FACTORS INFLUENCING UTILIZATION OF CERVICAL CANCER SCREENING SERVICES AT CENTRAL PROVINCIAL GENERAL HOSPITAL, NYERI, KENYA

BY

AGNES WANGECHI GICHOGO

A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIERMENT FOR THE AWARD OF A DEGREE OF MASTER OF ARTS IN PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF NAIROBI

2012

DECLARATION

This research project report is my original work. The work has not been presented for any award in any institution.

SIGNED------- ~~Auey~~ ---------- ------ 6/8/2012

Agnes Wangechi Gichogo   DATE

L50/666296/2010

This research project report has been submitted for examination with my approval as university supervisor

SIGNED--- ~~Dmth~~ -------------------   7th August 2012 ----------

Prof. David Macharia EBS   DATE
Department of Distance Studies,
University of Nairobi

DEDICATION

This work is dedicated to my Parents, Mr. & Mrs. Gichogo, my husband, Gordon, and my sons,

Derrick and Mark,

ACKNOWLEDGEMENT

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

AID - Acquired Immunodeficiency Syndrome

ACCP - Alliance for Cervical Cancer Prevention

HIV - Human Immunodeficiency Syndrome

HPV - Human Papilloma Virus

ICDP - International Conference on Population and Development

IARC - International Agency for Research on Cancer

UNICEF - United Nations Children's Education Fund

UN - United Nations

MDG - Millennium Development Goals

MCH/FP - Maternal Child Health/Family Planning

WHO - World Health Organization

ABSTRACT

Cervical cancer continues to be a major cause of mortality and morbidity among women worldwide with almost half a million new cases each year. Developing countries accounts for more that 80% of the world cervical cancer death In Kenya, cervical cancer ranks as the second most frequent cancer among women with about 3000 new cases annually. An opportunity to prevent occurrence of cervical cancer exists through cervical cancer screening for early detection and treatment of precancerous lesions before they develop to cancer. However, only a negligible proportion of women benefit from cervical cancer screening services in developing countries, including Kenya. A descriptive survey was carried out in Central Province General Hospital Nyeri, Kenya, to determine the factors influencing utilization of cervical cancer screening services among women between 15-60 years of age seeking Maternal Child Health / Family Planning (MCH/FP). Convenient sampling method was used to identify the required sample for the study. The survey was completed by 290 women who responded to a structured questionnaire. The questions that were asked generated information on the women's level of education , awareness on issues relating to cervical cancer screening services, family support and accesibility and utilization of cervical cancer screening services. Data collected was analyzed using descriptive statistics. Utilization of cervical cancer screening services was found to be low at 24.7% despite the fact that the study group consisted of well educated women who had autonomy in decision making and good family support. Only less than 20% of the women knew the importance of cervical cancer testing and majority (80%) of the respondents could only mention one to two risk factors. The low level of awareness on cervical cancer screening services amongst the study group and the long waiting time in at the clinic are the two factors that negatively influenced in utilization of cervical cancer screening services. Therefore it is important for the Government through the Ministry of health to design and implement awareness campaigns on cervical cancer screening services. This should be done through the media, women groups and chief's baraza's and should target both men and women in the communities. Doctors and nurses should also intensify health education on cervical cancer screening during every clinical contact. The Provincial General Hospital Should also consider outreach awareness creation and screening camps in order to take the services closer to the community instead of waiting for the women to come for the services at the hospital.

1.1 Background of the study

Cervical cancer is a disease that affects the reproductive health organ of a woman called the cervix (the organ connecting the uterus and vagina). It is a slow-growing cancer that may take 10 years or more to develop (Spencer, 2007). In its early stages of development, it may not have any symptoms but can be identified through regular screening. In its late stages it may present with irregular Vaginal bleeding, pelvic pain and other symptoms that are common with other reproductive health problems and as such may only be confirmed through investigative screening (Spencer, 2007).

The primary cause of cervical cancer is Human Papiloma Virus (HPV). Tobacco smoking, many deliveries, long-term hormonal contraceptive use, and co-infection with HIV have been identified as cofactors necessary for progression from cervical HPV infection to cancer (WHO/ICO, 2010) . HPV is sexually transmitted and the Primary prevention strategies include, HPV vaccination health education for modification of behaviors associated with HPV infection such as risky sexual behaviors, smoking, many deliveries etc. Secondary prevention involves cervical cancer screening for early detection and treatment of precancerous lesions (WHO,2008;Minoz et al,2002).A precancerous lesions is abnormal body cells which if left untreated, may lead to cancer

HPV vaccination reduces cervical cancer incidence by 70% However it is only beneficial for women who have not started engaging in sex. It is also expensive unaffordable for most women in low resource areas (Braaten and Laufer, 2008; WHO, 2007) This leaves behavior modification and cervical cancer screening as the key preventive approaches

The natural history of cervical cancer suggests that precancerous lesions start about 10 years or more before cancer develops. Precancerous lesions are treatable when detected early (Spencer, 2007).Therefore early screening and treatment for such lesions is important for prevention of

cancer. According to the American Cancer Society, it is currently recommended that every woman who is sexually active or 21 years of age or more should have a cervical cancer screening done annually for the first 3 consecutive years. After 3 years of normal pap smear, she can now test less frequently for example once every 3 years if she is classified as being at low risk for cervical cancer and should continue yearly pap smear if she is classified as being at high risk (Saslow et al, 2008). The first screening for cervical cancer should be done after the first sexual intercourse or at the age of 21 years whichever comes first. The women classified as high risk for cervical cancer include those who are HIV positive, those with associated human papilloma virus, those with multiple sexually partners, those with history of other cancers and those with family history of cervical cancer (Magwa Hunter Mbugua & Tukei , 1993;Kapiga et al,1999).

Specific cervical cancer screening approaches recommended by WHO include pap smear tests, visual tests and tests for HPV infection. Pap smear involves the collection of a specimen from the woman's cervix which is taken to the laboratory for analysis. It takes about a week for the clients to get the results. This type of screening is effective but widely unavailable due to infrastructural constraints. The visual approaches (visual inspection using acetic acid(VIA) and Visual inspection using Lugos Iodine(VILI) are cheap, easy to learn, and is carried out by the health care workers at the clinic and does not require laboratory infrastructure. The woman gets the results immediately. This method is more appropriate and has been recommended for screening, and treatment for precancerous conditions in low-resource settings like Kenya (Belinson et al, 2001; Wesley et al, 1997).

While cervical cancer is preventable through effective screening programs, most women in developing countries like Kenya do not have access to this essential service (WHO, 2002). Cervical cancer screening coverage in developing countries have remained low with more than 80% of these cases being diagnosed late when the scope of treatment is limited. Previous studies have identified awareness about the disease and the risk factor ,social support ,beliefs and attitude about the disease, and the health system factors such as availability, accessibility, cost(direct and indirect), and quality of service as important factor influencing cervical screening behaviors amongst women(Agurto et al, 2005; Bingham et al ,2003;Hoque and Hoque, 2009).

2

In Kenya cervical cancer screening services are integrated in the already existing maternal and child health programs mainly in the family planning clinics. Both Pap smear and visual tests are used as the screening approaches. In provincial General Hospital Nyeri, the primary method used for screening is the Visual test which is carried out by nurses working in the family planning clinic. However Pap smear is carried out occasionally, when the doctors recommends.

In Kenya, Cervical Cancer Screening rates have remained low at only3.2% of the eligible population (WHO/ICO, 2010) Therefore need for a better understanding of the factors affecting utilization for this essential service in order to be able to develop and implement screening programs that responds to women's needs and assist in disease reduction.

1.2 Statement of the problem

In Kenya, cervical cancer ranks as the second most frequent cancer among women with an estimate of 3000 new cases and 1679 deaths annually (International Agency for Research on Cancer, 2005). Over 80% of these cases present during the late stage of the disease when the scope of successful treatment is limited (Were and Buziba, 2001).

Precancerous lesions are detectable for 10 years or more before progression to cancer. Early detection and treatment of such lesions reduces the incidence of cervical cancer and the associated mortality. In spite of this knowledge, only a negligible proportion of women benefit from cervical cancer screening services in developing countries. In Kenya, Cervical Cancer Screening rates have remained low at only3.2% of the eligible population (WHO/ICO, 2010) .In Central Province Cervical Cancer Screening rates have also remained low at 3% among women attending maternal and child health clinic (Central Province Annual Report,2010). Provincial General Hospital Annual Report, (2010) indicates that only 2.6% of women of reproductive age had at least one cervical cancer screening test between 2008 and 2010, thus confirming this low utilization of this crucial service.

The Kenya National Reproductive Health Policy (2007) identified reduction of reproductive health cancers as one of the national health priorities. It is for these reasons that this study was done to investigate the factors influencing utilization of cervical cancer screening services by women seeking reproductive health services at the Central Provincial General Hospital Nyeri.

3

In Kenya cervical cancer screening services are integrated in the already existing maternal and child health programs mainly in the family planning clinics. Both Pap smear and visual tests are used as the screening approaches. In provincial General Hospital Nyeri, the primary method used for screening is the Visual test which is carried out by nurses working in the family planning clinic. However Pap smear is carried out occasionally, when the doctors recommends.

In Kenya, Cervical Cancer Screening rates have remained low at only3.2% of the eligible population (WHO/ICO, 2010) Therefore need for a better understanding of the factors affecting utilization for this essential service in order to be able to develop and implement screening programs that responds to women's needs and assist in disease reduction.

