women attending health services in Hoima Regional Referral Hospital, Hoima district.

5.1 Discussion of findings of the study

This section is presented according to specific research questions; comprising of sections that analyze the perceived susceptibility to cervical cancer of respondents; perceived severity of cervical cancer of respondents; perceived benefits of having cervical cancer screening and perceived barriers of seeking cervical cancer screening and level of cervical cancer screening status of participants. Finally, the last section analyses the association between socio-demographic characteristics of the respondents with perceived susceptibility of cervical cancer, association of socio-demographic characteristics of the respondents with perceived severity of cervical cancer, association of socio-demographic characteristics of the respondents with perceived benefits of having cervical cancer screening and association of socio-demographic characteristics of the respondents with perceived barriers to seeking cervical cancer screening.

5.1.1 Perceived susceptibility to cervical cancer

Generally, respondents who had previously screened for cervical cancer had a higher perceived susceptibility to cervical cancer than those who had never screened for cervical cancer. When perceived susceptibility to cervical cancer was compared with cervical cancer screening status, 71% of the respondents perceived themselves as having a low susceptibility to cervical cancer and as a result think cervical cancer screening was not necessary. This is in keeping with the National Health interview survey conducted in 2011 which revealed that most women understood that cervical cancer screening successfully detects cervical cancer early, but they do not see themselves as been at risk of developing cervical cancer especially if they do not have any symptoms or have no family history of cervical cancer after all cancer has no cure (Mutyaba et al., 2011).

Majority of the study respondents think that cervical cancer is more common in older women and therefore screening was mainly essential in the older age group. This is consistent with findings of a study conducted by Burns et al, 2015 that reported that majority of the respondents believed that older women are at greater risk of having cervical cancer (Burns et al., 2014). Findings of this study revealed that majority of the respondents either disagreed or strongly disagreed that the risk of cervical cancer increases with parity. This is consistent with findings by Agurto et al., (2013) that both the screened for cervical cancer and never screened for cervical cancer did not agree that the risk of cervical cancer increases with parity. This suggests that misconception that there is an association between parity and cervical cancer might be a contributing factor for the low uptake of cervical cancer screening.

The study found that respondents were aware that cervical cancer was more common in HIV infected women and those with multiple sexual partners. The findings were consistent with studies conducted by Agurto et al., (2013), that revealed that respondents were aware that cervical cancer is more common to women who are HIV positive and since there is an association between multiple sexual partners and HIV positive, the risk is also higher among women with multiple sexual partners. From this, recommendation can be made that increasing routine HIV testing as well as education on the association of multiple sexual partners with HIV positive status and cervical cancer can increase cervical cancer uptake.

Susceptibility to cervical cancer was significantly associated ($P<0.001$) with cervical cancer screening. This is consistent with the Health Belief Model which hypothesizes that actors feel more susceptible than non-actors (Glanz et al., 2012). It was observed that those with high susceptibility were 3.2 times (OR=3.24) more likely to have screened than those with low susceptibility. This finding was consistent with a study conducted by Byrd et al., (2013), that revealed that the more susceptible women perceive themselves, the more likely they take preventive actions. Thus, only respondents who perceive themselves as susceptibility to cervical cancer were more likely to take preventive actions compared to those who perceive themselves as not susceptible.

5.1.2 Perceived severity of cervical cancer

Most women knew that cervical cancer is a serious type of cancer as majority of study respondents responded correctly to questions about severity of cervical cancer with a mean average response ranging from 2.58-3.56. This is consistent with a survey on the severity of cervical cancer among adult females in Quebec which reported that 57% of women were afraid

of developing cervical cancer sometime in their life, and 93% thought cervical cancer has serious consequences (Sauvageau et al., 2015). The response to severity questions of this study also agrees strongly with study by Burak and Meyer, (2016) that reported that 98% of college women felt that cervical cancer is a very serious condition and half of them thought that it is not a treatable disease. Price et al, 2016, reported that 92% of women believed that cervical cancer is the second most serious type cancer a woman can have (first being breast cancer) and most women who develop cervical cancer certainly die from it. This result clearly indicates that those that have ever screened for cervical cancer and those that have never screened for cervical cancer are aware that cervical can is a serious disease.

