FACTORS INFLUENCING UPTAKE OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN OF REPRODUCTIVE AGE IN IGANGA DISTRICT.

BY
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A POST GRADUATE RESEARCH DISSERTATION SUBMITTED TO THE INSTITUTE OF HEALTH POLICY AND MANAGEMENT IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE AWARD OF A MASTERS OF SCIENCE IN PUBLIC HEALTH OF INTERNATIONAL HEALTH SCIENCES UNIVERSITY.

DECEMBER, 2014
DECLARATION

To the best of my knowledge, I declare that the work presented in this dissertation is my own and has never been presented either partially or in total for any award unless otherwise stated. I would therefore like to present this work for the award of the degree of Master of Public Health of International Health Sciences University, Kampala, Uganda

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Date....................................................
DEDICATION

This dissertation is dedicated to all women who have been diagnosed with cervical cancer and to families that have lost their dear ones due cervical cancer.
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LIST OF ACRONYMS AND ABBREVIATIONS

HPV.................................Human Papilloma Virus

CC ................................. Cervical Cancer.

WHO.................................World Health Organisation

DHO.................................District Health Officer

MOH.................................Ministry Of Health

HIV.................................Human Immune Virus

AIDs.................................Acquired Immune Defficiency Syndrome

STIs.................................Sexually Transmitted Infections

IHSU.................................International Health Sciences University

IHPM.................................Institute of Health Policy Management

ML.................................Milli Litres

NHS.................................National Health Services

UK.................................United Kingdom

CDC.................................Centre for Disease Control

Dr.................................Doctor

TV.................................Tele-Vision

Pap smear  --------------------- Papanicolau smear
OPERATIONAL DEFINITIONS:

**Screening**: refers to the process of testing women for cancer of the cervix.

**Perceived susceptibility**: refers to an individual’s judgment of their risk of contracting cancer of the cervix.
ABSTRACT

**Background:** Cervical cancer is the uncontrolled growth of some cells on the cervix (the mouth of the womb). If these abnormal cells are not detected early they can develop into cancer of the cervix. The process cancer growth happens slowly over a period of years.

**Objectives:** The objective of this study was to determine the level of uptake of and the factors influencing the uptake of cervical cancer screening among women of Reproductive age in Iganga District.

**Methods:** This was a cross sectional study that was conducted in four different counties in Iganga district. It involved a survey that used a semi structured pre-tested interviewer administered questionnaires and review of policies related to cervical cancer.

**Results:**
Majority of the women who were interviewed 447 (86%) had never gone for cervical cancer screening services despite the availability of the service in the district. Among the reasons that women gave for not seeking cervical cancer screening services included: majority 172(38.55%) said they didn’t know where to find the service and this was followed by those who confessed that they feared to get bad results,155(34.69%).

The independent predictors for uptake of cervical cancer screening in the study that was positively associated with cervical cancer screening included having attended school and being employed. It showed that women who had ever gone to school were more likely to go for
cervical cancer screening than those who had never gone to school. (Primary level, OR 10.8, CI-2.7-44.2, P-0.0001, Secondary, OR 38.0, CI-9-16, and Tertiary, OR3.32, CI-1.03-10.7, p-0.044). The women who were employed were 7 times more likely to seek cervical cancer screening services than the unemployed (OR-7.23, CI-2.85-18.3). The women who were living >5km from the health facility were 0.3 times less likely to seek the service compared to those who were living in areas that were <5km.

The attitude of the health workers had an influence on the women’s uptake of cervical cancer screening as evidenced by the OR -0.28, OR-0.47; Poor attitude, Fair attitude respectively. This meant that the women who ranked that health workers attitude was poor, were less likely to seek the service than those who ranked it good.

The women who agreed that cervical cancer can make a woman’s life difficulty were 5 times more likely to take part in cervical cancer screening than those who disagreed (OR-5.8, CI-3.2-10.4 p<0.001). However, some factors were negatively associated with cervical cancer screening uptake and these included: some perceived severity and barrier to cancer screening as below:

The women who said that cancer can easily cure showed that they were 1.9 times unlikely to participate in cervical cancer screening. (OR,1.9,CI,0.7-5.4).

Those who agreed that cervical cancer can result into infertility were 0.6 times unlikely to take part in cervical cancer screening than those who disagreed. (OR,0.6,p.0.046)

Conclusions: The level of uptake of cervical cancer screening was found to very low, just about quarter of the women interviewed had ever screened for cervical cancer in the last three years. The low uptake of cervical cancer Screening services is due to a number of factors like poor educational background, lack of information regarding the availability and benefits of screening, and unavailability of the service at all health centers.
CHAPTER ONE

1.1. Introduction

Cervical cancer is the uncontrolled growth of some cells on the cervix. The cervix is the lower part of the uterus (womb) that opens at the top of the vagina. Cells on the cervix begin to grow slowly and abnormally over several years. These early pre-cancerous changes can disappear on their own without causing problems. But in some women, these cells can grow into cancer if they are not screened and treated early. They spread to other parts of the body and interfere with normal body functions.

Cancer of the cervix is a leading cause of deaths among women worldwide with an estimate of 493,000 new cases and 274,000 deaths occurring every year due to this preventable disease. (Parkin et al., 2002). And 85% of all cervical cancer deaths reported are from developing countries.

It is also reported that 80% of the cases occur in developing countries, where, in many regions, it is the most common cancer among women, responsible for about 15% of all new cancers. The majority of cases are squamous cell carcinoma followed by adeno-carcinomas (Globan et al, 2012).

According to Human Papillomavirus and Related Diseases Report (Bruni, et al, 2014) cervical cancer is most common in the lower-resource countries of sub-Saharan Africa.

In sub-Saharan Africa, 34.8 new cases of cervical cancer are diagnosed per 100 000 women annually, and 22.5 per 100 000 women die from the disease. The burden of cancer in developing countries is growing and threatens to exact a heavy morbidity, mortality, and economic cost in these countries in the next 20 years. (WHO, 2010).
Detection of cervical cancer at an early stage is associated with excellent survival but most women in developing countries present with advanced and often untreatable disease, with very poor survival. In Uganda, over 80% of patients diagnosed at Mulago Hospital with cervical cancer present with advanced disease therefore most of the diagnosed patients die from this disease. (Lynette Denny, 2012)

Cervical cancer is commonest among poor communities with limited facilities for screening for cancer of the cervix of which Iganga district is not exclusive.

The high risk Human Papilloma Viruses associated with cancer of the cervix, are sexually transmitted and thus the link between cervical cancer and sexually transmitted infection.

Women at risk of sexually transmitted infections, having unprotected sex before age of 18 years; presence of other sexually transmitted infections also increase chances of developing cervical cancer. Other factors associated with cervical cancer are; low educational status, lack of knowledge about screening, high parity and long term use of oral contraceptives.

Cervical cancer patients are usually aged 30 years and above, however, in Uganda, it has been reported that younger women are increasingly reporting at health facilities with advanced disease compared to previous years which has been attributed to immune suppression from HIV/AIDS.

Cervical cancer is preventable if screening is done early and can improve on the efficiency of cancer treatment most especially in the low income countries like Uganda. Screening programs including preventive health seeking behavior like introduction of HPV vaccination, male circumcision and the use of condoms are useful means to prevent cancer of the cervix.
The common symptoms of cervical cancer include intermenstrual bleeding, post coital per vaginal bleeding and foul smelling per vaginal discharge and these usually present in the last stages of the disease.

The fact that cervical cancer is usually asymptomatic in the early stages coupled with poverty, ignorance, and lack of screening services impact on cancer prevention and management.

Based on the information at hand, if screening of cervical cancer is done early, we can prevent up to one-third of new cancers and the increase the survival of those with the cancer to a third of the cancers. However, the reality is different since we get 46 new infections of cervical cancer for every 100,000 women and therefore the knowledge of cervical screening must be translated into action.

1.2 Statement of the problem.

Cancer of the cervix is the commonest cancer among women in Uganda with an incidence rate of 22.6 per 100,000 women per year. It is the commonest cancer among women aged 18 to 44 years and the leading cause of cancer death among women in Uganda. Uganda has over 9.71 million women who are above 15 years of age and these are at risk of developing cervical cancer. (Uganda Human Papillomavirus and related cancers summary report, 2014)

According to “WHO estimates”, less than 5% of women in developing countries are screened appropriately for cervical cancer and yet more than 90% of women present with advanced disease.

It is estimated that 3915 women are diagnosed with cancer of the cervix every year and 2275 die from the disease. Out of 100,000 women seen in Uganda, 46 are expected to get cancer of the
cervix. In Uganda, Over 80% of patients diagnosed at Mulago Hospital with cervical cancer present with advanced disease therefore most of the diagnosed patients die from this disease. It is known that cancer of the cervix is the most preventable type of cancer among women, yet very many women have become victims of the disease more over in late stages. Cervical cancer screening services were put up in Iganga referral hospital, mercy health centre and Islamic health centre 111 but its uptake in Iganga municipality is still very low. (Iganga Hospital Records, 2014)

According to the cervical cancer screening team in the district, 8 to 15 women are screened every month which is quite very low compared to the general population of women in the district (Iganga Hospital Records, 2014). The services are free of charge in the two government health facilities and in the private health centre (Mercy health centre) screening is done at a cost of five thousand Uganda shillings. The low uptake of cervical cancer screening services will result into late diagnosis of the cervical cancer which is usually incurable and deadly in the late stages. This will result into increase in the number of women who die due cervical cancer hence high maternal mortality.

1.3 Study objectives

1.3.0. General objective.

To determine the factors influencing uptake of cervical cancer screening among women of Reproductive age in Iganga District.

1.3.1 Specific objectives

1. To determine the level of uptake of cervical cancer screening among women of age 18 to 50 years in Iganga District.
2. To establish socio-demographic factors associated with uptake of cancer of cervix screening service among women aged 18 to 50 years in Iganga District.

3. To determine healthy facility factors associated with uptake of cervical cancer screening services among women of reproductive age 18-50 years in Iganga District.

4. To assess the relationship between cervical cancer health beliefs of women aged 18 to 50 years and uptake of cancer of cervix in Iganga district.

1.4 Research Questions

The research questions for this study were the following;

1. What is the level of uptake of cervical cancer screening among women of age 18 to 50 years in Iganga District?

2. What socio demographic factors are associated with uptake of cervical cancer screening among women of reproductive age 18 to 50 years in Iganga District?