1.2 Statement of the problem

In Kenya, cervical cancer ranks as the second most frequent cancer among women with an estimate of 3000 new cases and 1679 deaths annually (International Agency for Research on Cancer, 2005). Over 80% of these cases present during the late stage of the disease when the scope of successful treatment is limited (Were and Buziba, 2001).

Precancerous lesions are detectable for 10 years or more before progression to cancer. Early detection and treatment of such lesions reduces the incidence of cervical cancer and the associated mortality. In spite of this knowledge, only a negligible proportion of women benefit from cervical cancer screening services in developing countries. In Kenya, Cervical Cancer Screening rates have remained low at only3.2% of the eligible population (WHO/ICO, 2010) In Central Province Cervical Cancer Screening rates have also remained low at 3% among women attending maternal and child health clinic (Central Province Annual Report,2010). Provincial General Hospital Annual Report, (2010) indicates that only 2.6% of women of reproductive age had at least one cervical cancer screening test between 2008 and 2010, thus confirming this low utilization of this crucial service.

The Kenya National Reproductive Health Policy (2007) identified reduction of reproductive health cancers as one of the national health priorities. It is for these reasons that this study was done to investigate the factors influencing utilization of cervical cancer screening services by women seeking reproductive health services at the Central Provincial General Hospital Nyeri.

3

1.3. Purpose of the study

The purpose of this study was to establish the factors that influence utilization of cervical cancer screening by women seeking services at Central Provincial General Hospital Nyeri.

1.4 Specific objectives

The objectives of the study were:

1. To establish the influence of women's level of education on utilization of cervical cancer screening services at Central Provincial General Hospital Nyeri.
2. To determine the influence of women's level of awareness on utilization of cervical cancer screening services at Central Provincial General Hospital Nyeri.
3. To determine the influence of family support on utilization of cervical cancer screening services at Central Provincial General Hospital Nyeri.
4. To establish the extent to which accessibility to cervical cancer screening services influences utilization of the services at Central Provincial General Hospital.

1.5 Research questions

The research questions were:

1. To what extent does the level of women's education influence their utilization of cervical cancer screening services at Central Provincial General Hospital Nyeri?
2. How does awareness about cervical cancer screening among women influence their utilization of cancer screening services at Central Provincial General Hospital Nyeri?
3. To what extent does family support influence utilization of cervical cancer screening services by women at Central Provincial General Hospital Nyeri?
4. How does accessibility to cervical cancer screening services influence the utilization of these services at Central Provincial General Hospital Nyeri?

1.6 Significance of the study

The study results can be used by policy makers at all levels (hospital and national level) for modification of plans and policies for future developments in the promotion of cervical cancer screening services in order to reduce death of women from cervical cancer. The findings should

4

also add to the body of knowledge in the field of cervical cancer. More importantly, the study should benefit individual women, women groups and the general population in awareness creation on the value of cervical cancer screening and hence improve the uptake of this essential service.

1.7 Limitation of the study

The researcher had foreseen time and financial constrains when carrying out the research. However these were overcome by use of own time and also research assistants.

1.8 Delimitations

The researcher limited this study to education level, awareness, family support and accessibility as factors influencing utilization of cervical cancer screening services in Central Provincial General Hospital Kenya. The study only included women between 15 and 60 years old who visited the Maternal Child Health/Family Planning clinic at Central Provincial General Hospital during the study period. The researcher conducted the study in this department because Cervical Cancer Screening services are offered therein

1.9 Assumptions of the study

The study had assumed that the respondents who participated in the study would provide reliable data which would be used in making conclusions in relation to the study. As shown in Chapter 4, the respondents were very cooperative with a questionnaire return rate of 98.97%.

1.10. Definition of significant terms

Accessibility: The ease with which women access cervical cancer screening services.
   This includes the distance that women travel to reach the hospital, and the amount of
   money paid by women in order to receive this service and other related services. It
   also includes the time spent at the hospital waiting to receive the service.

Awareness:
   Having knowledge of risk factors on cervical cancer, cervical cancer screening services,
   the availability of these services and then translating this knowledge into
   meaningful/valuable experience that stimulate the decision to use the service

Cervical cancer screening:
   Examination used in the detection precancerous lesions on the cervical in individuals
   without signs or symptoms of that disease

Family Support:
   Support given to the woman to encourage her to utilize cervical cancer screening
   services. This may include decision making to seek cervical cancer screening services,
   family making available finances for the test, psychological or physical

Utilization of cervical screening services:
   Women who have ever been done a cervical cancer test and those who have undertaken
   the test within the last three years and the reasons that motivated them to seek this service

1.11: Organization of the Study

This research project proposal is composed of five chapters. Chapter 1 introduces the
background of the study, statement of the problem, objectives of the study, research questions,
and significance of the study, delimitation and limitations of the study, basic assumptions of the
research and definition of significant terms Chapter 2 explores and analyzes the literature related
to the study. Chapter 3 describes the research methodology employed. Chapter 4 presents the
findings from the study while Chapter 5 presents a discussion from the study finding, gives a
conclusion and recommendations from the study findings.

1.10. Definition of significant terms

Accessibility: The ease with which women access cervical cancer screening services. This includes the distance that women travel to reach the hospital, and the amount of money paid by women in order to receive this service and other related services. It also includes the time spent at the hospital waiting to receive the service.

Awareness:

Having knowledge of risk factors on cervical cancer, cervical cancer screening services, the availability of these services and then translating this knowledge into meaningful/valuable experience that stimulate the decision to use the service

Cervical cancer screening:

Examination used in the detection precancerous lesions on the cervical in individuals without signs or symptoms of that disease

Family Support:

Support given to the woman to encourage her to utilize cervical cancer screening services. This may include decision making to seek cervical cancer screening services, family making available finances for the test, psychological or physical

Utilization of cervical screening services:

Women who have ever been done a cervical cancer test and those who have undertaken the test within the last three years and the reasons that motivated them to seek this service

1.11: Organization of the Study

This research project proposal is composed of five chapters. Chapter 1 introduces the background of the study, statement of the problem, objectives of the study, research questions, and significance of the study, delimitation and limitations of the study, basic assumptions of the research and definition of significant terms Chapter 2 explores and analyzes the literature related to the study. Chapter 3 describes the research methodology employed. Chapter 4 presents the findings from the study while Chapter 5 presents a discussion from the study finding, gives a conclusion and recommendations from the study findings.

1.10. Definition of significant terms

Accessibility: The ease with which women access cervical cancer screening services. This includes the distance that women travel to reach the hospital, and the amount of money paid by women in order to receive this service and other related services. It also includes the time spent at the hospital waiting to receive the service.

Awareness:

Having knowledge of risk factors on cervical cancer, cervical cancer screening services, the availability of these services and then translating this knowledge into meaningful/valuable experience that stimulate the decision to use the service

Cervical cancer screening:

Examination used in the detection precancerous lesions on the cervical in individuals without signs or symptoms of that disease

Family Support:

Support given to the woman to encourage her to utilize cervical cancer screening services. This may include decision making to seek cervical cancer screening services, family making available finances for the test, psychological or physical

Utilization of cervical screening services:

Women who have ever been done a cervical cancer test and those who have undertaken the test within the last three years and the reasons that motivated them to seek this service

1.11: Organization of the Study

This research project proposal is composed of five chapters. Chapter 1 introduces the background of the study, statement of the problem, objectives of the study, research questions, and significance of the study, delimitation and limitations of the study, basic assumptions of the research and definition of significant terms Chapter 2 explores and analyzes the literature related to the study. Chapter 3 describes the research methodology employed. Chapter 4 presents the findings from the study while Chapter 5 presents a discussion from the study finding, gives a conclusion and recommendations from the study findings.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature on determinants of cervical cancer screening utilization from global, African and local perspectives. A conceptual framework on which the study is based is also presented.

2.2. Significance of Cervical Cancer Screening

Cervical cancer continues to be a major cause of mortality and morbidity among women worldwide yet it is one of the preventable human cancers because of its slow progression (Hakama and Miller, 1986; Spencer, 2007).

Cancer of the cervix occurs as a result of abnormal cell changes in the tissue layers of the Cervix. Changes that occur in the cervical cell before cancer develops are referred to as the pre cancerous lesions. Early detection of pre-cancerous lesions can easily be achieved through cervical cancer screening and is 100% treatable (ACCP, 2004; Spencer, 2007). Evidence from a comprehensive analysis of data by the International Agency for Research on Cancer (IARC) shows that developing countries have been able to drastically reduce the incidence and mortality of cervical cancer through effective screening programs (Ferlay et al, 2002) For example, Iceland was able to reduce cumulative mortality rates by 84% from 1965 to 1982 (Denny and Sankaranarayanan, 2006).

Cervical cancer continues to be a major public health threat to women in many low and medium resourced countries like South and Central America, sub-Saharan Africa, and Southeast Asia which lacks effective cervical screening program. These countries account for more that 80% of the world cervical cancer death (IARC, 2006, Ferlay eat al 2002).