Both the ever screened for cervical cancer and the never screened for cervical cancer believe that there is no effective treatment for cervical cancer, it makes a woman's life difficult, it causes infertility and most respondents think death from cervical cancer is not rare. Similarly, Leyva et al., (2016) found that both the ever screened for cervical cancer and the never screened for cervical cancer equally agreed that cervical cancer is a serious disease. However, unlike studies by Leyva et al., (2016) that reported that the ever screened for cervical cancer believed that cervical cancer is easily cured if identified early, the never screened for cervical cancer believed that cervical cancer is not treatable. This study however found out that both the ever screened and never screened believe there was no effective treatment for cervical cancer. This implies that misconception about the lack of effective treatment of cervical cancer if identified early could be a contributory factor for low uptake of cervical cancer screening among the study group.

When perceived severity to cervical cancer screening was compared between the ever screened for cervical cancer and the never screened for cervical cancer, there was no significant association between perceived severity of cervical cancer and cervical cancer screening. This differs with the hypothesis of the Health Belief Model that predicts that perceived seriousness of a disease necessitate people to engage in preventive actions.

Therefore, majority of the respondents were quite aware that cervical cancer is a serious disease but the reasons why they fail to engage in preventive actions as predicted by the Health Belief Model needs to be further explored.

5.1.3 Perceived benefits of doing cervical cancer screening

It was good to know that the majority of respondents overwhelmingly agreed that it is important to do cervical cancer screening (87%). Therefore, knowledge about the benefits of doing cervical cancer screening was not a significant barrier. This is consistent with studies in which the majority of subjects agreed that regular pap smear screening will give them peace of mind, find a problem before they become cancer and very necessary even if there is no family history of cancer (Leyva et al., 2016). It was also good to know that both the ever screened for cervical cancer and never screened for cervical cancers in this study believed that it was important to do cervical cancer screening because it could find changes in the cervix before they become cancer (75%) and it could easily be cured when found early (84%). These reasons are consistent with findings of other studies (Meyer, 2014, Agurto et al., 2013 and Bessler et al., 2017).

It was noted that when the ever screened for cervical cancer and the never screened for cervical cancer were compared, there was no significant association between perceived benefits of doing cervical cancer screening and uptake of cervical cancer screening, and this was consistent with previous studies (Leyva et al., 2016, Bessler et al., 2017 and Agurto et al., (2013). This however contradicts the prediction of the Health Belief model which predicts that those with perceived benefits are more likely to take preventive actions, than those with no perceived benefits or low perceived benefits. Therefore, it is most likely that the low uptake of cervical cancer screening among women attending Hoima Regional Referral Hospital, Hoima region could be attributed to other factors other than lack of perceived benefits.

5.1.4 Perceived barriers to seeking cervical cancer screening

Most respondents did not have perceived barriers to cervical cancer screening as the average response to barrier questions had a mean of less than 3. This finding completely contradicts previous studies that reported many barriers among the ever screened for cervical cancer and the never screened for cervical cancer like pain, lack of convenient clinic times, lack of information, not knowing where to go for cervical cancer screening, too embarrassing to do cervical cancer screening, partner resisting them from doing cervical cancer screening, lack of female screeners etc as barriers to cervical cancer screening (Agurto et al., 2013, Leyva et al., 2016 and Bessler et al., 2017).

When comparing responses of those that had ever screened for cervical cancer and those that had never screened for cervical cancer, 74% of the ever screened group disagreed that seeking to have cervical cancer screening suggests that a woman is having sex versus 27% of the never screened group who agreed that seeking to have cervical cancer screening suggest a woman is having sex. This study revealed that both the ever screened for cervical cancer and never screened for cervical cancer equally disagreed to the barrier questions in the questionnaire. The findings of no significant association between perceived barriers to cervical cancer screening and cervical cancer screening status suggest that most barriers to cervical cancer screening has been addressed and therefore contrast other studies that found significant barriers among the never screened when compared to the screened (Leyva et al., 2016, Bessler et al., 2017 and Agurto et al., 2013).