3. What health facility factors are associated with uptake of cervical cancer screening among women age 18 to 50 years in Iganga District?

4. What is the relationship between women’s health beliefs and uptake of cervical cancer screening in Iganga district?

1.5 Significance

Results from the study will help to ascertain whether or not women living in Iganga district are aware of cervical cancer and its consequences if not detected early.
The results will be used to determine the best and most effective way to encourage women to take up cervical screening services.

Results from the study will further help to strengthen and improve on the cervical cancer screening services in Iganga district. The aim of this study will be to determine the factors influencing the uptake of cervical cancer screening services among women of reproductive age 18 to 50 years in Iganga District.

1.6 Theoretical/ Conceptual Framework

According to the health belief model, a range of health behaviors such as uptake of cervical cancer screening can be predicted based on information from several primary behavioral determinants which include perceived threat of the disease which has two has two components: perceived susceptibility to the disease and the perceived severity of the disease.

Perceived susceptibility refers to an individual’s judgment of their risk of contracting a disease. Based on health belief model, the likelihood of a woman to participate in cancer screening will increase as the level of perceived susceptibility increases.

Perceived severity refers to the subjective evaluation of the likelihood that an illness if contracted or left untreated or undiagnosed will have severe consequences such as pain, death and reduced quality of life in general. In this context, the willingness to participate in cervical cancer screening will not only depend on the perception of susceptibility but also on the individual perception of the seriousness of the consequences of late diagnosis of cancer of the cervix.

Although perceived threat can be an indicator in the women’s uptake of cancer screening, assessment of perceived benefits and barriers associated with cervical cancer screening can
influence the uptake of the health preventive action. Rosenstock argues that perceived threat of cervical cancer may prompt a woman to take up a cancer screening test but her woman’s choice of behavioral options also depends on her perception of the benefits and barriers to the health intervention procedure (cancer screening) associated with the available recommendations. Therefore if the perceived benefit of cancer screening outweigh the perceived barriers then it’s more likely that more women will engage in the health intervention procedure of cervical cancer screening.

Some health facility factors such as availability of the service, how accessible the health facility is, the information that the health workers give to the women and the attitude the health workers team portray may determine how the women will determine the women’s decision on whether to take up the service of cervical cancer screening or not. The study will therefore explore some of the health facility factors that may be affecting the uptake of cervical cancer screening service among women of reproductive age in Iganga District.

Figure 1 The health belief Model explaining personal health behavior in regard to cervical cancer screening. (Modified from Rosenstock, 1974b)
Figure 1: Conceptual framework

Sociodemographic characteristics; Age, Marital status, Religious beliefs, Education level, Occupation, Parity.

Health facility factors: Availability
- Accessibility
- Health Education
- Health worker attitude

Perceived benefit of participating in cervical screening

Perceived susceptibility to cervical cancer

Perceived threat of participating in cervical screening

Perceived seriousness of cervical cancer

Women’s uptake of cervical cancer screening
CHAPTER TWO  

LITERATURE REVIEW

This chapter will expound on the themes in the conceptual framework by looking at the studies related to socio-demographic factors, individual factors, and healthy facility factors as determinants of uptake of cancer screening among women of reproductive age.

2.1 Introduction

Cervical cancer occurs when the cells in the cervix begin to grow and replicate in an abnormal and uncontrolled way. When this happens, the body fails to organize the cells in the normal way of functioning and they end up forming a mass called a tumor. These tumors multiply and may then spread to other parts of the cervix and thus destroying other normal cells. The abnormal cells in the cervix usually grow very slowly over a period of years and hence become cancerous. In most cases early changes occur in the cells of the cervix before cancer develops.

Cancer of the cervix is a major cause of morbidity and mortality among women in resource-poor settings, especially in Africa. (Globocan 2012). The majority of cancers in Africa are detected in late stages. This mainly due to lack of information about cervical cancer and prevention services (Bruni et al, 2014).

Cervical cancer is preventable, and effective screening programmes can lead to a significant reduction in the morbidity and mortality associated with this cancer, however, if diagnosed late chances of survival are really low.(WHO, 2012).

In sub-Saharan Africa, there are few organized efforts in low-resource settings to ensure that women over the age of 30 years are screened (Chirenje et al, 2001); consequently, women with...
cervical cancer are not identified until they are at an advanced stage of disease, resulting in high morbidity and mortality.

According to the Uganda 2014 summary report on the Human Papillomavirus and Related Diseases, 3,915 new cervical cancer cases are diagnosed annually placing cervical cancer as the 1st cause of female cancer and the most common female cancer in women aged 15 to 44 years in Uganda (Bruni et al, 2014).

Usually women present with the cancer in the late stages and thus end dying silently with the cancer .(Hildesheimet al. 2001).

However, cervical cancer is preventable, but most women in poorer countries do not have access to effective screening programmes. (WHO, 2001)

Cervical cancer is one of the few cancers which have a detectable and treatable precursor stage.

It is therefore true that prevention and screening are the most suitable and reliable cancer fighting strategy we can rely on today. Cancer screening offers the most cost-effective strategy for the control of cancer in the entire world.(WHO 2006)

Based on Eastern Africa studies (Bruni L et al,2014) that performs HPV detection tests in cervical samples, 35.8\% of women in the general population are estimated to harbour cervical HPV infection at a given time, and 76.5\% of invasive cervical cancers are attributed to HPVs 16 or 18.

In the low income countries, cervical screening is regarded as the best option in the prevention of cervical cancer. Uganda in particular Papanicolau smear screening programmes are cost prohibitive, resource intensive and yet not widely available. (Mutyaba et al, 2007). The barriers
to screening such as lack of information, poor access and lack of treatment options for cervical cancer have been noted to affect uptake of cancer screening. (Teng et al, 2014)

Therefore it is important to get a better understanding of why the uptake of cancer screening among women in Iganga district is as well low.

2.2 Level of uptake of cancer of cervix screening in Uganda

Although, cervical screening can save lives (WHO, 2006), it is still evident that the uptake for cervical screening among women from socially deprived areas is still very low (Logan et al, 2011).

In Uganda, 80% of cervical cancer is diagnosed at stage III or IV largely due to a lack of screening infrastructure (Katahoire et al, 2008).

The NHS Cervical Screening Programme of UK has played a major role in reducing mortality from cervical cancer (Mohan 2004; Horan 2007). This has been through cervical screening programmes being dependent on the eligible female population as they respond to invitation for screening (Ibbotson 2000).

Chang et al (2007) noted that the success of a cervical screening programme depends on the degree of coverage, and different recruitment strategies are needed for different groups.

There are several benefits for cervical cancer screening and early detection, but many women have remained ignorant about them. (Stewart & Kleihues, 2003). Many women have continued to suffer and die from cancer of the cervix, although options for cancer screening and treatment are available in health facilities. (Cain, Ngan, Garland, & Wright, 2009).
In many developed countries, cytological screening programs have led to a significant reduction in the incidence of and mortality from cervical cancer; however, in developing countries when it has been implemented, it has been less successful and highly ineffective in reducing disease burden (Sankaranarayanan, Gaffikin, Jacob, Sellors, & Robles, 2005).

In Sub-Saharan Africa women are at a higher risk of developing cervical cancer due to the high incidence and prevalence rates of human immunodeficiency virus (HIV) and AIDS in this region (UNAIDS, 2010). Studies have indicated that incidence of cervical intraepithelial neoplasia (CIN) is four to five times higher among HIV-infected women than HIV-negative women (Moscicki, 2005). HIV-infected women are also at a significantly higher risk for cervical cancer than are HIV-negative women (Frisch, Biggar, & Goedert, 2000).

In Sub-Saharan Africa women do not seek medical attention until the cancer is in advanced stages, leading to high cancer mortality (Sankaranarayanan, et al, 2001) and (Stewart, 2003), and these cases, posed challenges to the existing and limited cancer treatment facilities in many developing countries.

In Uganda, a trend analysis of the cervical cancer incidence rates over a period of 20 year (1991-2010) at Kyadondo Cancer registry indicated that among females, Cervical cancer was the most frequent over the 20 year period with an increase of 1.8% annually (95% CI 0.3, 3.4). (Wabinga, 2013).

According to Bruni et al, (2014), 2,275 new cervical cancer deaths occur annually in Uganda making cervical cancer the 1st cause of female cancer mortality as well as the 1st leading cause of cancer deaths in women aged 15 to 44 years in Uganda.
2.3 Socio-demographic factors associated with uptake of cervical cancer screening.

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 (Yi, 1994). 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. (Cesar et al., 2002).

Boonpongmanee (2007) 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 (P<0.001), undergraduate degree or higher (P<0.001), and higher income (P<0.001). The study also reported that women 35 years and older were more likely to perceive themselves to be more susceptible to cervical cancer than younger women (P<0.001).

Most people irrespective of their socio-demographic characteristics were aware that cervical cancer is a serious disease yet they do not take preventive actions by participating in cervical cancer screening programs. Studies have reported significant association between perceived severity and age, educational qualification, monthly income, marital status, employment, residential area (Sauvageau et al., 2007, Burak and Meyer, 1997). But the role this plays in uptake of cervical cancer screening participation is not clear.

Leyva et al., (2006) and Bessler et al., (2007) concluded in their study that majority of women irrespective of their socio-demographic characteristics were aware of the benefits of doing
cervical cancer screening. However, Leyva et al., (2006) reported that when perceived benefit of cervical cancer screening was cross tabulated with socio-demographic characteristics, there was no significant association between perceived benefits and socio-demographic characteristics (p>0.05). This could be associated to small sample size that was used in the study and because of the kind of country in which the study was done hence the cross tabulation yielded no significant results.

A study conducted by Schulmeister (1999) and Suwaratchai (1997) concluded that Asian women in particular Thai women believe that it was beneficial to do Pap smear if one is married compared to the unmarried. The study showed a strong relationship between perceived benefit to screening of cancer of the cervix with marital status (P<0.04) but all other socio-demographic characteristics was not significant (Schulmeister, 1999 and Suwaratchai, 1997). This could be explained by the fact that, Thai women and other Asian women were concerned that Pap smear will take away their virginity. This is because premarital sex is prohibited in this area and so women who are not married consider themselves not at risk of having cervical cancer.