The high morbidity and mortality of cervical cancer has been associated with non-participation of women in cervical cancer screening programs and low screening coverage among the illegible

population (Janerich et al., 1995; Nasca, Ellish,Caputo,Sobada &Metzger,1991). According to the National Institutes of Health consensus development (1996), 85% of the women who die of cervical cancer in Australia have not had regular cervical cancer screening and about 50% of them have never had any form of cervical cancer screening. In the United States, half of women die of invasive cervical cancer have never had a cervical cancer screening test and 10% have not had cervical cancer screening in the last five years. Levels of participation in cervical cancer screening programs differ between developed and developing countries. Developed countries reports high percentage of participation in cervical cancer screening of about 86% and a follow up rate of 76% within 3 years after initial screening (McKee, 1995 ; Marcus et al,1992). As a result, there is low incidence of cervical cancer mortality and morbidity. On the other hand, developing countries such as Jamaica and Nicaragua shows low participation rates of 23% and follow up rates of 46% within 3 years after initial screening (Carey & Gjerdingen,1993; Lerman et al,1993) and very low or nonexistent coverage in most Asian and African countries (IARC,2004;Lewis,2004). Kenya has coverage of 3.2% of the illegible population (WHO/ICO,2010)

Many women who are newly diagnosed with cancer had not been screened for cervical cancer within three years prior to diagnosis .A review of a population-based study in Canada reported that 46% of women who were diagnosed with cervical cancer had not had any cervical cancer screening test within 3 years prior to the diagnosis of cervical cancer (Stuart McGregor, Duggan & Nation, 1997).Another study of a large U.S. prepaid, comprehensive health plan reported that 53% of women who were diagnosed with cervical cancer had not had any cervical cancer screening test within 3 years prior to the diagnosis (Saslow,Boetes &Burke 2008). Therefore, regular cervical cancer screening is crucial if cervical cancer incidence and its associated mortality and morbidity are to be reduced.

Different parts of the world have identified factors unique to their region that are associated with utilization in cervical cancer screening programs in different parts of the world. In the United States, failure to screen for cervical cancer has been associated with race and ethnicity, lower income status, limited education, and lack of health insurance (Garner, 2003). In the United

8

Kingdom low utilization of cervical cancer screening services is associated with low perceived risk of disease, lack of knowledge about cervical screening and the determinants of cervical cancer, fear of detection of cervical cancer, fear of pain, and embarrassment(Gilam,1991).Developing countries like Malawi, Botswana and Uganda associates the low utilization of cervical cancer screening services with, lack of knowledge, lack of family support, stigmatization of the disease and low perceived risks (Mutyaba et al, 2007 , Fort, Makin,Siegler, Ault and Rochat 2011 ,Ibweke 2009). The rest of this chapter will present and discuss the four independent variables on which the study is based

2.3. Women's education Level and cervical Cancer Screening

According to the United Nations World Development Report (1995), education is an essential component to human health where by households with more education enjoys better health. Women in developing countries tend to be poorly educated, which has profound ramifications for the total quality of their lives both in access to healthcare and health-seeking behavior. A study done in Jamaica reported that of the women who had ever received a Pap smear, 64% had a secondary school education compared with 41.5% of women who had never had a Pap smear (Barba and Juanita 2004). The correlation between higher education level and increased cervical cancer screening attendance is also supported by studies in US, Mexico and Jamaica (,Bingham et al, 2003 ; Fletcher 1999) .

2.4. Women's level of Awareness on Cervical Cancer and Screening Services

The ability of women to make informed decisions about their reproductive health is a human right and falls under the United Nations Millennium Development Goal of promoting full and equal participation in all aspects of life for women(UN 2000). For an individual to have an accurate perception of susceptibility (perceived risk) to a disease and make an accurate decision to seek preventive services, one needs to be aware of basic facts about the disease and the role of the available preventive measures (Babar & Juanita,2004, Gilam et al, 1991) This enables the individual to attach some value to the preventive measure and as such decide to utilize it.

Studies done in Uganda and Mexico demonstrated inadequate knowledge about cervical cancer and the screening services in the general population as well as among health care workers who are expected to educate the community about the disease. A population based study in Mexico reported that women who are aware of the purpose of cervical cancer screening services were 3 times as likely to utilize cervical cancer screening services than women who did not know the Purpose (Lozcano-Ponce, Castro &Allen 2002). A study done at Mulango hospital among health care workers reported that only 29% had adequate knowledge on the risk factors for cervical Cancer while only a small proportion knew the illegibility criteria (Mutyaba Faxelid, & Weiderpass 2006). A qualitative study done in Malawi demonstrated that women had no idea about cervical cancer beyond it being a fatal disease (Fort et al, 2011).

Other studies done in Finland and Thailand showed that though some women may be aware of cervical cancer screening services and the associated benefits, they do not utilize these services. A study done in Finland reported that while most women are aware that cervical cancer screening detects precancerous cells at an early stage ,73% of women below the age of 40 years did not perceive themselves to be at risk but thought that cervical cancer is a disease of the elderly usually above the 50 years (Buskens and Bradley 2002).Another study done in Thailand showed that women who are 35 years and above are more likely to perceive themselves to be more susceptible to cervical cancer than younger women(Islam&Tahir,2002). This perceived risk influences the women's decision to utilize cervical cancer screening services. In India, elderly women were reported to have a high perception of risk but did not seek cervical cancer screening services since detection and treatment of precancerous cells made no difference to them.

The aim of cervical cancer screening is to detect the abnormal cells on the cervix before they progress to cancer .Studies done in Latin America, Malaysia, Trinidad, Jamaica and Malawi have reported that populations believed that cervical cancer screening tests is used to diagnose rather than prevent cervical cancer and that women fear being screened in case they are diagnosed with the deadly disease (Agurto,2001 ,Fletcher ,1999 , Chingang Bischof,2005, Wong et al,2009, Fort et al 2011)). In other project settings in South Africa, Botswana and Malawi women sometimes

erroneously believe that cervical screening tests also are used to detect STIs or HIV (Bingham et al, 2001). A positive STI or HIV test results often are viewed as proof of marital infidelity. Social stigma was also reported in western Kenya where cervical screening often is confused with the "AIDS test" or with STI testing because women have been told that cervical cancer is caused by the human Papilloma virus (PATH 2002). Such stigma instills fear in women and therefore may

decide not to be screened. Other women perceive the cervical cancer screening test as a diagnostic test for cervical cancer and other gynecological problems (Bingham et al, 2003). Such women may be motivated seek cervical cancer screening services when they have symptoms of gynecological problems. In South Africa, of 69 women interviewed who had come for cervical screening, 52 reported after probing that they had actually came because they perceived they had a "womb-related ailment"(Buskens and Bradley,2002). In Malawi women thought that cervical cancer screening could only detect a deadly illness (cancer) and that there was no cure for this disease and therefore such screening and diagnoses would only hasten their death(Fort et al 2011) .

2.5. Family Support and Cervical Cancer Screening Services

A woman's ability to seek health care or to access healthcare services is affected by social cultural factors such as marital status, women autonomy, cultural norms, together with cultural beliefs and attitude about the disease

According to Muga and Mulenga (2005), inequalities and discrimination in gender is taken as normal especially in African cultures .In most African societies, women are always taken as subordinate to men in which case men play a paramount role in determining the health needs of a woman(Alix-Dancer,2003;Rani and Bonu,2003). Since men are decision makers and in control of all the resources, they decide when and where woman should seek health care even on their reproductive health issues. Women are socially dependent on men and lack of economic control reinforces her dependency. Studies in South Africa, Tanzania and Kenya have identified spousal support the as a major determinant in the utilization of cervical cancer screening (Arguto et al ,2005 ; Bingham et al, 2003; Ngwalle et al,2001 ; Lyimo and Bera, 2012) For example, women interviewed in western Kenya reported that it is often problematic for a woman to go to a

health clinic to be screened if she is "feeling healthy," as she must convince her partner to get money for transport when she is not visibly ill(Bingham, Abwao and Luchemo, 2001). Other Studies have identified fear for speculum examination as contributing to the poor utilization for utilization of cervical cancer screening. This is the procedure that is used when a doctor/nurse is examining the internal genitalia of a woman. A study done in south Africa showed that pelvic exam is referred to as "hanging the legs'' and it is equated to surrendering one's self (Buskens and Bradley,2002) . Another study in western Kenya indicated that women are embarrassed by having to expose their genitals to strangers which is not culturally acceptable (PATH,2002).

Cancer of the cervix is known to be caused by human Papiloma Virus which is sexually transmitted. In many African countries, sexually transmitted diseases like STIs and AIDs are heavily stigmatized and positive results are often viewed as proof of marital infidelity (PATH 2002) Because of these stigmas, some women are especially fearful about explaining the results of these examinations to their spouses, and therefore may decide not to be screened

2.6. Accessibility of Cervical Cancer Screening Services

The distance separating patients and clients from the nearest health facility has been remarked as an important determinant of women's   participation in preventive health services like cervical cancer screening. Studies in like Mexico, South east Asia and Western Kenya, have reported that Long distances contributes to reduced likely hood of women's utilization of cervical cancer screening services((Barba,2004 ; PATH ,2002; Islam & Tahir,2002).Availability of the transport, physical distance of the facility and time taken to reach the facility adds into the cost of the service. In western Kenya, many women must travel for about 2-8 hours at an average cost of a day's agricultural wage (PATH, 2002).

Cost of services has shown to impact on women's utilization of cervical cancer screening services (PATH 2002, Bingham et al, 2001). This includes both direct cost of the service other indirect costs such as the expenditure incurred on medicines , referral services , and the fare spent to reach the facility and hence the total amount spent for treatment turns out to be cumbersome

2.7. Conceptual Framework

This section presents the conceptual framework (Fig.1) on which the study is based.

Independent Variables

Woman's Education Level
- No formal education
- Primary
- Secondary
- Tertially

Awareness

-Awareness on:
- Cervical cancer risk factors.
- Eligibility for cervical cancer screening service.
- Importance of cervical cancer screening service.