5.1.5 Level of cervical cancer screening status of respondents

The study revealed that only 39% of the respondents have actually done cervical cancer screening. This cervical cancer screening rate is far too small and does not reach the Ministry of Health goal of screening at least 75% or more of eligible women for cervical cancer. A similar study on cervical cancer and Pap smear screening conducted in Botswana on knowledge and perceptions by Carey et al., 2013 found that only 40.0% of study participants had ever had Pap smear tests (Nakisige, 2013). This finding of low uptake of cervical cancer screening is consistent with most other studies done in less developed countries which reported a participation rate of 23% and follow up rates of 46% within 3 years (Carey et al., 2013 and Lerman et al., 2013). Among others, the reason for low participation include at risk women not perceiving themselves as been susceptible to cervical cancer provided they have no symptoms of cervical cancer, lack of information about the benefits of cervical cancer screening and

misconceptions like thinking it is painful, takes away virginity etc. Although most respondents perceived cervical cancer as serious, the thought of believing that there was no treatment of cervical cancer, makes them uninterested in doing cervical cancer screening.

The finding that 64% of those who had actually done cervical cancer did so within the past 3 years reveals recent increase uptake in cervical cancer screening programs by private sector projects in the region reaching out to the community and also the introduction of routine cervical cancer screening free of charge in Hoima regional referral hospital. This awareness program if sustained might greatly improve cervical cancer screening uptake in Hoima region in the future.

5.1.6 Association between socio-demographic characteristics and the construct of the Health belief model

5.1.6.1 Association between socio-demographic characteristics and perceived susceptibility to cervical cancer

Perceived susceptibility was statistically significant with residential area, marital status and nearly with age and educational level. The fact that perceived susceptibility is statistically significant with residential area, yet there is no proportionate increase in cervical cancer screening uptake among the respondents suggest that it might be due to lack of convenient clinic time to go for cervical cancer screening. The relationship between perceived susceptibility and high educational level, marital status and residential area suggest that these groups are more likely to participate in cervical cancer screening and this is consistent with

previous studies that reported that the educated and the married have a higher perceived susceptibility to cervical cancer (Agurto, et al., 2014).

5.1.6.2 Association between socio-demographic characteristics and perceived severity of cervical cancer

Nearly all the socio-demographic characteristics were significant with perceived severity of cervical cancer (age, marital status, educational level, and residential area). This suggests that most people irrespective of their socio-demographic characteristics are aware of the severity of cervical cancer. This is consistent with previous studies that found that most people are aware of the severity of cervical cancer but still do not take preventive actions by participating in cervical cancer screening programs (Sauvageau et al., 2015, Price et al., 2016). Therefore, despite awareness of the perceived severity of cervical cancer, the reasons while at risk women fail to participate in cervical cancer screening needs to be adequately explored.

5.1.6.3 Association between socio-demographic characteristics and perceived benefits of doing cervical cancer screening

The study did not find any significant association between socio-demographic characteristics and perceived benefits of doing cervical cancer screening as both the ever screened for cervical cancer and the never screened for cervical cancer irrespective of their socio demographic characteristics overwhelmingly agreed that it was important to do cervical cancer screening. This finding is consistent with findings of Leyva et al., (2016) and Bessler et al., (2017) in which respondents across all socio-demographic characteristics generally were aware of the benefits of cervical cancer screening.

5.1.6.4 Association between socio-demographic characteristics and perceived barriers to seeking cervical cancer screening

This study did not find any significant association between socio demographic characteristics and perceived barriers to doing cervical cancer screening. All the various socio-demographic characteristic groups had equal perceived barriers to cervical cancer screening. This contrast previous studies that reported various barriers to cervical cancer screening among the poor, the less educated, the single and the married etc (Leyva et al., 2016, Bessler et al., 2017 and Agurto et al., 2004). The lack of significant association between socio-demographic characteristics and perceived barriers to cervical cancer screening in this study might suggest that most barriers to cervical cancer screening has been addressed as a result of the Ministry of Health's commitment to improve uptake of cervical cancer screening through provision of education that create awareness and provision of infrastructure to improve access.