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 (Agurto et al., 2004).

Leyva et al., (2006) 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 than their counterparts (Neilson and Jones, 1998).

Therefore, socio-demographic characteristics such as education, income, marital status, age etc can play a role in uptake of cervical cancer screening programs and 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.

2.4 Socio-demographic factors and cervical cancer screening.

Socio-demographic factors influencing uptake of cervical cancer screening will be limited to the age, marital status, religious beliefs, educational level (prior knowledge and attitude towards cervical cancer), employment status.

According to Sudenga et al (2011), Cervical cancer is a major health burden for women in sub-Saharan Africa, yet only one third of the women had ever heard of cervical cancer in Kisumu, Kenya.

It was reported that 91% of these women had heard of cancer, 6% of these had ever been screened for cervical cancer and the reported barriers to cervical screening such as fear, time, and lack of knowledge about cervical cancer. It is estimated that almost all the previously screened women (92%) believed that cervical cancer was curable if detected early and that screening should be conducted annually (86%). And 65% of these women felt that they were at risk for cervical cancer. The older women who perceived themselves to be more at risk [OR:1.06; 95% confidence interval [CI], 1.02-1.10], also reported a history of marriage (OR,
2.08; CI, 1.00-4.30). Only 5% of the women reported that they would not be willing to undergo screening regardless of cost (Sudenga et al, 2011).

Based on a study on the Knowledge, Attitudes, and Demographic Factors Influencing Cervical Cancer Screening Behavior study done in Zimbabwe, it was found out that 91% of the female respondents had never had of cervical screening, and 81% had no previous knowledge of the cervical screening tests. Despite never having had cervical screening and lacking prior knowledge of its purpose, 80% of the females expressed positive beliefs about cervical screening tests after an educational intervention (Sylvia et al, 2011).

The same study revealed that Knowledge of a cervical screening test was a significant factor in accessing cervical cancer screening. Females who had prior knowledge of cervical screening tests were (83%) more likely to access cervical screening compared to those who had no prior knowledge (OR 0.17, p = 0.00).

It is important that we investigate the reasons why women do take part in cancer screening and yet the service is available at no cost. This will help to ascertain the barriers so that they are addressed to improve uptake of cancer screening in the region.

2.5. Health facility factors and uptake of cervical cancer screening.

A study on Cervical cancer and Pap smear screening in Botswana; Knowledge and perceptions by Mpotokwane and Mcfarland (2003) found that only 40.0% of the respondents 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 (Mpotokwane and Mcfarland, 2003).

My hypothesis is that a major barrier to screening is the lack of knowledge of cervical cancer in the general population coupled with the low socioeconomic status of women and their lack of empowerment. With this research I hope to generate some data on what women know about cervical cancer, and factors that affect the women’s decisions to take part in cancer screening. 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.

2.6. Cervical cancer Health beliefs and cancer screening.

The health belief model can be used to understand and identify reasons for the low uptake of cervical cancer screening among women. According to Janz et al. (2002), the health belief suggests that a person usually first believes that her behavior will be of benefit to her before she actually seeks a health service.

The use of this model was expected to suggest whether or not a woman’s motivation to take part in the cervical screening programme would depend on particular attitudes in her life. That is, her perceived susceptibility to cervical cancer, how severe she thinks the disease may be, the risks associated with developing it, the benefits and hindrances of having a cervical smear. Factors noted in the literature that impact on cervical screening uptake includes: financial constraints,
educational level and prior cancer knowledge, fear and embarrassment and the gender of the health worker performing the screening test. (Arevian et al. 2006)

The health belief model states that one way of adopting proactive health seeking behavior is first obtaining benefits from the intended 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., 2007). The same women who indicated they did not need cervical cancer screening frequently reported lack of symptoms as their justification (Bessler et al., 2007).

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., 2008). (Agurto et al., 2004).

According to a study by Bessler et al., (2007) on factors affecting uptake of cervical cancer screening among clinic attendees in Jamaica; 18% of women said that doing a cervical screening test only makes one anxious especially if the results are indicative of cancer.. (Corral, et al. 1996). Other studies 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 as the major barriers to cancer screening. The success of cancer screening mainly depends on the active participation of the women to enable people to accept the uptake of cancer screening services.

A study on Factors Affecting Uptake of Cervical Cancer Screening Among Clinicians in Jamaica by Bessler et al., (2007), revealed that about 42% of the respondents feared that their
health provider would find cervical cancer if they do Pap smear test. Those who reported fear of pain associated with procedure were about 46%.

Leyva et al., (2006) 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 comfortable to discuss their results with the healthcare provider, and therefore provider’s attitude was not a barrier. However, 78% and 49% 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 and embarrassing respectively. Therefore, fear as a result of pain and non-participation due to embarrassment was not a problem among the non-participant 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%). In this study therefore provider’s attitude, pain of the procedure, embarrassment and convenient clinic time was not a contributory factor among the non-participant groups.

Therefore understanding factors associated with women’s perceived risk/susceptibility to cervical cancer, perceived benefit of cancer screening, perceived threat/barriers of cancer screening, and perceived seriousness of cervical cancer as a disease are critical for guiding interventions to increase cervical cancer screening uptake in Iganga and Uganda as a whole. It is therefore vital that the study investigates these factors to pave way of how the uptake of cancer screening is increased among the women.
CHAPTER THREE

METHODOLOGY

3.1 Introduction
This section gives a description of the study population and design, the data sources and collection techniques, the sampling procedure, as well as Data management and analysis techniques used in the study as follows.

3.2 Study design
Across sectional design employing both descriptive and analytical method was used to collect data on level of uptake of cancer cervix screening and associated factors. This study design was preferred over other epidemiological study designs because it can allow one to collect data on both dependent variable (uptake of screening services) and independent variable (factors) simultaneously in a point in time.

3.3 Sources of data
The study majorly utilized Primary data sources by use of a semi-structured questionnaire with both close and opened questionnaires. These were administered to the women of reproductive age living in Iganga district Community.

3.4 Study Area
The study was conducted in Iganga district community. Iganga district is located along the mid-eastern East African highway that joins Uganda and Kenya. It borders the districts of Kamuli and Paliisa in the North and northeast, Bugiri in the east, Mayuge in the south and Jinja in the south west. It is generally a plateau with isolated hills and is mostly inhabited by Basoga tribe.
3.5 Study Population.
The study population comprised of women in the sexual reproductive age (18-50) years living in Iganga district. This was mainly due to the high associated risks within this age group as well as the fact that the cervical cancer screening services are targeting the same age group.

3.6 Eligibility Criteria.

3.6.1 Inclusion criteria.
Women aged 18-50 years, who had lived in Iganga for at least one year.

Women who consented to participate in the study and they had a sound mind.

3.6.2 Exclusion criteria.
Women aged 18 to 50 years but were terminally ill.

Women who were in the age bracket (18-50years) but were dumb or deaf were excluded from the study.

3.7 Sample size
Based on a similar study conducted by Erin Cox, et al (2010) in Mulago- Uganda, among the 100 respondents recruited in the study, 81% had knowledge about cervical cancer and screening for cervical cancer by Pap smear. However, only 19% had had a cervical screening test (Pap smear) done on them. P =19%
\( \alpha \) – level of significance = 0.5, \( Z_{\alpha/2} \). critical value = 1.96.

\[
n = \text{Sample size}
\]

\[(p*q) = \text{estimate of prevalence, } p = 19\% (0.19), q = 1 - p (1 - 0.19) = 0.81\]

Design effect = 2.

\( d = \text{acceptable margin of error for proportion being estimated} = 5\% \text{ or } 0.05 \)

Therefore;

\[
n = \left[ \frac{1.96^2 (0.19)(1 - 0.19)}{0.05^2} \right] \times 2
\]

\( N = 472.9 = 473 \)

Considering 10\% failure to complete interview, 520 respondents will be sampled for the interview.

3.8 Sampling procedures

Cluster sampling method was used because of its cost efficiency both in terms of economy and feasibility.

Iganga district is made of 5 counties and these were used as our clusters in process of sampling.

Using simple random sampling 4 clusters out of the 5 were selected. The five counties were listed on five different papers then the papers were wrapped and dropped in one box from which four papers were picked randomly.

Then the four selected counties were listed and then counties from each selected county were listed on separate pieces of paper, which were then wrapped and put in four different boxes each
representing the county selected. Then from each box by use of simple random sampling two subcounties were selected from each box (county). We then had 8 clusters – counties selected from which lists of parishes were made. Then for each subcounty selected a list of its parishes was made and then those papers with the parish names from each subcounty were dropped in 8 different boxes representing the 8 selected subcounties, then from each box using simple random sampling two parishes were selected from each box. This yielded 16 parishes which were used in the study to represent the district. Then from each parish 32 participants were selected by purposive sampling.

At this step systematic sampling technique was used to select the sample among the women aged 18-50 year in those Iganga district sub county-parishes selected. From the available records at the government district facility, the facility receives an average of 180 women weekly and 400 monthly. Therefore, the sampling interval used was \((400/180)\) = approx 3 Women.

This implied that every 3\(^{rd}\) eligible household with a woman in the selected parish was sampled to be interviewed.

3.9 Study Variables

3.9.1 Dependent variable
The outcome of interest was women’s uptake of cervical cancer screening in Iganga district. This is a categorical variable which was based on self report by the subject on either having participated in taking in cervical screening in the past three years or not having taken part at all.
3.9.2 Independent variables

The questionnaire contained questions which were used to generate information about the, socio demographic, which could be factors associated with uptake of cervical cancer screening and these included:

**Socio demographic characteristics;**

Age, Marital status, Religious beliefs, Education level, Occupation, Parity, Closeness to health facility,

**Health beliefs**

Perceived susceptibility, perceived severity, perceived benefit, perceived barriers and cues to Action

3.10 Data collection technique

Face to face interviews were conducted with the 520 sampled women living in Iganga community. The Researcher used a semi-structured questionnaire with open and close-ended questions to conduct the interview. The questions were translated to lusoga which is the main form of communication in Iganga district. This technique was most preferred for this study since it allows for further probing so as to gather in-depth data concerning perceptions and conceptions being mindful of the different perceptions and attitudes that women have toward cervical cancer and cervical screening.