Family support
- Decision making in the family.
- Form of support required by the woman

Accessibility of services
- Physical distance from the hospital
- Cost of the service and other costs related to the service
- Waiting time at the clinic

Moderating Variables

National Policies and Guidelines

Dependent variable

Utilization of cervical cancer screening

Women who have ever been tested for cervical cancer

Women who were tested for cervical cancer within the last three years

Reasons for previous cervical cancer testing

Hospital Management/ Operations

Intervening Variables

Figure 1: Conceptual Framework

13

2.8. The relationship between variables

2.8.1. Women's Education

This variable measures the level of education the individual has attained. It has been sub-divided into no education, primary, secondary and tertiary education. Literature has identified a woman's level of education as one of the factors influencing utilization of cervical cancer screening services.

2.8.2. Awareness level

This variable indicate how women's knowledge on cervical cancer and the screening services affects utilization of cervical cancer screening services.. The variable will focus on the woman s level of awareness on the risk factors of cervical cancer, the role of cervical cancer and where to seek cervical cancer screening services.

2.8.3. Family support.

This variable will indicate the support given to women in order to encourage them seek cervical cancer screening services. This includes financial services, being escorted to the clinic or being given the autonomy to make decisions and implement them.

2.8.4. Accessibility.

This variable will indicate how accessibility of cervical cancer screening services affects utilization of cervical cancer screening services. This is in terms of distance, cost and time.

2.9. Summary

This chapter has presented a review of literature on factors of cervical cancer screening utilization from global, African and local perspectives. Factors discussed include; women's level of academic qualification, level of awareness on cervical cancer, family support and accessibility of cervical cancer screening services. A conceptual framework on which the study is based has also been presented.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives a detailed outline of how the study was conducted .It describes the research design, target population, the sample and sampling procedure, research instruments ,data collection and analysis tools used in this study. The operational definition of variables is also described in this chapter.

3.2 Research Design

This study adopted a descriptive survey design. According to Mugenda &Mugenda (2003), a descriptive research determines and reports the way things are at that particular time. It also quantifies the problem and gives detailed information that taps into the perceptions of communities and groups. This design was ideal for this study since the researcher intended to gain immediate knowledge on factors affecting utilization of cervical Cancer Screening services as they exist on the ground. It is also economical on both time and funds. A quantitative research approach was used whereby a structured questionnaire (Appendix 1) was used to collect data.

3.3 Target Population

A population is a group is the total number of elements (group of individuals, objects, or items) from which samples are taken for measurements. (Kombo & Tromp,2006).In this study, the target population comprised of women aged 15-60 years visiting the Maternal Child Health/ Family Planning(MCH-FP) clinics at Central Provincial General Hospital Nyeri in the month June 2012 when data was collected. The MCH-FP clinic is a general outpatient reproductive health facility serving an average of 920 women per month (Central province Reproductive Health Report,2012). The 920 clients formed the target population in this study.

3.4 Sampling Design

In this study, a sample survey was conducted among women 15-60 years of age, visiting the (MCH-FP) clinic at Central Provincial General Hospital Nyeri during the June 2012 when data

was collected. In sample survey an optimum sample size is obtained from the target population to make the scope of the study manageable. The respondents selected should contain characteristics found in the entire population. (Ordho and Kombo,2006; Kothari 2004). The researcher used 30% of the subject because the target population was 920 women and according to Cochran, William (1977), 30% sample size is sufficient for small population less than 1000. This gave a sample of 290 women was used in the study. This sample size was obtained as described in appendix 2. Convenient sampling was done in this study because mothers come to the facility at different time intervals and a total of 14 women were sampled each day. Convenience sampling is a non probability sampling which involves the sample being drawn from that part of the population which is close to hand. That is a sample population selected because it is readily available.

3.5 Research Instrument

The researcher used questionnaires for the purpose of gathering data from the respondents. The questionnaire was structured and employed closed ended questions to obtain quantitative data. The questionnaire was divided into 4 sections which include: Section A: Identification and code number, Section B : Education data, section C:Awareness on cervical cancer and cervical cancer screening services, Section D: Participation in Cervical Cancer Screening Services. Section E: Family support, Section F: Accessibility to cervical cancer screening services. The questionnaires were administered by the researcher and the research assistants.

3.5.1 Instrument Validity.

Validity of an instrument is the extent to which the instrument measures what it is supposed to measure (Mugenda ,2003 ; Champbel and Opie'2002).Content validity of the instrument was censured by engaging colleagues in the reproductive health department who have an extensive experience and expertise in questionnaires construction to critic the questionnaire .My supervisor also provided inputs to ensure the validity of the questionnaire.

3.5.2Instrument Reliability

Reliability is defined as the extent to which the measuring instrument or procedure yields the same results on repeated trials (Mugenda & Mugenda 2003). The data collection tool was piloted

at Nyahururu Hospital where questionnaires was administered to 30 clients .Nyahururu Hospital was used because it also conducts cervical cancer screening services like Provincial General Hospital Nyeri.This helped to make necessary adjustments in the research instrument for easier understanding .The necessary instructions in simplified medical terms were used to ensure correct interpretations made. The researcher trained the research assistants for consistent.

3.6 Data Collection Procedure

The researcher collected primary data for the purpose of the study. The primary data was collected through questionnaires .The questionnaires was have adequate instructions and written in clear and simple language. The researcher hand delivered the questionnaire to the research assistants who later hand delivered them to the respondents. The research assistants also guided the respondents in completing the questionnaire.

3.7. Data Analysis Technique

The collected data was cleaned, coded and entered into the computer using the statistical package for social science (SPSS) version 19 for analysis. Data analysis was done and findings presented using frequency tables, graphs, pie charts and bar charts .Descriptive statistic method were used to interpret numerical information, the relationship between variables were investigated and tested using Chi-square statistical test and Pearson's correlation test.

3.8. Ethical Issues

In order to carry out this study, approval for conducting the study was obtained from The University of Nairobi and Central Provincial General Hospital Training and Research board. Confidentiality was maintained throughout the study. Anonymity of participants was maintained at all times by not using any identifiers or personal information in the questionnaires. The purpose of the study was explained to the eligible respondent and informed written consent sought. In addition, it was emphasized that the participation in this study was purely voluntary and that respondents were free to withdraw from the study at any point of the interview session.

3.9 Operationalization of Variables.

The variables were operationalized by looking at their behavioral dimensions, indicators and properties denoted by the concept. This rendered the variables measurable. The measurements were both objective and subjective.

Table 3.1: Operationalization of variables

Objectives	Variable	Indicator(s)	Measurement	scale	Data analysis
To investigate factors determining utilization of cervical cancer screening services	**Dependent Variable** Utilization of cervical cancer screening cervices	- women coming to the hospital for screening -Women receiving screening services.	-% of women who have ever had a cervical cancer screening test -% of women who have had cervical cancer screening test within the last 3 years. -Reasons for previous cervical cancer screening.	ordinal	Descriptive statistics- Percentages Means Frequencies
To establish the influence of woman's education level on utilization of cervical cancer screening services	**Independent variable** Education level	Level of academic qualification	Highest education level attained • No formal education • Primary • Secondary • College	Ordinal	Descriptive statistics - Percentages Frequencies
To determine the influence of woman's awareness level on utilization of cervical cancer screening services	**independent Variable** Level of awareness on cervical cancer screening services	Level of Knowledge on cervical cancer risk factors	Women exposure to information: Women who are able to mention • 5-6 risk factors • 3-4 risk factor • 0-2 risk factors	Ordinal	Descriptive statistics -percentages -Frequencies
		Awareness on the role of cervical cancer screening	Number of women who knows the role of cervical cancer screening	Norminal	Descriptive statistics -percentages -Frequencies

19

Objectives	Variables	Indicators	Measurement	Scale	Data analysis
To determine the influence of woman's awareness level on utilization of cervical cancer screening services	**independent Variable** Level of awareness on cervical cancer screening services	Awareness on when to go for cervical cancer screening	Number of women who knows who is supposed to go for cervical cancer screening	Nominal	Descriptive statistics -percentages -Frequencies
To establish the influence of family support on utilization of cervical cancer screening services	**Independent variable** Family support	Decision making in the family	Persons responsible for decision making in the family • Self • Male partner • Self and male partner • Other family members	Nominal	Descriptive statistics Percentages Frequencies
		Form of support required by a woman when seeking preventive health services to the woman	Type of support needed • Financial support for seeking services • Escorted to the clinic • Encouraged to seek services • No support given	Nominal	Percentages Frequencies
To establish the extent to which accessibility influences utilization of cervical cancer screening services	**Independent Variable** Accessibility	Ease of access	-Distance in kilometers from home to the hospital.	Ratio	-percentages -Frequencies
			Amount of time the woman waits to receive the service in the hospital.	Ordinal	
		Affordability	Women's perception about the cost of service	Nominal	

3.10 Summary

This chapter highlighted the research methodology that was used by the researcher in the study. The researcher adopted a descriptive survey design in order to assess the factors influencing the utilization of cervical cancer screening services in Central Provincial General Hospital Nyeri.This chapter also described the sampling design and the research tool(questionnaire).In addition data collection and data analysis procedures used in the study are described. Ethical issued are also discussed in this chapter and the operational definitions of variables as used in the study are given.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the analysis of data collected from the study and describes the results of the study on utilization of cervical cancer screening services among women attending Maternal Child Health and Family Planning (MCH/FP) clinic at Central Provincial General Hospital Nyeri based on the objectives of the study. The findings are presented in the form of tables per these objectives. Out of the grand total of 290 questionnaires which were used in the study 287 of them were returned. Therefore, a response rate of 98.97 % was achieved This was considered adequate for the study.