5.1.7 Comparison of Health Belief Model construct between ever screened and never screened

All the constructs of the Health Belief Model (perceived susceptibility, perceived severity, perceived benefits and perceived barriers) when compared for ever screened for cervical cancer and never screened for cervical cancer, all show statistical significance with perceived susceptibility being the one with the highest statistical significance. Thus perceived susceptibility was the greatest predictor of cervical cancer screening as those who perceived themselves to be susceptible were more likely to screen. From this, assumption can be made that by increasing perceived susceptibility to cervical cancer through awareness campaigns, cervical cancer screening uptake can significantly improve among the eligible women attending Hoima Regional Referral Hospital. Perceived barriers, perceived benefits and

perceived severity are other important predictors of cervical cancer screening as revealed in this study. This is consistent with the constructs of the health belief model in which perceived susceptibility, perceived severity, perceived benefit and perceived barriers are significant predictors of preventive action (Glanz et al., 2014).

Disappointedly, this finding differ from other studies that found that perceived susceptibility was not a predictor of cervical cancer screening and although perceived benefits was high, it does not predict cervical cancer screening (Boonpongmanee, 2015).

5.1.8 Limitation of the study

Although this study was limited by its cross-sectional design and use of self-report, other important limitations include; Information bias due to self-reporting as some of the respondents might have felt sensitive to report negative results.

The result of this study represents the views of women attending Hoima Regional Referral Hospital, Hoima district. The factors affecting cervical cancer screening uptake in other hospitals were not conducted.

5.2 Conclusion

The key findings of the study include;

The rate of cervical cancer screening in the region is still below the set target of at least 75% of eligible women. Majority of the respondents were aware of the susceptibility to cervical cancer with average response to perceived susceptibility questions of greater than

3. Perceived susceptibility was most significantly associated with screening for cervical cancer (P- value of 0.001). Those with high perceived susceptibility were 3 times more likely to screen for cervical cancer than those with low perceived susceptibility.

Majority of respondents in this study were aware of the severity of cervical cancer with the mean average response to perceived severity question in the range between 2.58 to 3.56. There was no significant association between perceived severity and cervical cancer screening.

Majority of respondents in the study were aware of the perceived benefits of seeking cervical cancer screening with average response in the range between 3.10 and 4.33. However, the perceived benefits of seeking cervical cancer screening were not significantly associated with screening for cervical cancer.

Majority of the respondents strongly disagreed with statement about perceived barriers to cervical cancer screening with average ratings of less than 3. There was no significant association between perceived barriers and cervical cancer screening.

Cervical cancer screening rates of 39% is still far below the national target of 75% (Ministry of Health, 2020). Majority of the respondents are aware of their perceived susceptibility to cervical cancer, perceived severity of cervical cancer, perceived benefits of seeking cervical cancer screening and do not have barriers to seeking cervical cancer screening. However, only perceived susceptibility was shown to improve cervical cancer screening among the respondents.

5.3 Recommendations

Based on the findings of this study, the following recommendations are suggested;

Promote community sensitization. The study indicated low rates of cervical cancer screening that have remained below the national target which could be due to limited awareness on cervical cancer screening. Perceived susceptibility should be emphasized through education and awareness campaigns as it was found to improve uptake of cervical cancer screening.

Conduct further studies in other regional and district hospitals as perceived barriers, perceived severity and perceived benefits were not found to be contributing to low uptake of cervical cancer screening and therefore reasons for low uptake needs to be explored and addressed further through a qualitative study. Perhaps this could address the root cause of the low uptake seen in the unique population.