3.11 Data collection tools

A Semi-structured Questionnaire with both open and close ended questions was administered to the sampled women in the study. This questionnaire was administered by a well trained and
qualified interviewer with proficiency in oral and written of both local language (Lusoga) and English.

3.12 Pretest.
The study instrument was pretested on 10 women of reproductive age 18-50 years who were not living in Iganga district. Women who participated in pretesting were not enrolled into the study. This was to help us identify any loop holes in the questionnaire that needed to be corrected before the time of data collection.

3.13 Data management
The research assistant carefully collected both qualitative and quantitative data, checked for inconsistencies and verified them before the respondent left to ensure that any missed questions were answered there and then. The questionnaires were then kept under key and lock for confidentiality purposes until they were handed over to the Researcher for data entry.

The data was coded and entered into the computer using a pre-designed data entry screen in Epi-data. Analysis was then done using STATA (12).

3.14. Data analysis

Descriptive statistics was used to summarize the data. Continuous variables were summarized into means, median interquartile range and standard deviation while categorical variables were summarized and presented as pie charts, bars, graphs and proportions.

The data was analyzed by using the statistical method of Logistic regression. The analysis was then presented in frequency tables, graphs and charts. The method of analysis or presentation used was specifically chosen basing on the type of variable that was being dealt with.
Investigating the association between two categorical variables was also carried out using bivariate analysis method and the multivariate analysis technique to investigate the association amongst multiple variables against the one outcome of uptake of cervical cancer screening.

3.15 Quality Control

The data collection tools (the questionnaire and the Key informant guide) were checked for validity by undertaking a pretest from which all the necessary adjustments were made before the final data collection. Two research assistants were trained for 2 days to ensure consistence in interpretation and ability to translate the entire data collection tools into the local language while maintaining their originality.

3.16 Ethical issues

The research proposal was submitted, presented and defended before the University research committee for approval and a letter granting me a go ahead to collect data was provided by the university.

Permission to conduct the study was sought from the Chief administrative officer of Iganga district through presenting the letter from the university the district officials. A signed consent from each of sampled respondents was acquired prior to conducting the interview.

Any eligible respondent, who did not consent after the introductory process, was not subjected to an interview.
3.17 Dissemination of study findings:

The findings of this study will be disseminated to International Health Sciences University, Ministry of Health and articles for peer review journals.

3.18 Limitations of the study

The study was carried out in the few selected parishes in the district through cluster sampling, however the clusters used were parishes and hence there could have been a selection bias.

Reporting bias was likely as women may have falsely reported being employed and spending >2600ugx as a result of fear of embarrassment.

The sample size of 500 women chosen is a small population compared to the total population of women in Iganga district, therefore findings from this study may not correctly and absolutely the true ideas of the general population in the district.

The questionnaires were self administered to those who knew how to read and write however to those who didn’t know how to read and write and those who wished to be read to, the questions were administered by the research assistants, therefore in the due course there could have been an alteration in the information passed on in one way or the other.

In addition, the peri-urban location of a few selected counties may have an impact on the health beliefs of the women towards cervical cancer and may not be representative of other areas in the district especially the more rural.
3.19 Mitigation Strategies.

The researcher ensured the sampling method was followed systematically up to the lowest cluster levels that were used in the study recruitment. The research assistants were trained for two days to ensure that the information in the questionnaires was understood so as to be in position to facilitate the interviews.

Preferably the research assistants used needed to know, understand and talk the local language in the district.

Using the consent forms, the respondents were encouraged to be as truthful as possible since the findings were basically for academic reasons.
Chapter Four: Results

4.0 Introduction.
The study was conducted in Iganga district from the 16 selected parishes in the district. From each parish, 32 women of reproductive age were interviewed totaling to a sample size of 520 participants which was the intended sample size. The Research assistants were trained to ensure that all questionnaires are fully answered and this was achieved. The findings are presented below. The results are presented in 5 sections;

As indicated in table 1 below,

The majority, 148 (28.5%) of the women interviewed were aged between 30 and 34 years while the least age bracket was 18-24years with a number of 58, (11.2%).

The majority, 160 (30.8%) of the participants were Muslims and we had the smallest number of 6, (1.2%) who didn’t seem to believe in any of the religions.

Among the women interviewed, majority, 330 (63.5%) of them were married and most of them, 291 (56%) were living in peri-urban areas.

Majority, 242 (46.5%) of the participants had at least attained a tertiary training and most, 356 (68.5%) of them were employed.
Socio-demographic factors associated with uptake of cervical cancer screening.

Table 1: Socio-demographic characteristics of women in Iganga district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N=520</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>18-24</td>
<td>58</td>
<td>11.2</td>
</tr>
<tr>
<td></td>
<td>25-29</td>
<td>76</td>
<td>14.6</td>
</tr>
<tr>
<td>Religion</td>
<td>30-34</td>
<td>148</td>
<td>28.5</td>
</tr>
<tr>
<td></td>
<td>35-39</td>
<td>115</td>
<td>22.1</td>
</tr>
<tr>
<td></td>
<td>≥40 years</td>
<td>123</td>
<td>23.7</td>
</tr>
<tr>
<td></td>
<td>Protestant</td>
<td>154</td>
<td>29.6</td>
</tr>
<tr>
<td></td>
<td>Catholic</td>
<td>76</td>
<td>14.6</td>
</tr>
<tr>
<td>Marital status</td>
<td>Moslem</td>
<td>160</td>
<td>30.8</td>
</tr>
<tr>
<td></td>
<td>Born again</td>
<td>124</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>6</td>
<td>1.2</td>
</tr>
<tr>
<td>Education level</td>
<td>Single/Never married</td>
<td>73</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Married /Cohabiting</td>
<td>330</td>
<td>63.5</td>
</tr>
<tr>
<td></td>
<td>Separated/divorced</td>
<td>52</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>62</td>
<td>12.5</td>
</tr>
<tr>
<td>Employment status</td>
<td>Never gone to school</td>
<td>12</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Primary level</td>
<td>71</td>
<td>13.7</td>
</tr>
<tr>
<td></td>
<td>Secondary level</td>
<td>195</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>Tertiary level</td>
<td>242</td>
<td>46.5</td>
</tr>
<tr>
<td>Residence</td>
<td>Employed</td>
<td>356</td>
<td>68.5</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>158</td>
<td>30.4</td>
</tr>
<tr>
<td>Daily expenditure</td>
<td>Urban</td>
<td>182</td>
<td>35.0</td>
</tr>
<tr>
<td></td>
<td>Peri-urban</td>
<td>291</td>
<td>56.0</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>47</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>≤2600 UGx</td>
<td>253</td>
<td>48.7</td>
</tr>
<tr>
<td></td>
<td>&gt;2600 UGx</td>
<td>261</td>
<td>50.2</td>
</tr>
</tbody>
</table>
Level of uptake of cervical cancer screening among women of age in Iganga District.

Figure 2: Distribution of women according to level of uptake of cervical cancer screening services in Iganga district.

Figure 2 shows that majority, 447(86%) of the women who were interviewed had never gone for cervical cancer screening services despite the availability of the service in the district.

Figure 3. Reasons for not taking up screening services.
Among the reasons that women gave for not seeking cervical cancer screening services included, the above mentioned reasons, however, majority 172, (38.55%) said they didn’t know where to find the service and this was followed by those who confessed that they feared to get bad results, 155, (34.69%).

As shown in figure 4 below, when the women were asked how frequent they go for screening services, the majority, 54 (73.4%) reported having tested once, 14 (20.3%) had tested twice and only 5 (6.3%) had tested thrice.

Figure 4. Distribution of women according to frequency of uptake of screening services in Iganga district.
**The Socio-demographic factors influencing uptake of screening services in Iganga district.**

The table below shows the relationship between socio-demographic factors and uptake of cervical cancer screening services. Those that were significant are discussed below:

The women who were from a catholic religious affiliation were 60% less likely to take part in cervical cancer screening as compared to those from the protestant affiliation. (OR = 0.40, CI: 0.19-0.85). And this was statistically significant with a p value = 0.019.

The educational status of the women who were interviewed had an influence on their level of uptake of cervical cancer screening. It shows that women who had ever gone to school were more likely to go for cervical cancer screening than those who had never gone to school. (Primary level, OR = 10.8, CI: 2.7-44.2, P = 0.001, Secondary, OR = 38.0, CI: 9-16, and Tertiary, OR = 3.32, CI: 1.03-10.7, p = 0.044)

The women who were employed were 7 times more likely to seek cervical cancer screening services than the unemployed (OR = 7.23, CI: 2.85-18.3, p < 0.001).

The women who were residing in urban areas were 4 times more likely to participate in cervical cancer screening than those in rural areas. (OR = 3.51, CI: 1.99-6.19, p < 0.001) and the association was significant.