4.2 Women's Education Level

This study measured the highest level of formal education achieved by the respondents. The measurements ranged from no formal education to primary, secondary and to tertiary levels of education. The women 's education level was then cross tabulated with the utilization of cervical cancer screening services to establish if there is a relation between the two.

Respondents were requested to indicate the highest level of formal education attained. Their responses are given in Table 4.1

Table 4.1 Distribution of respondents by education level

Education level of respondent	Frequency	Percentage
None	14	4.9
Primary level	57	19.9
Secondary level	139	48.4
Tertiary level	77	26.8
Total	**287**	**100.0**

Table 4.1, shows that the study group consisted of well educated women with three quarters of the respondents having attained secondary education and above a tiny proportion (4.9%) of women with no formal education

A cross tabulation of the respondents education level was done against the number of clients who had reported previous testing for cervical cancer and the findings presented in Table 4.2

Table 4.2 Education level versus utilization of cervical cancer screening

Woman's level of education		Self report on previous cervical cancer testing				Value
		Yes		No		
		Frequency	%	Frequency	%	
	No formal education	3	21.4	11	78.8	$\chi^2 = 4.205$ df =3 P=0.24
	Primary	15	26.4	42	73.7	
	Secondary	28	25.2	111	74.8	
	Tertiary	27	32.5	52	67.5	
Total		**71**		**216**		**287**

Table 4.2 shows that of utilization of cervical cancer screening services among women who have no formal education primary education and secondary education was almost at the same level (21.4%, 26.4% and 25.2% respectively). While utilization of cervical cancer screening among women with tertiary education level is slightly higher 35% The chi-square statistical test was 4.205 with an associated p =0.24. Therefore, this was not considered significant because the p value is greater than 0.05.

4.2 Women's Level of Awareness

A woman's level of awareness was measured on four key parameters namely: whether respondent have ever heard about cervical cancer screening services, whether she knew when to go for the first cervical cancer screening test and whether she knew the role of a cervical cancer screening test and awareness on risk factors. These parameters were examined separately and then combined to show the overall level of awareness on cervical cancer screening services.

4.2.1. Existence of Cervical Cancer Screening Services

The respondents were asked they had ever heard about the existence of cervical cancer screening services and their responses are recorded in Table 4.3

Table 4.3 Knowledge on the existence of cervical cancer screening services

Those who had previously heard about cervical cancer screening services	Frequency	Percentage
Yes	206	68.1
No	81	31.9
Total	**287**	**100.0**

As shown in Table 4.6, majority 68.1% of the respondents had previously heard about cervical cancer screening serves

4.2.2 Importance of a Cervical Cancer Testing

The importance of cervical cancer screening is to detect changes on the cervical cells early and treat them before they develop to cancer. Respondents awareness on this fact was measured by requesting them to identify the importance of cervical cancer screening test from a list of given choices The responses are recorded in Table.4.4

Table 4.4 Responses on the importance of cervical cancer screening test

Responses on the role of cervical cancer screening test	Frequency	Percentage
To detect cancer	155	54.0
To detect and treat changes on the cervical cells before they become cancerous	53	18.5
To detect any problem in the uterus	13	4.5
To detect HIV and sexually transmitted diseases	4	1.4
Do not know	62	21.6
Total	**287**	**100.0**

24

As shown in Table 4.4 demonstrates low levels of awareness about the importance of a cervical cancer screening test among the study group. Only slightly less than 20% of the women had the knowledge that the cervical cancer screening test detects the precancerous lesions before they develop to cancer. Majority (83%) of the women either had misconceptions or they did not know the role of cervical cancer screening test.

4.2.3 When to go for cervical cancer screening test

Every woman should have a cervical cancer when she reaches 21 years of age and then every three years. Respondent's awareness about this fact was measured by requesting them to identify when to go for cervical cancer screening test from a list of given choices. The responses are given in Table 4.5

Table 4.5 Responses on when to go for a cervical cancer screening test

Responses on when to have cervical cancer screening test	Frequency	Percent
Initial test at 21 years then, every three years	139	48.4
When she is having a uterus related problem	22	7.7
If she has been bleeding irregularly	7	2.4
If she develops irregular unexplained vaginal bleeding	21	7.3
Any time	14	4.8
Do not know	84	29.3
Total	**287**	**100.0**

Table 4.5, shows that about half of the respondents (48.4%), knew when they were supposed to go for the cervical cancer screening test and the other half did not know

4.2.4 Risk factors for cervical cancer

Respondents were given a list of risk factors for cervical cancer and they were requested to mark the risk factors known to them. They were then put into three categories depending on the number of risk factors they were able to identify as shown in Table 4.6.

25

Table 4.6 Level of awareness on risk factors for cervical cancer

Respondents level of knowledge	Frequency	Percentage
Named 5-6 risk factors	48	16.7
Named 3-4 risk factors	93	32.4
Named 1-2 risk factors	146	50.9
Total	**287**	**100.0**

Table 4.6, demonstrates low levels of awareness on risk factors with about half (50.9%) of the respondents only able to identify 1-2 risk factors , and only a small proportion (16.7%)of the of the respondents able to identify 5-6 the risk factors for cervical cancer.

4.2.5 Respondents overall level of awareness

The respondent's overall level of awareness was obtained from scores aggregated from the four indicators described in Table 4.3 to Table 4.6. Respondents who had previously heard about cervical cancer screening services scored one point. For the correct answers on the role of cervical cancer screening test and when to go for a cervical cancer screening test, she scored one point for each. In addition, the respondent was assessed on the awareness of the risk factors for cervical cancer. If the respondent mentioned 5-6 risk factors she scored three points .If she mentioned 3-4 risk factors, she scored two points and if she mentions 1-2 risk factors she scored one point .The maximum possible scores was 6 points. The woman's level of awareness was considered to be very high if she scored 5 points and above, high when she scored 4 points, low if she scored 3 points and very low if she scored below 2 points.

Table 4.7 Distribution of Respondents by overall level of awareness on cervical cancer

Level of awareness	Frequency	Percentage
Very high	8	2.8
High	41	14.2
low	88	30.6
Very low	150	52.4
Total	**287**	**100.0**

26

As shown in Table 4.7, demonstrates that about 80% of the respondents had low levels of awareness on cervical cancer screening services and only a very small proportion of respondents (2.8 %) had very high level of awareness about cervical cancer screening services.

A cross tabulation was done for the woman's overall level of awareness and previous participation in cervical cancer testing and their responses presented in Table 4.8.

Table 4.8 Level of awareness compared to previous cervical cancer screening

Levels of awareness on cervical cancer screening services		Self report on previous cervical cancer testing				Value
		Yes		No		
		Frequency	%	Frequency	%	
	Very high	6	75	2	25	$\chi^2 = 9.684$
	High	25	60.9	16	39.1	df =2
	Low	34	38.6	54	61.4	P=0.001
	Very low	8	5.3	142	94.7	
Total		**71**		**216**		

Table 4.8 shows that there was a significant association between women's level of awareness and cervical cancer screening service utilization. Women with very high levels of awareness on cervical cancer screening services were better in utilization of cervical cancer screening services compared to women with low of awareness. A significant proportion of respondents (75%) with very high level of awareness had been screened for cervical cancer had whereas only very small proportion (5.3%) of respondents with very low levels of awareness had previously been screened for cervical cancer. The Pearson statistical test was 9.684 with an associated p-value of 0.001. This was considered statistically significant since the p-value was greater than0.05.

4.4 Family support and utilization of cervical cancer screening services

This section presents the findings on the influence of family support in utilization of cervical cancer screening services. The indicators considered includes; who makes decisions about cervical cancer screening service, support from the male partner and the kind of support given to the woman to enable her utilize preventive health services like cervical cancer screening services.

4.4.1 Decision making on utilization of cervical cancer screening services

Respondents were asked to indicate the person who is responsible for making decision in the family on issues relating to maternal health services like cervical cancer screening. Their responses are presented in Table 4.9

Table 4.9 Persons responsible for making decision on seeking preventive health services

Person responsible for decision making	Frequency	Percentages
Self	187	65.2
Male partner	24	8.4
Both self and male partner	59	20.6
Other persons	17	5.9
Total	**287**	**100**

Table 4.9 shows high levels of autonomy (65.2%) amongst the study group. Male partner involvement was also evident but at low levels with 29% respondents involving their male partners in decisions regarding preventive health services like cervical cancer screening services. To find out if there was a relationship between persons responsible for decision making and cervical cancer screening services, cross tabulation was done and the results presented in Table 4.10

28

Table 4.10 Persons responsible for making decisions on utilization health

Person responsible for making decision on utilization of cervical cancer screening services	Self report on previous cervical cancer screening			
	Yes		No	
	Frequency	%	Frequency	%
Self	50	26.6	138	73.4
Male partner	8	33.3	16	66.7
Both self and partner	12	20.3	47	79.7
Other persons	1	10	9	90
Total	**71**		**217**	**287**

Table 4.10 shows that a higher proportion of women is more likely to be screened for cervical cancer is where there is male involvement in decision making. The highest proportion (33.3%) of women who had previously been screened was recorded amongst the group of respondents where the male partner made decisions. Women autonomy was not a significant predictor for utilization of cervical cancer screening services since only 26.6% of women who made decision on their own had previously been screened for cervical cancer.

4.3.3 Support when seeking cervical cancer screening services

Respondents were requested to indicate the form of support they require to enable them seek preventive health services like cervical cancer and their responses were as presented in Table 4.11.