Promote programs to target men. Furthermore, the study showed that significantly a remarkable number of women that received health services in Hoima Regional referral Hospital were dependent to the partners' decision on cervical screening

Strengthen National Cervical Cancer Days. Ministry of health in partnership with the directors for the various hospitals and district implementing partners should raise campaign on promoting cervical cancer screening through mass mobilization such as sponsoring National Cervical Cancer Day in all the districts in the country. It should also motivate women to undergo screening for cervical cancer through women empowerment on their health rights.

Decentralize further the cervical cancer screening centers in order to increase accessibility of cervical cancer screening services in the community as residential area was found to be significantly associated with perceived susceptibility. Cervical cancer screening services should be extended to all health facilities by Ministry of health and equip staff with the required skills to screen for cervical cancer. This also means that human, financial and material resources should be made readily available to ensure the sustainability of cervical screening services in the health centers.

5.4 Suggestions for Further Research

The following areas are proposed for future research.

• Determining knowledge of men living in urban areas of Uganda on cervical cancer screening.

• Exploring men's perception on cervical cancer screening.

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APPENDICES

Appendix I Questionnaire for individual respondents

ASSESSING THE FACTORS THAT AFFECT UPTAKE OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN AGED 25-65 YEARS IN HOIMA DISTRICT.

Date ☐☐☐☐☐☐☐☐

Questionnaire No: ☐☐☐

Name of Research Assistant……

Interviewer: Please tick the appropriate response in the box provided

SECTION A: <u>SOCIO-DEMOGRAPHIC DATA;</u>

1. Age in Years; Date of birth;...../...../.....

2. Marital Status

Single ☐

Married ☐

Divorced ☐

Widowed ☐

Cohabiting ☐

3. Educational Level

None ☐

Primary ☐

Secondary ☐

Tertiary ☐

4. Residential Area

Urban ☐

Peri-urban ☐

Rural ☐

Others Specify.....

SECTION B

PARTICIPATION IN CERVICAL CANCER SCREENING;

5. Have you ever had cervical cancer screening?

Yes ☐

No ☐

6. If you answered yes to question 13, was the cervical cancer screening done within the past 3 years?

Yes ☐

No ☐

SCETION C
PERCEPTION ABOUT SUSCEPTIBILITY TO CERVICAL CANCER;

7. Older women are more at risk of cervical cancer than younger women.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

8. Every woman of child bearing age is at risk of cervical cancer.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

9. Women with multiple sexual partners are more prone to cervical cancer.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

10. Cervical cancer is more common to women who are hiv positive.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

11. Susceptibility to cervical cancer increases with number of pregnancy.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

12. Cervical cancer only happens to women who are above the age of 50 years.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

SECTION D

PERCEPTION ABOUT SEVERITY OF CERVICAL CANCER;

13. There is effective treatment for cervical cancer?

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

14. Having cervical cancer will make a woman's life difficulty.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

15. Cervical cancer is not as serious as other types of cancers.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

16. Cervical cancer is easily cured.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

17. Having cervical cancer can result to infertility.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

18. Death resulting from cervical cancer is rare.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

SECTION E:

PERCEIVED BENEFITS OF CERVICAL CANCER SCREENING;

19. It is important for a woman to have cervical cancer screening to know if she is healthy.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

20. Cervical cancer screening can find changes in the cervix before they become cancer.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

21. If cervical changes are found early from cervical cancer screening, they are easily curable.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

22. Doing cervical cancer screening can help improve the chances of an infertile woman becoming pregnant.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

23. Cervical cancer screening can decrease the chances of a woman having an abortion.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

SECTION F

PERCEIVED BARRIERS TO CERVICAL CANCER SCREENING;

24. It is too embarrassing to do cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

25. Cervical cancer screening is painful.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

26. If a young unmarried woman does cervical cancer screening, everyone will think she is having sex.

Strongly Agree ☐

Agree ☐

Not Sure ☐

27. Doing cervical cancer screening will only make one worry.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

28. If a woman has not had sex, cervical cancer screening will take away her viginity.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

29. Not knowing where to go for cervical cancer screening is a reason why people dont do cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