The women whose daily expenditure was <2600 Ugx were 48% less likely to take part in cervical cancer screening than those whose daily expenditure was >2600 Ugx. (OR = 0.52, CI: 0.31-0.87), and the association was significant (p = 0.013).
Table 2: Socio-demographic factors influencing uptake of screening services in Iganga district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Screened</th>
<th>Never screened</th>
<th>OR(95%CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>58(11.2)</td>
<td>0(0.0)</td>
<td>58(13.0)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>25-29</td>
<td>76(14.6)</td>
<td>5(6.8)</td>
<td>71(15.9)</td>
<td>0</td>
<td>0.997</td>
</tr>
<tr>
<td>30-34</td>
<td>148(28.5)</td>
<td>27(37.0)</td>
<td>121(27.1)</td>
<td>0</td>
<td>0.997</td>
</tr>
<tr>
<td>35-39</td>
<td>115(22.1)</td>
<td>22(30.1)</td>
<td>93(20.8)</td>
<td>0</td>
<td>0.997</td>
</tr>
<tr>
<td>≥40 years</td>
<td>123(23.7)</td>
<td>19(26.0)</td>
<td>104(23.3)</td>
<td>0</td>
<td>0.997</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>154(29.6)</td>
<td>16(21.9)</td>
<td>138(130.9)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>76(14.6)</td>
<td>17(23.3)</td>
<td>59(13.2)</td>
<td>0.40(0.19-0.85)</td>
<td>0.019*</td>
</tr>
<tr>
<td>Moslem</td>
<td>160(30.8)</td>
<td>20(27.4)</td>
<td>140(31.3)</td>
<td>0.81(0.40-1.63)</td>
<td>0.558</td>
</tr>
<tr>
<td>Born again</td>
<td>124(23.8)</td>
<td>20(27.4)</td>
<td>104(23.3)</td>
<td>0.60(0.30-1.22)</td>
<td>0.159</td>
</tr>
<tr>
<td>Other</td>
<td>6(1.2)</td>
<td>0(0.0)</td>
<td>6(1.3)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single/Never</td>
<td>73(14.0)</td>
<td>10(13.7)</td>
<td>63(14.1)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>330(63.5)</td>
<td>42(57.5)</td>
<td>288(64.4)</td>
<td>1.09(0.52-2.29)</td>
<td>0.823</td>
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<td>Married</td>
<td>52(10.0)</td>
<td>6(8.2)</td>
<td>46(10.3)</td>
<td>1.22(0.41-3.59)</td>
<td>0.722</td>
</tr>
<tr>
<td>divorced</td>
<td>59(11.3)</td>
<td>9(12.3)</td>
<td>50(11.2)</td>
<td>0.88(0.33-2.34)</td>
<td>0.800</td>
</tr>
<tr>
<td>Widowed</td>
<td>6(1.2)</td>
<td>6(8.2)</td>
<td>0(0.0)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>12(2.3)</td>
<td>6(8.2)</td>
<td>6(1.3)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>71(13.7)</td>
<td>6(8.2)</td>
<td>65(14.5)</td>
<td>10.8(2.7-44.2)</td>
<td>0.001*</td>
</tr>
<tr>
<td>Secondary</td>
<td>195(37.5)</td>
<td>5(6.8)</td>
<td>190(42.5)</td>
<td>38.0(9.0-160.1)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Tertiary</td>
<td>242(46.5)</td>
<td>56(76.7)</td>
<td>186(41.6)</td>
<td>3.32(1.03-10.7)</td>
<td>0.044*</td>
</tr>
<tr>
<td><strong>Employment status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>356(68.5)</td>
<td>68(93.2)</td>
<td>288(64.4)</td>
<td>7.23(2.85-18.3)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Unemployed</td>
<td>164(31.6)</td>
<td>5(6.8)</td>
<td>159(35.5)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>182(35.0)</td>
<td>39(53.4)</td>
<td>143(32.0)</td>
<td>3.51(1.99-6.19)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Peri-urban</td>
<td>291(56.0)</td>
<td>21(28.8)</td>
<td>270(60.4)</td>
<td>0.71(0.34-1.48)</td>
<td>0.365</td>
</tr>
<tr>
<td>Rural</td>
<td>47(9.0)</td>
<td>13(17.8)</td>
<td>34(7.6)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td><strong>Daily expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤2600 UGx</td>
<td>253(48.7)</td>
<td>26(35.6)</td>
<td>227(50.8)</td>
<td>0.52(0.31-0.87)</td>
<td>0.013*</td>
</tr>
<tr>
<td>&gt;2600 UGx</td>
<td>267(51.4)</td>
<td>47(64.4)</td>
<td>220(49.2)</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant p <0.05, 1.00 represents the reference category
Healthy facility factors associated with uptake of cervical cancer screening services among women of reproductive age 18-50 years in Iganga District.

Table 3. Health facility factors influencing uptake of screening services in Iganga district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Screened</th>
<th>Never screened</th>
<th>OR 95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of screening services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>298(57.3)</td>
<td>58(79.5)</td>
<td>220(53.7)</td>
<td>1.45(0.54-3.90)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No</td>
<td>35(6.7)</td>
<td>5(6.8)</td>
<td>30(6.7)</td>
<td>4.28(2.13-8.60)</td>
<td>*</td>
</tr>
<tr>
<td>I don’t know</td>
<td>187(36.0)</td>
<td>10(13.7)</td>
<td>177(39.6)</td>
<td>1.00</td>
<td>0.462</td>
</tr>
<tr>
<td>Distance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 5KM</td>
<td>387(74.4)</td>
<td>39(53.4)</td>
<td>348(77.9)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>&gt;5KM</td>
<td>131(25.6)</td>
<td>34(46.6)</td>
<td>99(31.1)</td>
<td>0.31(0.18-0.51)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Attitudes of health workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>82(15.8)</td>
<td>5(6.8)</td>
<td>77(17.2)</td>
<td>0.28(0.12-0.73)</td>
<td>*</td>
</tr>
<tr>
<td>Fair</td>
<td>217(41.7)</td>
<td>41(56.2)</td>
<td>176(39.4)</td>
<td>0.47(0.17-1.26)</td>
<td>0.010*</td>
</tr>
<tr>
<td>Good</td>
<td>221(42.5)</td>
<td>27(37.0)</td>
<td>194(43.4)</td>
<td>1.00</td>
<td>0.131</td>
</tr>
<tr>
<td>Awareness on screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>448(86.2)</td>
<td>73(100)</td>
<td>375(83.9)</td>
<td>1.00</td>
<td>0.997</td>
</tr>
<tr>
<td>No</td>
<td>72(13.8)</td>
<td>0</td>
<td>72(16.1)</td>
<td>3.15(-)</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant p <0.05, 1.00 represents the reference category

Distance of health facility from the women’s area of residence had an influence of the uptake of the service. The women who were living beyond 5km from the health facility were 69% less likely to seek the service compared to those who were living in areas that were within 5km(OR=0.31, CI: 0.18-0.51, p<0.001).

The women who said that screening services were available in the health facilities in Iganga were 1.5 times more likely to participate in cervical cancer screening than those who do not know that it was available(OR=1.45, 95% CI: 0.54-3.90, p<0.001).

The attitude of the health workers had an influence on the women’s uptake of cervical cancer screening. The women who said that health workers had poor attitudes towards them were less
likely to access screening services than those who said health workers had good attitudes (OR=0.28, CI:0.12-0.73, P=0.01) as indicated in table 3.

**Relationship between cervical cancer health beliefs of women aged 18 to 50 years and uptake of cancer f cervix in Iganga district.**

Table 4.

**Association between Perceived susceptibility to cervical cancer and uptake of cervical cancer screening.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Screened</th>
<th>Unscreened</th>
<th>OR 95% CI</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Older women are more at risk of cervical cancer than younger women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>235(45.2)</td>
<td>26(35.6)</td>
<td>209(46.8)</td>
<td>1.00</td>
<td>0.078</td>
</tr>
<tr>
<td>Agree</td>
<td>285(54.8)</td>
<td>47(64.4)</td>
<td>238(53.24)</td>
<td>0.60(0.4-1.1)</td>
<td></td>
</tr>
<tr>
<td>Every woman of child bearing age is at risk of cervical cancer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>136(26.2)</td>
<td>0(0.0)</td>
<td>136(30.4)</td>
<td>1.00</td>
<td>0.997</td>
</tr>
<tr>
<td>Agree</td>
<td>384(73.8)</td>
<td>73(100)</td>
<td>311(69.6)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Women with multiple sexual partners are more prone to cervical cancer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>133(25.6)</td>
<td>23(31.5)</td>
<td>110(24.6)</td>
<td>1.00</td>
<td>0.212</td>
</tr>
<tr>
<td>Agree</td>
<td>387(74.4)</td>
<td>50(68.5)</td>
<td>337(75.4)</td>
<td>1.4(0.8-2.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Cervical cancer is more common to women who are HIV positive.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>184(36.0)</td>
<td>34(46.6)</td>
<td>153(34.2)</td>
<td>1.00</td>
<td><strong>0.043</strong></td>
</tr>
<tr>
<td>Agree</td>
<td>333(64.0)</td>
<td>39(53.4)</td>
<td>294(65.8)</td>
<td>1.7(1.0-2.8)</td>
<td></td>
</tr>
<tr>
<td>Susceptibility to cervical cancer increases with number of pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>393(75.6)</td>
<td>52(71.2)</td>
<td>341(76.3)</td>
<td>0.8(0.4-1.3)</td>
<td>0.352</td>
</tr>
<tr>
<td>Agree</td>
<td>127(24.4)</td>
<td>21(28.8)</td>
<td>106(23.7)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Cervical cancer only happens to women who are above the age of 50 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>450(86.5)</td>
<td>68(93.2)</td>
<td>382(85.5)</td>
<td>2.3(0.9-6.0)</td>
<td>0.082</td>
</tr>
<tr>
<td>Agree</td>
<td>70(13.5)</td>
<td>5(6.8)</td>
<td>65(14.5)</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant p <0.05, 1.00 represents the reference category*
From the above table, the women who agreed to the statement that Cancer is more common in HIV positive were 2 times more likely to seek for cervical cancer screening (OR=1.7, CI: 1.0-2.8, P=0.043). The rest of the perceived susceptibility variables were not found to be associated with uptake of screening services as shown in table 4.

Table 5. Association between Perceived Severity to cervical cancer by women in Iganga district and uptake of cervical cancer screening.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Screened</th>
<th>Unscreened</th>
<th>OR 95% CI</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>There is effective treatment for cervical cancer?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>401(77.1)</td>
<td>33(45.2)</td>
<td>368(82.3)</td>
<td>1.00</td>
<td>&lt;0.001 *</td>
</tr>
<tr>
<td>Agree</td>
<td>119(22.9)</td>
<td>40(54.8)</td>
<td>79(17.7)</td>
<td>0.2(0.1-0.3)</td>
<td>*</td>
</tr>
<tr>
<td><strong>Having cervical cancer will make a woman’s life difficult.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>62(11.9)</td>
<td>25(34.25)</td>
<td>37(8.3)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>458(88.1)</td>
<td>48(65.75)</td>
<td>410(91.7)</td>
<td>5.8(3.2-10.4)</td>
<td>&lt;0.001 *</td>
</tr>
<tr>
<td>Cervical cancer is not as serious as other types of cancers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>455(87.5)</td>
<td>73(100)</td>
<td>382(85.5)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>65(12.5)</td>
<td>0(0.0)</td>
<td>65(14.5)</td>
<td>-</td>
<td>0.997</td>
</tr>
<tr>
<td>Cervical cancer is easily cured.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>472(90.8)</td>
<td>69(94.5)</td>
<td>403(90.2)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>48(9.2)</td>
<td>4(5.5)</td>
<td>44(9.8)</td>
<td>1.9(0.7-5.4)</td>
<td></td>
</tr>
<tr>
<td>Having cervical cancer can result to infertility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.240</td>
</tr>
<tr>
<td>Disagree</td>
<td>422(81.2)</td>
<td>53(72.6)</td>
<td>369(82.5)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>98(18.8)</td>
<td>20(27.40)</td>
<td>78(17.5)</td>
<td>0.6(0.3-0.9)</td>
<td></td>
</tr>
<tr>
<td><strong>Death resulting from cervical cancer is rare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.046 *</td>
</tr>
<tr>
<td>Disagree</td>
<td>391(75.2)</td>
<td>38(52.1)</td>
<td>353(79.0)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>129(24.8)</td>
<td>35(47.9)</td>
<td>94(21.0)</td>
<td>0.3(0.2-0.5)</td>
<td>&lt;0.001 *</td>
</tr>
</tbody>
</table>

*Statistically significant p <0.05, 1.00 represents the reference category
The women who agreed that there was effective treatment for cervical cancer were 80% less likely to take part in cervical screening than those who agreed. (OR= 0.2, CI:0.1-0.3,p<0.001)

The women who agreed that cervical cancer can make a woman’s life difficulty were 5 times more likely to take part in cervical cancer screening than those who disagreed OR=5.8, 95%,CI: 3.2-10.4 ,p<0.001).