Table 4.11: Type of support given to women when seeking preventive health services like cervical cancer screening cervices

Form of Support given	Frequency	Percentage
Financial support	186	64.5%
Escorted to the health facility	29	10.1%
Encouraged to seek services	32	11.1%
No support required	41	14.2%
Total	**287**	**100**

Table 4.11 shows that majority(64.5%) of the women require financial when seeking preventive health care services such as cervical cancer screening services while only a small percentage of women are indicated that they require moral support such as being escorted to the clinic and being encouraged to seek services

4.4 Accessibility of cervical cancer screening services.

This presents findings on the accessibility of cervical cancer screening services at Central Provincial General Hospital. The indicators considered include; distance the woman travels from home to the health facility, perception about the cost and the amount of time the client waits at the clinic to receive the service.

4.4.1 Distance from the hospital

Respondents were requested to indicate the distance of their homes from Provincial General Hospital. The responses were as indicated in Table 4.12.

Table 4.12 Distance of respondents' residence from the hospital

Distance from health facility	Frequency	Percent
0-5 km	188	65.3
6-10km	91	31.6
>10 km	9	3.1
Total	**287**	**100.0**

30

Table 4.12 shows that majority(65.3%) of women accessing services from the MCH/FP clinic resided within a radius of 0-5km from the hospital, and only a small proportion(3.1%) hand travelled a distance of more than 10 km to the hospital.

When distance from the hospital was cross tabulated with previous utilization of cervical cancer screening services, the results was as shown in Table 4.13.

Table4.13: Distance from the Hospital and utilization of cervical cancer screening services

	Self report on previous cervical cancer testing				
	Yes		No		
Distance from the hospital	Frequency	%	Frequency	%	
0-5 KM	41	21.8	147	78.2	$\chi^2 = 2.68$ df =2 P=0.262
6-10 KM	28	30.8	63	69.2	
>10 KM	2	22.2	7	77.8	
Total	71		217		

As shown in Table 4.13. Distance from the health facility did not demonstrate any significant relationship with previous participation in of cervical cancer testing. Respondents residing within 0-5km and those who resided more than 10km had very minimal difference in the level of previous participation in cervical cancer testing (21.8% and 22.2% respectively). The chi-square statistical test was 2.68 with an associated p-value of 0.262 .This was not considered to be significant since the p-value is greater than 0.05.

4.4.2 Cost of the cervical cancer screening service.

The respondent were asked to rate the cost of cervical cancer screening services on a scale of: Very expensive, expensive and fair and the responses recorded in Table 4.14.

Table 4.14 Responses on cost of cervical cancer screening services

Rating of charges for screening	Frequency	Percentage
very expensive	11	3.8
Expensive	32	11.1
Fair	169	58.9
No response	75	26.1
Total	**287**	**100.0**

As shown in Table 4.14, majority of the respondents (58.9%) rated the charges of cervical cancer screening services as being fair, 14.9 % of the respondents rated the charges as expensive,, while 26.1% of the respondents did not respond to this question.

Table 4.15 Comparison between cost rating and utilization of cervical cancer screening

Distance from the hospital	Self report on previous cervical cancer testing				
	Yes		No		
	Frequency	%	Frequency	%	
Very expensive	5	45.5	6	54.5	$\chi^2 = 7.34$
Expensive	6	18.8	26	81.3	df =3
Fair	59	34.9	110	65.1	P=0.12
No response	1	1.3	75	98.3	
Total	71		216		287

Table 4.15 shows that cost was not a strong predictor of utilization of cervical cancer screening services. Of the 169 respondents who rated the charges as being fair, only 34.9% of them were screened for cervical cancer while 45.5% of the respondents who rated the charges as very

32

expensive were screened. The statistical test was 7.34 with an associated p value 0f 0.12 and this was not considered significant since p>0.05.

4.4.3 Waiting time at the clinic before receiving cervical cancer screening services

The respondents were requested to estimate time spent at the clinic waiting to receive preventive health services like cervical cancer.

Table 4.14 Responses on waiting time.

Waiting time before receiving preventive health services like cervical cancer testing	Frequency	Percentage
10-20 minutes	75	26.1
21-30 minutes	55	19.2
30 minutes-1hr	63	22.0
More than 1 hr	94	32.8
Total	**287**	**100.0**

As shown in Table 4.14, a significant proportion(32.2%) of the respondents identified prolonged waiting time of more than 1 hr while , 26.1% of the respondents is identified a waiting time of between 10- 20 minutes . When the reported waiting time was compared with previous cervical cancer testing, the results were as shown in Table 4.15.

Table 4.15: Comparison of waiting time and utilization of cervical cancer screening services .

Waiting time	Self report on previous cervical cancer testing				
	Yes		No		
	Frequency	%	Frequency	%	
10-20 minutes	35	46.7	40	53.3	$\chi^2 = 7.34$
21-30 minutes	18	32.7	37	63	df =3
31-60 minutes	9	17	54	83	P=0.027
1 hour	0	0	94	100	
Total	**71**		**217**		**287**

As shown in Table 4.15 a shorter waiting time was closely associated with higher utilization of cervical screening services. About half of the respondents who identified the waiting time to be 10-20 minutes utilized the cervical cancer screening services while those who identified a waiting time of 30 -60 minutes showed low (17%) utilization levels. Those who identified a waiting time of more than an hour never utilized cervical cancer screening services. The chi-square statistical test was 7.34 with an associated p value of 0.027. This was considered significant because it is less than 0.05

4.5 Utilization of cervical cancer screening services

This section presents information about utilization of cervical cancer screening services among women attending Maternal Child Health and family planning (MCH/FP) clinic at the Central Province General Hospital, Nyeri. Variables addressed included women's previously screened for cervical cancer, and those who have never had any cervical screening services .This section also presents reasons given by the respondents for seeking cervical cancer screening services.

4.5.2 Previous screening for cervical cancer

Respondent were asked if they had previously had a cervical cancer test and their responses presented in Table **4.16**

Table 4.16 Respondents self report about previous participation in cervical cancer testing

Ever been screened for cervical cancer	Frequency	Percent
yes	71	24.7
No	216	75.3
Total	**287**	**100.0**

Table 4.16 shows low uptake of cervical cancer screening test among the study group. Only 24.7% of the respondents had previously been screened for cervical cancer.

4.5.2 Cervical cancer screening within the last 3 years

The respondents who had previously tested for cervical cancer were asked if they did so within the last three years and their responses were as indicated in table 4.17.

Table 4.17 Responses on cervical cancer screening within the last 3 years

Screened within the last 3 years	Frequency	Percentage
yes	63	88.7%
No	8	11.3
Total	**71**	**100.0**

Of the 71 respondents that had ever screened for cervical cancer, (88.7%) actually did the screening within the past 3 years as shown in table 4.2.A small proportion (11.3%) of the respondents had qualified for a repeat cervical cancer test but had done so.

4.5.4 Reasons for doing the cervical cancer test

Respondents who had previously been tested for cervical cancer were asked why they had undertaken this initiative. Their responses were recorded in Table 4.18

Table 4.18 Reasons for doing the cervical cancer test

Reason for doing the cervical cancer test.	Frequency	Percentage
Needed to know am healthy	50	70.4
Had a problem with my womb	4	5.7
Was requested by a doctor	17	23.9
Total	**71**	**100**

Table 4.18 shows that, majority (70.4 %) of the women who had been done cervical cancer test did so to confirm their health status, while the others either had a problem with the uterus or they were advised by the doctor to do so.

4.6 Summary

This chapter has presented the analysis of data collected from the study and described the results of the study on utilization of cervical cancer screening services among women attending Maternal Child Health and Family Planning (MCH/FP) clinic at Central Provincial General Hospital Nyeri based on the objectives of the study. Descriptive statistics have been used to describe the variable and cross tabulation done to establish if there is a relationship between the variables and utilization of cervical cancer screen services. The findings are presented in the form of tables per these objectives.

CHAPTER FIVE

SUMMARY OF FINDINGS , DISCUSSIONS CONCLUSIONS AND RECOMMEDATIONS.

5.1 Introduction

This chapter provides the summary of the study findings and presents a discussion of the findings vis a vis available literature. It also presents conclusions and recommendations on how to improve utilization of cervical cancer screening services bases on the findings and also recommendations for further research..

5.2 Summary of findings

. This study shows that utilization of cervical cancer screening services was low, at 24.7 % and that majority of the respondents had undertaken the cervical cancer test within the last three years prior to the study. Despite high level of education and high level of autonomy among the study group, these variables had limited influence on utilization of cervical cancer screening services. The low level of awareness on cervical cancer screening services amongst the study group had a negative influence in utilization of cervical cancer screening services .Family support in terms of decision making and financial support had a positive influence in the uptake of cervical cancer screening test. In terms of accesibility, waiting time greatly influenced the uptake of the service whereby the utilization of the service was more when the waiting time is less .However, even though the respondents perceived the cost of this service as fair this had no significant influence on utilization of the service. The distance from the health facility also had limited influence on utilization of cervical cancer screening services.

5.3 Discussion.

5.3.1 Utilization of cervical cancer screening

This study showed that utilization of cervical cancer screening services was at 24.7 % in Central Province General, Nyeri. This rate is much higher than 2.6% recorded in the Provincial General Hospital report 2010 but is consistent with a study done at Moi Teaching and Referral Hospital which reported a utilization rate of 22.1% among women attending MCH/FP clinic (Were

Nyaberi &Buziba 2011). It is also consistent with other studies done in less developed countries like Uganda, Botswana and Malawi which reported a participation rate of 16% 23% and 23% among women attending Maternal Child Health and Family Planning Clinic (Ibweke 2009 Mutyaba et al 2006, Fort et al 2011).