30. Only women who have had babies need to do cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

31. My partner will not want me to do cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

32. Lack of female screeners in health facilities is a reason for not doing cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

33. Attitudes of health workers can discourage one from going for cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

34. Lack of convenient clinic time is a barrier to routine cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

35. Lack of information about cervical cancer screening procedures is a barrier to uptake of cervical cancer screening.

Strongly Agree ☐

Agree ☐

Not Sure ☐

Disagree ☐

Strongly disagree ☐

Thank you for your co-operation and time

Appendix II: Consent Form (English Version)

Study title: Uptake of cervical cancer screening among women aged 25 –65 years at Hoima regional Referral Hospital, Hoima district, Uganda.

Principal Researcher

Kusiima Angela Merice

Uganda Marytrs University, Faculty of Health Sciences

Tel: +256772 372286

E-mail: siimangerice@gmail.com

Informed Consent: This form is meant to explain to you vital details of the research study so that you can decide whether to participate in the study or not. You need to understand the purpose; how it can help you and the principal researcher, the associated risks and what is expected of the respondent if you decide to participate.

Your rights as a research participant: This consent form gives you information about the study which will be discussed with you in detail. If you understand the study and agree to participate, you will be requested to sign this form. Your participation in this study is strictly voluntary and you can withdraw at any time you wish; such a decision will not affect your medical care or participation in future research projects in any way.

Purpose of the Study: The purpose of this study is to determine the Factors contributing to the low uptake of cervical cancer screening among women aged 25 –65 years at Hoima regional Referral Hospital, Uganda. It will generate sound background information that can be used by key stakeholders such as ministries of health and local government in planning and developing strategies to the low uptake of cervical cancer screening among women aged 25 – 65 years at Hoima regional Referral Hospital, Uganda.

Study Procedures: If you decide to participate in the study, you will be interviewed. Although this study will last for weeks, your participation will only be less than 45minutes

Risks: There are no risks to you except some temporary anxiety and inconvenience while you are being interviewed.

Benefits to participant: Immediately after the interview, you will be given health education on cervical cancer screening. However, it is hoped that the results of this study will be used to develop strategies to improve on the uptake of cervical cancer screening among women aged 25 –65 years at Hoima regional Referral Hospital.

Compensations: There will be no money/gift given to you for participating in the study.

Confidentiality: The study number will only be known to authorize study personnel which will be assigned to you and will be used instead of your name. The information shall be kept in a safe place. You will not be personally identified in any publication or presentation about this study.

Problems or Questions: If you have any questions pertaining this research, you can contact Kusiima Angela Merice Principal Researcher (Tel 0772 372 286) at Uganda Martyrs University, Faculty of Health Sciences. If you have any questions about your rights as a research participant, you may contact the Chairperson of Research and Ethics Committee (Tel: ----------)

I……. the undersigned have read and understood what is going to be done in the study, risks, my rights and benefits involved in this research and I have accepted to participate in the study.

Participant Name:

Signature/thumb print……

Appendix III: Student Introduction letter

Uganda
Martyrs
University

Making a difference

Faculty of Health Sciences
Email: health@umu.ac.ug
11th /Nov/2017

The Responsible Officer

RE: INTRODUCING KUSIIMA ANGELA MERICE

This is to introduce to you **Ms. KUSIIMA ANGELA MERICE Reg. No. 2015-M272-20033** who is a postgraduate student in the Faculty of Health Sciences at Uganda Martyrs University. She is pursuing a programme leading to the award of Master of Public Health- Population and Reproductive Health. She is currently on research for her dissertation on the topic:

""FACTORS AFFECTING THE UPTAKE OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN AGED 25 –65 YEARS AT HOIMA REGIONAL REFERRAL HOSPITAL (HRRH), UGANDA."

The topic and protocol have been approved by the relevant university authorities.

Any assistance rendered to her in this respect will be highly appreciated by the university.

Yours sincerely,

Dr. Miisa Nanyingi
Ag. Dean,
Faculty of Health Sciences,
Uganda Martyrs University

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