Those who agreed that cervical cancer can result into infertility were 40% unlikely to take part in cervical cancer screening than those who disagreed. (OR=0.6,CI:0.3-0.9,p=.046)

The women who said that death resulting from cervical cancer is rare were 70% less likely to take up cervical cancer screening services than those who said that it was not rare(OR=0.3,CI: 0.2-0.5,P<0.001).
Table 6. Relationship between Perceived benefits of seeking cervical cancer Screening and uptake cervical cancer screening among women of reproductive age in Iganga district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Screened</th>
<th>Unscreened</th>
<th>OR 95% CI</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is important for a woman to have cervical cancer screening to know if she is healthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>30(5.8)</td>
<td>0(0.0)</td>
<td>30(6.7)</td>
<td>1.00</td>
<td>0.998</td>
</tr>
<tr>
<td>Agree</td>
<td>490(94.2)</td>
<td>73(100)</td>
<td>417(93.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical cancer screening can identify changes in the cervix before they become cancerous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>140(26.9)</td>
<td>5(6.9)</td>
<td>135(30.2)</td>
<td>0.2(0.1-0.4)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>380(73.1)</td>
<td>68(93.2)</td>
<td>312(69.8)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>If cervical changes are found early from cervical cancer screening, they are easily curable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>379(72.9)</td>
<td>21(28.8)</td>
<td>358(80.1)</td>
<td>0.1(0.1-0.2)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>141(27.1)</td>
<td>52(71.2)</td>
<td>89(19.9)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Doing cervical cancer screening can help improve the chances of an infertile woman becoming pregnant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>435(83.7)</td>
<td>46(63.0)</td>
<td>389(87.0)</td>
<td>1.00</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>85(16.4)</td>
<td>27(37.0)</td>
<td>58(13.0)</td>
<td>3.9(2.3-6.8)</td>
<td></td>
</tr>
<tr>
<td>Cervical cancer screening can decrease the chances of a woman having an abortion.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>468(90.0)</td>
<td>68(93.2)</td>
<td>400(89.5)</td>
<td>1.00</td>
<td>0.337</td>
</tr>
<tr>
<td>Agree</td>
<td>52(10.0)</td>
<td>5(6.8)</td>
<td>47(10.5)</td>
<td>1.6(0.6-4.2)</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant p <0.05, 1.00 represents the reference category

Respondents who disagreed that cancer screening can help identify changes before they become cancerous were 80% less likely to go for cervical cancer screening compared to those who agreed to the statement.(OR= 0.2,CI:0.1-0.4 ,P<0.001).
Whereas the women who did not agree that when cancer screening is done early, the changes found in the cervix can easily cure were 90% unlikely to go cancer screening as compared to those who agreed to the statement (OR=0.1, 95%, CI: 0.1-0.2, p=0.001)  

The respondents who agreed that cancer screening can help improve the chances of an infertile woman to become pregnant were 4 times more likely to take part in cancer screening than those who objected the statement (OR=3.9, CI: 2.3-6.8, p=0.001)

**Association between Perceived barriers to access of cervical cancer screening services and uptake of cancer screening among the women of reproductive age in Iganga district.**  
All perceived barrier variables that would discourage women from going for cervical cancer screening except attitudes of health workers (OR=1.79, CI: 0.99-3.24, p=0.053) were significantly related to uptake of cervical cancer screening as indicated in table 7.  

The women who agreed to the statement that cancer screening is an embarrassing procedure were 98% less likely to take up screening services than their counterparts (OR=0.08, CI: 0.04-0.15) and this was statistically significant with p<0.001. While the women who thought that the process of screening was painful were 84% less likely to seek cancer screening services (OR=0.16, CI: 0.07-0.37, P<0.001).  

With a significant p value <0.001, OR=0.14 CI: 0.08-0.24, the women who agreed that if a young unmarried woman went for cancer screening people would think she is sexually active showed 86% less likelihood of taking up cancer screening services.
However, the women who disagreed to the statement doing cancer screening would only make them worry were 6 times more likely to seek cervical cancer screening services than those who agreed to the statement.(OR:5.5,CI:1.96-15.41,p=0.001).

The women who conquered with the opinion that going for cancer screening would take away a woman’s virginity were 68% less likely to go for cervical cancer screening.(OR:0.32,CI:0.18-0.57,P<0.001).

Surprisingly there were some women who did not think that not knowing where to find the cancer screening services was not a hindrance to seeking the service and these were 2 times more likely to go for cancer screening than their opponents(OR:2.04,CI:1.11-3.74,p<0.001).

The women who did not agree that lack of female screeners in the health facilities was a barrier to cancer screening uptake were 2 times more likely to seek the service than those who agreed.(OR:2.06,CI:1.18-3.60,p=0.011).

The women who thought that lack of convenient clinic time was not a barrier to going for screening were 3 times more likely to go cancer screening than their counterparts.( OR:3.06 CI:1.84-5.11,p<0.001).
Table 7. Association between Perceived barriers to access of cervical cancer screening services and uptake of cancer screening among the women of reproductive age in Iganga district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Screened</th>
<th>Unscreened</th>
<th>OR 95% CI</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is too embarrassing to do cervical cancer screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>473(91.0)</td>
<td>46(63.0)</td>
<td>427(95.5)</td>
<td>1</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>47(9.0)</td>
<td>27(37.0)</td>
<td>20(4.5)</td>
<td>0.08(0.04-0.15)</td>
<td></td>
</tr>
<tr>
<td>Cervical cancer screening is painful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>497(95.6)</td>
<td>62(84.9)</td>
<td>435(97.3)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>23(4.4)</td>
<td>11(15.1)</td>
<td>12(2.7)</td>
<td>0.16(0.07-0.37)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>If a young unmarried woman does cervical cancer screening, everyone will think she is having sex.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>382(73.5)</td>
<td>26(35.6)</td>
<td>356(79.6)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>138(26.5)</td>
<td>47(64.4)</td>
<td>91(20.4)</td>
<td>0.14(0.08-0.24)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Doing cervical cancer screening will only make one worry.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>406(78.5)</td>
<td>69(94.5)</td>
<td>57(6.5)</td>
<td>5.5(1.96-15.41)</td>
<td>0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>112(21.5)</td>
<td>4(5.5)</td>
<td>108(24.2)</td>
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<td></td>
</tr>
<tr>
<td>If a woman has not had sex, cervical cancer screening will take away her virginity.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Disagree</td>
<td>439(84.4)</td>
<td>50(68.5)</td>
<td>389(87.0)</td>
<td>1.00</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>81(15.6)</td>
<td>23(31.5)</td>
<td>58(13.0)</td>
<td>0.32(0.18-0.57)</td>
<td></td>
</tr>
<tr>
<td>Not knowing where to go for cervical cancer screening is a reason why people do not do cervical cancer screening.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Disagree</td>
<td>75(14.4)</td>
<td>17(23.3)</td>
<td>58(13.0)</td>
<td>2.04(1.11-3.74)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
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<td>445(85.6)</td>
<td>56(76.7)</td>
<td>389(87.0)</td>
<td>1.00</td>
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<tr>
<td>Only women who have had babies need to do cervical cancer screening.</td>
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<td></td>
<td></td>
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<tr>
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<td>462(88.9)</td>
<td>63(86.3)</td>
<td>399(89.3)</td>
<td>1.00</td>
<td>0.022*</td>
</tr>
<tr>
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<td>58(11.2)</td>
<td>10(13.7)</td>
<td>48(10.7)</td>
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<tr>
<td>My partner will not want me to do cervical cancer screening.</td>
<td></td>
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<td>0.997</td>
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<tr>
<td>Disagree</td>
<td>473(91.0)</td>
<td>73(100)</td>
<td>400(89.5)</td>
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<tr>
<td>Agree</td>
<td>47(9.0)</td>
<td>0(0.0)</td>
<td>47(10.5)</td>
<td>-</td>
<td></td>
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<tr>
<td>Lack of female screeners in health facilities is a reason for not doing cervical cancer screening.</td>
<td></td>
<td></td>
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<tr>
<td>Disagree</td>
<td>313(60.2)</td>
<td>54(74.0)</td>
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<td>207(39.8)</td>
<td>19(26.0)</td>
<td>188(42.1)</td>
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<td>Attitudes of health workers can discourage one from going for cervical cancer screening.</td>
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<td>87(16.7)</td>
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<td>Lack of convenient clinic time is a barrier to routine cervical cancer screening.</td>
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<td>133(25.6)</td>
<td>34(46.6)</td>
<td>99(22.2)</td>
<td>3.06(1.84-5.11)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
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<td>39(53.4)</td>
<td>348(77.9)</td>
<td>1.00</td>
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<td>Lack of information about cervical cancer screening procedures is a barrier to uptake of cervical cancer screening.</td>
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<tr>
<td>Disagree</td>
<td>25(4.8)</td>
<td>10(13.7)</td>
<td>15(3.4)</td>
<td>4.57(1.97-10.6)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Agree</td>
<td>495(95.2)</td>
<td>63(86.3)</td>
<td>432(96.6)</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

*Statistically significant p <0.05, 1.00 represents the reference category
CHAPTER FIVE

5.0 Discussion

5.1 Introduction.
Cervical cancer occurs when the cells in the cervix begin to grow and replicate in an abnormal and uncontrolled way. Screening for cancer offers the most effective method of controlling cancer of the cervix in the entire world. (WHO 2006)

5.2 Level of uptake of cervical cancer screening among women of reproductive age in Iganga District.
The level of uptake of cervical cancer screening among women of reproductive age in Iganga district in this study was found to be very low, that is about a quarter of the women had gone for cervical cancer screening. This is probably because of the majority of the women lack enough knowledge on where to find the service and the knowledge on the benefits of having cervical cancer screening done on them. Majority (38.55%) of those who had never screened, reasoned that they had not sought the service because they didn’t know where to find the service while others confessed that they feared to get bad results, (155), 34.69%.