5.3.2 Women education level and cervical cancer screening

The results from this study showed that there was no significance association between education level and utilization of cervical cancer screening service. The level of utilization of cervical cancer screening services among women who have no formal education, primary education and secondary education was almost equal, and a slightly higher among women with tertiary education level. This is in contrast with studies done in Botswana, India and South Africa (Sankaranarayanan et al 2003, Nene et al 2006, Bradley and Denny 2004.) which showed that higher educated women were more conscious than less educated women in utilizing preventive health services.

5.3.3 Awareness and utilization of cervical cancer screening

This study revealed low levels of awareness about cervical cancer screening and this negatively affected utilization of cervical cancer screening. About 80% of the women had low levels of awareness on issues relating to cervical cancer screening. The overall level of awareness had a significant relationship with previous utilization of cervical cancer screening. This is consistent with other studies done in Mexico, Uganda and Malawi that showed a strongly association between awareness levels on issues relating to cervical cancer and utilization of cervical cancer screening services, where by Women (Mutyaba et al 2009,Lazcano-Ponce et al 2002 Fort et al 2011 Hsia et al 2000, Chamberian1986).

This study also showed that only less a small proportion of the respondents knew that a cervical cancer screening test detects precancerous cells while most respondents (54%) thought that cervical cancer screening test detects cancer. This is consistent with studies done in Latin America, Malaysia, Trinidad, Jamaica and Malawi which revealed that the general population believed that cervical cancer screening tests is used to diagnose rather than prevent cervical cancer and that women fear being screened in case they are diagnosed with the deadly disease

38

(Agurto 2001, Fletcher 1999, Patricia Bessler et al 2007, Chingang et al 2005, Wong et al 2009, Victoria K Fort et al 2011).

In this study, some women who were categorize as having high levels of awareness had not actually been tested for cervical cancer. This is consistent with a study done in Nigeria where 28 % of health workers who had good knowledge on cervical cancer had never been tested for cervical cancer.

5.3.4 Family support and utilization of cervical cancer screening services

This showed that even though majority of the respondents had study had autonomy to make decisions about when to seek preventive health care services like cervical cancer this did not influence the uptake of the cervical cancer test. This contrasts with other studies done in India and Pakistan where women autonomy have been shown to improve uptake of reproductive health services(Nene etal 2006 ,Saleem & Bobak 2005).This low level of utilization among women who have autonomy in decision making may be linked to the fact that the study group had also demonstrated low levels of awareness. As such the women may have had the autonomy to make decisions but they did not have the correct information to base their decisions on.

Results also showed that men are rarely involved in decision making about cervical cancer screening .Only 8.4% of the male partners made decision for their women and another 20.3% made decisions jointly with their wives. All the same, where there was male partner involvement,(male partner made decisions and where women made decisions jointly with their male partners) a significant proportion of women had previously been screened for cervical cancer(33.3 and 20.3% respectively)

5.3.5 Accesibility of services and utilization of cervical cancer screening services
This study showed that distance from the health facility did not influence utilization of cervical cancer screening services with almost all the women utilizing cervical cancer screening at the same level irrespective of the distance from the health facility .This contrasts with studies done in like Mexico, South east Asia and Western Kenya, have reported that Long distances contributes to reduced likely hood of women's utilization of cervical cancer screening services(Barba,2004 ; PATH ,2002; Islam & Tahir,2002).

39

This study showed that there was no significant association between direct cost of the cervical cancer tests with utilization of the service with only about half of the women who rated the charges for cervical cancer having tested for cervical cancer. This contrasts with other studies, where cost of services was shown to impact on women's utilization of appropriate health care services (PATH 2002, Bingham et al, 2001). In this study, the length of waiting influenced utilization of preventive health services such as cervical cancer screening services. The longer the waiting time at the clinic, the less the chances of cervical cancer testing. These findings are consistent with findings from a qualitative study done in Malawi where by women quoted that they were willing to be screened but had not done so because of the long waiting at the clinic(Fort et al 2011) Women may not be willing to spend a lot of time queuing when they are not experiencing any health problems.

5.4 Conclusion

This study showed a cervical cancer utilization rate of 24.7 %. Even though the study group consisted of highly educated women, with high levels of autonomy, utilization of cervical cancer was low. This is probably because of the low levels of awareness on issues relating to cervical cancer screening. As such the women did not have the correct information to base their decisions on. At the same time there were some women with high levels of awareness but they had not previously been screened for cervical cancer. It is likely therefore, that awareness in combination with other factors will determine whether a woman goes for cervical cancer testing or not.

This study has also shown that women see cervical cancer screening as a curative measure rather than a preventive measure. It is therefore critical that health education programs explains to the women about precancerous lesions and invasive cancer and the treatment options for each of these clinical entities.

A bigger proportion of women were screened where there was male involvement. As such, male involvement is an integral step along the path to improve the cervical cancer screening practices especially where men have a dominant role over their wife's health seeking decisions.

Women are less likely to be screened for cervical cancer if waiting time at the clinic is long This may be due to the fact that they do not have any health problems. As such key interventions

aimed at reducing waiting time are important if ever utilization of cervical cancer screening is to be improved.

5.5 Recommendations

1. It is recommended that the Ministry of Health designs and implements information communication and education campaigns though media, women groups and chief's barazas on cervical cancer screening services .These campaigns should involve both men and women in communities.

2. It is recommended that doctors and nurses intensify health education on cervical cancer screening services for individual clients during clinical contacts.

3. The Provincial General Hospital should consider outreach awareness creation and screening camps in order to take the services closer to the communities instead of waiting for the women to come for the services at the hospital

4.. The Government of Kenya should consider employing more nurses and doctors to improve the staffing levels in the hospital so as to reduce waiting time by clients for preventive health services

5. The Central Provincial General Hospital should update the doctors and nurses on issues regarding the utilization and clinical results of cervical cancer screening services in order to improve service delivery.

5.6 Suggestions for further research

The following are the suggested areas for further research

1. A study to compare the uptake of cervical cancer screening s services among women in rural and urban settings.

2. A study to determine awareness on the availability of cervical cancer screening services within the community and the importance of utilizing the available services..

3. A study to determine the effectiveness of cervical cancer screening program in reduction of the incidence of cervical cancer in Kenya .

5.6 Summary

In this chapter a summary of the study findings have been presented. The findings have also been discussed and compared with other findings from the available literature. Conclusions from the findings have been presented and recommendations on how to improve utilization of cervical cancer screening services made bases on these findings. Finally recommendations for further research have been presented.

REFERENCES

Agurto, I. (2001): *Bridging distances: Preventive Services and Women's Concerns.* Program on Non-Communicable Diseases. Division of Disease Prevention and Control . *Pan American Health Organization Washington, DC.*

Agurto, I., Arrossi, S., White, S., Coffey, P., Dzuba, I., Bingham, A., Bradley ,J., Lewis, R.,(2005) .Involving the community in cervical cancer prevention programs. *International Journal of Gynecology and Obstetrics* 89, S38—S45 .

Alliance for Cervical Cancer Prevention (.2004) *Improving screening coverage rates of cervical cancer prevention Programs : A Focus on communities.* Seattle: ACCP;. Cervical Cancer Prevention Issues in Depth, No. 4.

Alix-Dancer P.(2003). Access to health qare in developing Countries : *Developing Countries, Society and Technology.* Stockholm: Royal Institute of Technology.

Al Riyami A, Afifi M, Mabry RM.(2004) Women's autonomy, education and employment in Oman and their influence on contraceptive use. *Reproductive Health Matters.* 12:144–54

Babar, T, S., Juanita H. , (2004).Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers. *Journal of Public Health* 27(1) ,49–54

Bingham, A., Bishop, A., Coffey, P., Winkler, J.,Bradley, J., Dzuba, I., Agurto, I.(2003). Factors affecting utilization of cervical cancer prevention services in low-resource settings. *Salud Publica Mexico* 45 (3), 408-S416.

Belinson, J,L., Pretorius, R,G., Zhang, W,H., Wu,L,Y., Qiao,Y,L. Elson,P.(2001).Cervical cancer screening by simple visual inspection after acetic acid . *Obstetrics and Gynecology* 98 (3), 441-4

REFERENCES

Agurto, I. (2001): *Bridging distances: Preventive Services and Women's Concerns.* Program on Non-Communicable Diseases. Division of Disease Prevention and Control . *Pan American Health Organization Washington, DC.*

Agurto, I., Arrossi, S., White, S., Coffey, P., Dzuba, I., Bingham, A., Bradley ,J., Lewis, R.,(2005) Involving the community in cervical cancer prevention programs. *International Journal of Gynecology and Obstetrics* 89, S38—S45 .

Alliance for Cervical Cancer Prevention (.2004) *Improving screening coverage rates of cervical cancer prevention Programs : A Focus on communities.* Seattle: ACCP;. Cervical Cancer Prevention Issues in Depth, No. 4.

Alix-Dancer P.(2003). Access to health care in developing Countries : *Developing Countries, Society and Technology.* Stockholm: Royal Institute of Technology

Al Riyami A, Afifi M, Mabry RM.(2004) Women's autonomy, education and employment in Oman and their influence on contraceptive use. *Reproductive Health Matters.* 12:144–54

Babar, T, S., Juanita H. , (2004).Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers. *Journal of Public Health* 27(1) ,49–54

Bingham, A., Bishop, A., Coffey, P., Winkler, J.,Bradley, J., Dzuba, I., Agurto, I.(2003). Factors affecting utilization of cervical cancer prevention services in low-resource settings. *Salud Publica Mexico* 45 (3), 408-S416.