Similarly in a study conducted by Erin Cox, et al (2010) in Mulago- Uganda, among the 100 respondents recruited in the study, 81% had knowledge about cervical cancer and screening for cervical cancer by Pap smear and only 19% had had a cervical screening test (Pap smear) done on them.

In contrast to a study on Knowledge, Attitude and Practice regarding Cervical Cancer Screening Amongst Women visiting Tertiary Centre in Kathmandu, Nepal by Shrestha S, et al, (2011) out of the 105 respondents the uptake of Pap smear test a cervical cancer screening service was only 10.5%.
This is comparable to the findings of a study done by Sudenga et al (2011), in Kisumu, Kenya in which the level of uptake was as low as (6%). The level of uptake in this study is much lower than the 40% that was obtained in a study on Cervical cancer and Pap smear screening in Botswana done by Mpotokwane and Mcfarland (2003) which found out that only 40.0% of study participants had ever had Pap smear tests.

This is in agreement with the World Health Organization findings that cervical cancer is more common in the developing countries compared to the developed countries, yet an estimate of only 5% of women of developing countries are screened by Pap smear compared to 40 to 50% in the developed countries.

The key component in reducing cervical cancer morbidity and mortality is early detection and treatment through cervical cancer screening (WHO, 2002).

Therefore, not having many women of reproductive age screened early for cervical cancer will instead increase on the cervical cancer morbidity and mortality rates among women. This will lead to increased number of orphans thus resulting into poor care of these children who will end up in poor growth and death because of lack of the mother care.

5.3 Socio-demographic factors associated with uptake cervical cancer screening services among women aged 18 to 50 years in Iganga District.

The women’s Level of education was significantly associated with their uptake of cervical cancer screening in this study. The findings showed that women who had ever gone to school were more likely to go for cervical cancer screening than those who had never gone to school.

However, contrary to Leyva et al., (2006) and Bessler et al., (2007) in his study the majority of women irrespective of their socio-demographic characteristics were aware of the benefits of
doing cervical cancer screening and when perceived benefit of cervical cancer screening was cross tabulated with socio-demographic characteristics, there was no significant association between perceived benefits and socio-demographic characteristics.

The women who were employed were 7 times more likely to seek cervical cancer screening services than the unemployed. This is probably because these women can afford to meet the transport costs to the health facility and to pay for any hospital bills that may arise in the due course unlike the unemployed who may have to rely on their partners to be supported financially in all aspect of life. This still explains why the women whose daily expenditure was greater than 2600Ugx were more associated with uptake of cervical cancer screening than their counterparts.

Therefore, in this study, the level of education, employment status, area of residence and the women’s daily expenditure were the socio-demographic factors that were associated with uptake of cervical cancer screening, while age and marital status did not show any association with uptake of cancer screening. Contrary to a similar study by shehtra etal, 2011, It was found that advancing age and longer duration of marriage were significantly associated with better knowledge, attitude and practice of cancer screening. This could be because the sample size used in this study was quite big compared to the one used in the study by shehtra, and the sampling method was quite different thus cluster sampling method done in a community setting which gave a wide range of age brackets and marital statuses unlike the study by shehtra which was conducted in a hospital setting in Antenatal clinic.
5.4. Healthy facility factors associated with uptake of cervical cancer screening services among women of reproductive age 18-50 years in Iganga District.

Distance of health facility from the women’s area of residence was found to have an influence on the uptake of the service. The nearer the woman lived to the health facility the higher the chances rose for to access the screening services.

There was a significant association between areas of residence with uptake of cervical cancer screening among the women interviewed. The women who were residing in urban areas were 4 times more likely to participate in cervical cancer screening than those in rural areas. This is because women living in urban/peri-urban areas have a more wide access to health information through the Social media such as Televisions, Radios and access to the physicians as opposed to those in the rural areas.

This is in agreement with the findings of a study on Cervical cancer and Pap smear screening in Botswana; Knowledge and perceptions by Mpotokwane and Mcfarland (2003) which found out that only 40.0% of study participants had ever had Pap smear tests and that 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, and limited access to physicians.

There was a significant association between attitude of the health workers and uptake of cervical cancer screening by women. The women who said the health workers attitude was poor were less likely to seek cancer screening services compared to their counterparts. This is probably because these women will not feel comfortable to be screened by a health worker with a poor attitude say rude to them and yet at that time of screening they are not feeling sick.
There was a significant association between awareness of the availability of screening service in the area and uptake of cancer screening services. The women who were aware that cervical cancer screening services was available in the district health facilities were more likely to seek the service than those who didn’t know. This is clear that these women were not sensitized and made aware that screening services are provided in the health facility. Therefore the lack of information from the health care providers hindered the women’s uptake of cancer screening.

This comparable to the findings of a study on the Knowledge, Attitudes, and Demographic Factors Influencing Cervical Cancer Screening Behavior in Zimbabwe which showed that Knowledge of a cervical screening test was a significant factor in accessing cervical cancer screening. Females who had prior knowledge of cervical screening tests were (83%) more likely to access cervical screening compared to those who had no prior knowledge (OR 0.17, p = 0.00).

There is need for increased orientation and awareness by the health workers in the health facilities through use of posters and public campaign so as enlighten the women about the availability cervical cancer screening services in the area.

5.5 Relationship between cervical cancer health beliefs of women aged 18 to 50 years and uptake of cancer of cervix in Iganga district.

5.5.1. Perceived susceptibility, severity and uptake of cancer screening.

The women who agreed to the statement that Cancer is more common in HIV positive were 1.7 times more likely to seek for cervical cancer screening. This in agreement with Moscicki, 2005 in which a study to determine the incidence of cervical intraepithelial neoplasia among HIV positive and negative women, indicated that incidence of cervical intraepithelial neoplasia (CIN) was four to five times higher among HIV-infected women than HIV-negative women.
The women who agreed that cervical cancer can make a woman’s life difficulty were 5 times more likely to take part in cervical cancer screening than those who disagreed.

The women who said that cancer can easily cure showed that they were 1.9 times more likely to participate in cervical cancer screening. This was also revealed in a similar study by Bessler et al., 2007 in which 60% of the women who had taken part in cancer screening urged that if diagnosis of cancer of the cervix is done, the cancer may cure. Whereas 42% of those who had never screened said they didn’t think cancer of the cervix can cure.

The women who perceive death resulting from cervical cancer to be rare were 70% less likely to take up cervical cancer screening services than those who thought it was common. Therefore since these women don’t really perceive death to easily result from cervical cancer, they seem not to see the benefit of seek the cancer screening services after all death due to it is so rare.

The respondents who thought that its only women who have had babies that needed cancer screening were more likely to go cancer screening compared to those who disagreed to the statement. The association was statistically significant. This is because cervical cancer is associated with number of children given by a woman.

5.5.2. perceived benefits of seeking cervical cancer screening.
Respondents who did not agree that cancer screening can help identify changes before they become cancerous were less likely to go for cervical cancer screening compared to those who agreed to the statement. (OR= 0.2, CI: 0.1 - 0.4, P<0.001). This is because they didn’t see any benefit in screening since they believed that screening cannot identify cervical changes before they become cancerous.
The women who did not agree that when cancer screening is done early, the changes found in the cervix can easily cure were 90% unlikely to go cancer screening as compared to those who agreed to the statement (OR=0.1,95%,CI;0.1-0.2). This is evident that these women were less knowledgeable about cervical cancer and cervical cancer screening benefits.

The respondents who agreed that cancer screening can help improve the chances of an infertile woman to become pregnant were more likely to take part in cancer screening than those who objected the statement. This is probably because most women associate failure to get pregnant with cervical problems of cancer may be.

5.5.3. Perceived barriers to seeking cervical cancer screening.

It was found that, 75.8% (339) of the women who had never gone for cervical cancer screening reported that going for cancer screening would only make one worry if found to be suggestive of cervical cancer and these were less likely to seek the service. This is probably due to the fact that advanced cervical cancer has no cure, therefore these women think that going to screen for cancer which has no cure will just worry them, they would rather stay unscreened.

This is comparable to a similar study done in Jamaica by Bessler et al., (2007) where 18% of women who had never been screened for cancer reported that uptake of cancer screening may make women anxious and worried if the results are indicative of cancer.

The presence of female screeners in the health facility was found to be associated with the women’s uptake of cervical cancer screening and this was significant. This is due the cultural beliefs which make these women feel more secure to have a genital examination to be done to them by fellow females.
The major contributory barrier factors to uptake of cervical cancer screening among women of reproductive age in Iganga district were fear of results to worry and embarrassment due to lack of female screeners. However, lack of enough knowledge on cervical cancer and on where to seek cervical cancer screening, and some cervical cancer health beliefs were also other major barriers to uptake of cancer screening in Iganga district.

5.6 Conclusions
The level of uptake of cervical cancer screening was found to very low, just about quarter of the women interviewed had ever screened for cervical cancer in the last three years.

Educational level, Employment status, Areas of residence and the daily expenditure were found to be the socio-demographic factors associated with uptake of cervical cancer screening.

Availability of the service, attitude of the health workers and the distance of a health facility from the women’s area of residence were found to be key health facility factors affecting uptake of cervical cancer screening services in the area.

Using the health belief model, under perceived severity of cervical cancer, perceptions about effective treatment of the cancer, having cervical cancer resulting into infertility, death resulting from cervical cancer being rare, and having cervical cancer making a woman’s life difficult, were found to have a high association with uptake of cervical screening.

The perceived benefits of cervical screening that were found to be associated with uptake of the service included: cervical screening can help identify changes in the cervix before they become cancerous, if the changes are detected early they can easily cure, and screening can improve the chances of an infertile woman to get pregnant.
The study found out that the low uptake of cervical cancer screening services is due to a number of factors like poor educational background, lack of knowledge regarding the availability and benefits of screening, lack of information from part of health care workers, affordability of screening tools by the individual, cultural barriers, unavailability of facilities at all health centers.

5.7 Recommendations
The ministry of health should design a tool to increase awareness of cervical cancer and screening through mass media campaigns as done for HIV, public awareness in market places, in schools and health facility centers so as to help increase uptake of the screening services among the women.

Cervical cancer screening services should be made available in all accessible clinics, or through community based service provision just like immunization services.

The ministry of health should design tools to assist to identify any barriers to uptake of cervical cancer screening among women at community levels so that these are given immediate attention and are addressed to facilitate the process of cancer screening. All women of reproductive age who have gone for cancer screening should be supported and screened further and care provided as soon as possible to save their lives. Government should put in place a legal framework (policy) to ensure that all women of reproductive age go cervical cancer screening and are supported throughout the process, thereby reducing any fears, stigma and discrimination related to cervical cancer.
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August. 25, 2014

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33. WHO, 2012


APPENDIX I

INTRODUCTORY LETTER

Office of the Dean, Institute of Health Policy & Management
Kampala, 29th September 2014

THE CHIEF ADMINISTRATIVE OFFICE
IGANNA DISTRICT

Dear Sir/ Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from International Health Sciences University.

This is to introduce to you Nabeeta Lillian, Reg. No. 2012-MPH-PT-007 who is a student of our University. As part of the requirements for the award of a Masters Degree of Public Health of our University, the student is required to carry out field research for the submission of a Research Dissertation.

Nabeeta would like to carry out research on issues related to: Factors Influencing Uptake of Cervical Cancer Screening Services among Women of Reproductive age in Iganga District, Uganda.

I therefore request you to render the student such assistance as may be necessary for her research.

I, and indeed the entire University are thanking you in anticipation for the assistance you will render to the student.

Sincerely Yours,

Prof. David Ndungutse Majwejwe
Dean, Institute of Health Policy & Management

MAKING A DIFFERENCE IN HEALTH CARE
International Health Sciences University
P.O. Box 7782 Kampala | Uganda | East Africa
Tel: (+256) 0312 307 400 | E-mail: info@ihsu.ac.ug | web: www.ihsu.ac.ug
APPENDIX II

IGANGA DISTRICT ACCEPTANCE LETTER

Iganga District Local Government

Our Ref: CR/106/1

Date: 21st October 2014

To whom it may concern

RE: Ms LILIAN NABEE TA

The above named student of International Health Sciences has requested to undertake a research study on factors influencing cervical cancer screening among women of reproductive age in Iganga District.

This is a study leading to the award of a Masters Degree in Public Health. This office has no objection to the study.

You are therefore requested to accord her all the necessary cooperation.

Ogwang Godfrey O.
For: CHIEF ADMINISTRATIVE OFFICER
IGANGA DISTRICT
APPENDIX III

INFORMED CONSENT FORM

I am Nabeeta Lillian, pursuing a master’s degree in Public Health from International Health Sciences University and Research is a requirement for graduation. I therefore invite and request you to participate in this study on Factors influencing uptake of cervical cancer screening services among women of reproductive age in Iganga district. The objective of this study is to determine the factors determining the uptake of cervical cancer screening services among women of reproductive age 18-50 years in Iganga district.

I will be asking you some questions about cervical cancer and cervical screening as well as background characteristics. Should you agree to take part in the study, there is a chance that I might contact you again to re-interview you. The information that you provide during the study will be kept confidential. Only the researchers and Assistants will have access to them.

Your participation in this study is voluntary and you have the right to refuse to participate or answer any question that you feel uncomfortable with. If you change your mind about participating during the course of the study, you have the right to withdraw at any time. The decision to withdraw will not affect any future medical care you may require. If there is anything that is not clear or you need further information, I shall be delighted to provide it. (Interviewer asks if the respondent has any questions and provides the necessary clarifications)

Declaration of the Volunteer participant

I have understood the purpose of the study. I realize that I might be contacted again if need be. I have read the information or it has been read to me and I have had the opportunity to ask
questions about it and the questions have been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at any time without in anyway affecting my future medical care.

_I agree to participate in this research Signature................._

Questionnaire number____________________________________

Interviewers name________________________________________

Date of Interview________________________________________

Investigators name NABEETA LILLIAN
QUESTIONNAIRE

PLEASE TICK YOUR APPROPRIATE ANSWER FOR EACH QUESTION.

A. Socio-demographic characteristics.

1. Age

   a) 18-24 [ ]                d) 35-39 [ ]
   b) 25-29 [ ]               e) Above 40 years [ ]
   c) 30-34 [ ]

2. What is your religion?

   a) Protestant [ ]            d) Born again [ ]
   b) Catholic [ ]              e) Other---------------------------
   c) Moslem [ ]

3. What is your marital status?

   a) Single/Never married [ ]            c) Separated/divorced [ ]
   b) Married /Cohabiting [ ]              d) Widowed.[ ]

4. What is your highest level of Education you have attained?

   a) Never gone to school [ ]            c) Secondary level [ ]
   b) Primary level [ ]                  d) Tertiary level [ ]

5. Are you employed?

   a) Yes [ ]
   b) No [ ]
6. Residential area
   a) Urban [  ]
   b) Peri-Urban [  ]
   c) Rural [  ]

7. What is your daily expenditure?
   a. < 2600Ugx [  ]
   b. > 2600UGX [  ]

B. Health facility factors

8. Do you there is cervical cancer screening services provided in any of the Health facilities in Iganga district?
   a) Yes [  ]
   b) No [  ]

9. Estimate the distance in KMs from health facility to your residence.
   a. Less than /equal to 5 KM [  ]
   b. Greater than 5 KM. [  ]

10. Do you have any knowledge about cervical cancer screening?
    a. Yes [  ]
    b. No [  ]

11. If yes how did you get the information?
    a. Health talks/education [  ]
    b. Radio/TV shows [  ]
c. Peers and Community members.

d. Any other

12. How would you rate the health workers attitude towards patients in the health facility you have ever gone to in Iganga district?

a. Bad

b. Fair

c. Good

d. Very good

13. Have you ever screened for Cervical Cancer?

a. No

b. Yes

14. If No, why

15. If yes, How many times have you screened for cervical cancer screening?

a) 1

b) 2

c) 3

d) 4
16. When did you last screen for Cervical Cancer?
   a. Last 6 months [   ]     b. Last 1 year [   ]
   c. last 2 years [   ]          d. Over 3 years ago [   ]

**Perceived susceptibility and severity to cervical cancer**

<table>
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<tr>
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<th><strong>Perceived susceptibility</strong></th>
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<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<td>17</td>
<td>Older women are more at risk of cervical cancer than younger women</td>
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<tr>
<td>18</td>
<td>Every woman of child bearing age is at risk of cervical cancer</td>
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<td>Women with multiple sexual partners are more prone to cervical cancer.</td>
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<td>Cervical cancer is more common to women who are HIV positive.</td>
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<td>Susceptibility to cervical cancer increases with number of pregnancy</td>
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<td>No</td>
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<td>Agree</td>
<td>Not Sure</td>
<td>Disagree</td>
<td>Strongly disagree</td>
</tr>
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<tr>
<td>23</td>
<td>There is effective treatment for cervical cancer?</td>
<td></td>
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<td>24</td>
<td>Having cervical cancer will make a woman’s life difficulty.</td>
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<td>25</td>
<td>Cervical cancer is not as serious as other types of cancers.</td>
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<td>26</td>
<td>Cervical cancer is easily cured.</td>
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<td>27</td>
<td>Having cervical cancer can result to infertility.</td>
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<tr>
<td>28</td>
<td>Death resulting from cervical cancer is rare.</td>
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</table>

**Perceived benefits and barriers to seeking cervical cancer Screening.**

<table>
<thead>
<tr>
<th>No</th>
<th><strong>PERCEIVED BENEFITS</strong></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>It is important for a woman to have cervical cancer screening to know if she is healthy</td>
<td></td>
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<tr>
<td>No</td>
<td><strong>PERCEIVED BARRIERS</strong></td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Not Sure</td>
<td>Disagree</td>
<td>Strongly disagree</td>
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<tr>
<td>30</td>
<td>Cervical cancer screening can identify changes in the cervix before they become cancerous.</td>
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<tr>
<td>31</td>
<td>If cervical changes are found early from cervical cancer screening, they are easily curable.</td>
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<tr>
<td>32</td>
<td>Doing cervical cancer screening can help improve the chances of an infertile woman becoming pregnant.</td>
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<tr>
<td>33</td>
<td>Cervical cancer screening can decrease the chances of a woman having an abortion.</td>
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<td>34</td>
<td>It is too embarrassing to do cervical cancer screening</td>
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<tr>
<td>35</td>
<td>Cervical cancer screening is painful</td>
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<tr>
<td>36</td>
<td>If a young unmarried woman does cervical cancer screening, everyone will think she is having sex.</td>
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<tr>
<td>37</td>
<td>Doing cervical cancer screening will only make one worry.</td>
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<tr>
<td>38</td>
<td>If a woman has not had sex, cervical cancer screening will take away her virginity.</td>
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<tr>
<td>39</td>
<td>Not knowing where to go for cervical cancer screening is a reason why people do not do cervical cancer screening.</td>
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<tr>
<td>No.</td>
<td>Statement</td>
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<tr>
<td>40</td>
<td>Only women who have had babies need to do cervical cancer screening.</td>
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<td>41</td>
<td>My partner will not want me to do cervical cancer screening.</td>
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<tr>
<td>42</td>
<td>Lack of female screeners in health facilities is a reason for not doing cervical cancer screening.</td>
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<td>43</td>
<td>Attitudes of health workers can discourage one from going for cervical cancer screening.</td>
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<td>44</td>
<td>Lack of convenient clinic time is a barrier to routine cervical cancer screening.</td>
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<tr>
<td>45</td>
<td>Lack of information about cervical cancer screening procedures is a barrier to uptake of cervical cancer screening.</td>
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