Belinson, J,L., Pretorius, R,G., Zhang, W,H., Wu,L,Y., Qiao,Y,L. Elson,P.(2001).Cervical cancer screening by simple visual inspection after acetic acid . *Obstetrics and Gynecology* 98 (3), 441-4

Bessler,P., Maung, A., and Jolly,p., (2007). Factors Affecting Uptake of Cervical Cancer
Screening Among Clinic Attendees in Trelawny, *Jamaica Cancer Control* 14: 4.

Braaten A., and Laufer M.R.(2008) ; Human Papilloma Virus,HPV- related Disease and HPV
Vaccine.*Reviews in Obstetrics and Gynaecology* , 1(1):2-10

Bradley J, Risi L, Denny L.(2004), Widening the cervical cancer screening net in a South
African township: who are the underserved? *Health Care Women Int.* 2004;25:227–41

Buskens I, Bradley J.(2002) *Women's perspectives on cervical cancer prevention procedures*.
Engender Health. New York

Carey, P., Gjerdingen, D. (1993).Follow-up of abnormal Papanicolaou smears among women of
different races", *Journal of Family Practice.* 37(6): 583-587

Central Province Kenya (2010).Annual Reproductive Health report (2010)

Champbell ,J., Opie ,C. (2002) *Learning from Research .Getting more from your data.* Open
University Press Buckingham. Philadelphia.

Chamberlain J.(1986) Reasons that some screening programmes fail to control cervical cancer.
In: Hakama M, Miller AB, Day NE, eds. *Screening for cancer of the uterine
cervix.* Lyon: International Agency for Research on Cancer/International Union Against
Cancer; 1986. pp. 161-8.

Chingang, L,C., Bischof,U., Andall-Brereton, G., (2005) 'Have a Pap smear!': doctors, their
clients, and opportunistic cervical cancer screening. *International Journal of STD and
AIDS.*;16,233-236.

Cyril. E., Madubuko T, Ngozi R, Ezegwui HU (2009) Improved awareness of Pap smear may

not affect its use in Nigeria: a case study of female medical practitioners in Enugu, southeastern Nigeria. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 103:852–854

Denny l. and Sankaranarayanan R. (2006). Secondary prevention of cervical cancer: *International Journal of Gynecology and Obstetrics* (94)1, S65---S70

Fylan F.(1998). Screening for cervical cancer: a review of women's attitudes, knowledge, and behaviour.*British Journal of General Practice*8,48:1509–14

Ferlay, J., Bray,F., Pissani,P., Parkin, D., (2002). Cancer incidence, mortality and prevalence Worldwide,. Lyon, France IARC Press .

Frida, S., Lyimo, T., Beran,N., (2012). uptake of cervical cancer screening among women in a rural district of Tanzania:Three public policy implications *BMC Public Health* 2012, 12:22

Fletcher ,H.(1999). Screening for cervical cancer in Jamaica. *Caribbean Health.* 2:9-11

Fort,V.K., Makin,M.S., SieglerA.J., Ault, K., and Rochat,R. (2011) Barriers to cervical cancer screening in Mulanje, Malawi: a qualitative study . *East African Medical Journal* 10:62-65.

Garner EI (2003). Cervical cancer: Disparities in screening, treatment, and survival. *Cancer Epidemiol Biomarkers Prev.* 12,242-247.

Gillam,S,J., (1991). Understanding the uptake of cervical cancer screening : The contribution of the health belief model. *British Journal of General Practice 41:510-513.*

Hakama, M., Miller, A,B. (1986). *Screening for cancer of the uterine cervix* .: IARC Press Lyon, France; IARC Scientific Publication No. 76.

Hoque ,E., Hoque ,M., (2009) .Knowledge of and attitude towards cervical cancer among

female university students in South Africa. *South African Journal of Epidemiology and infections* 24(1):21-24

Hsia J, Kemper E, Kiefe C, Zapka J, Sofaer S, Pettinger M, (2000) The importance of health insurance as a determinant of cancer screening: evidence from the Women's Health Initiative. *Prev Med.* 31:261–70

Ibweke, C,M.(2009) Factors influencing cervical cancer screening uptake among women attending Mahalapye District Hospital in Botswana- use of the health brief model. *South African Journal of Epidemiology Infections* 26(2) 14-19

International Agency for Research on Cancer , (2005). *Cervix cancer screening. Handbooks of cancer prevention* . Lyon: IARC Press

International Agency for Research on Cancer (IARC) ,2004. *Cervix cancer screening.* IARC handbooks of cancer prevention,. Lyon, France7 IARC Press.

Islam A, Tahir MZ. Health sector reform in South Asia(2002) .New challenges and constraints. *Health Policy (*2002) 60: 151–169.

Janerich, D., Hadjimichael, O., Schwartz, E., Lowell, D., Meigs, J., Merino, M., Flannery, J., & Polednak, A., (1995), The screening histories of women with invasive cervical cancer, Connecticut," *American Journal of Public Health* 85(6):791–794

Kogan ,M.D. and Leary M.(1990) Chakrabotry(2002) *Factors associated with postpartum care among Massachusetts's users of the maternal and infant care program* .(F.P perspective
,   (23):128-131)

Kapiga, S,H., Msamanga,G,I., Spiegelman, D., Mwakyoma, H., Fawzi, W,W., Hunter, D;(1999).

Risk factors for squamous intraepithelial lesions among HIV-1 seropositive women in Dar es Salaam, Tanzania *International Journal of Gynaecolgyand Obstetrics* 67:87-94.

Kombo, K.,& Tromp, L. (2006). *Proposal and thesis writing an introduction. Pauline Publication Africa.*Nairobi:

Kothari,C,R.,(2004).*Research methodology methods and techniques.* New age International Ltd., Publishers. New Delhi India.

Lazcano-Ponce E,C, Castro R, Allen B (1999). Barriers to early detection of cervical-uterine cancer in Mexico. *Journal of Women's Health 8: 399–408.*

Lerman, C., Miller, S., Scarborough, R., Hanjani, P., Nolte, S., & Smith, D. (1991). Adverse psychologic consequences of positive cytologic cervical screening,*American Journal of Obstetrics and Gynecology,* 165 (5): 658-662.

Linder, J.R. and Wingenbach, G.J.(2002) *communicating the handling response error in research brief articles , Journal of extension* ,40(6):1-2

Lewis ,M.(2004) Situational analysis of cervical cancer in Latin America and the Caribbean. Washington, DC7 *Pan American*

Marcus, A., Crane, L., Kaplan, C., Reading, A., Savage, E., & Gunning, J. (1992), Improving adherence to screening follow-up among women with abnormal Pap smears: results from a large clinic-based trial of three intervention strategies.*Archives of Family Medicine,*(30) 6 :216-229.

laggwa, B.N, Hunter, D.J., Mbugua, S., Tukei, P., Mati, J, K. (1993): The relationship between HIV infection and cervical intraepithelial neoplasia among women attending two family planning clinics in Nairobi, Kenya. *AIDS* .7:733-738

McKee, D. (1995) Strategies to improve follow-up of abnormal Pap smears," *Archives of Family Medicine*, 32 (6) : 574-577.

Ministry of Public Health and Sanitation. *National Reproductive Health Policy.* (2007) . Division of reproductive Health .

Minoz .,Franceschi S.,Bosch c., Moreno V.,Herrero R., Smith J.S., Shah K.,Meijer C and Bosch x.(2002); Role *of parity and Human Papilloma Virus in cervical cancer* :The *IARC Multicentric Case –control Study* .Lancet 359,1093-1101.

Muga ,R,C.,& Mulenga ,F.,(2005 September 21-26). Acces to care .13th Intenational Conference on AIDs and STIs in Africa(ICASA) conducted atNairobi Kenya. Abstract book No. 382439:95

Mugenda, O.M.,and Mugenda, A.G. (2003). Research methods: Quantitative and Qualitative Approaches, Nairobi: Acts press

Mutyaba, T. Faxelid, E., Mirembe, F., and Weiderpass, E.(2007). Influences on uptake of reproductive health services in Nsangi community of Uganda and their implications for cervical cancer screening.

Mutyaba, T., Faxelid, E., Mirembe, F., and Weiderpass, E., (2006). Knowledge, attitudes and practices on cervical cancer screening among the medical workers of Mulago Hospital, Uganda. BMC Medical Education 6:13

National Institutes of Health(1996, April 1-3) Consensus development conference statement. Statement on cervical cancer, [Online]. Available text.nlm.nih.gov/nih.uploadadv3 statement/cervical/cervical .Accessed February 4 2012 .

Nasca, P., Ellish, N., Caputo, T., Saboda, K., & Metzger, B., (1991) . An epidemiologic study of Pap screening histories in women with invasive carcinomas of the uterine cervix . New York State. *Journal of Medicine*, 91 (4): 152–156.

48

Nene B, Jayant K, Arrossi S, Shastri S, BudukhA, Hingmire S.(2007). Determinants of women's participation in cervical cancer screening trial, Maharashtra, India . Bulletin of the World Health Organization ,85:264-272.

Nyeri Provincial General Hospital Kenya 2010 Reproductive Health report.

Ngwalle ,E.,W.,Mgaya, H.N.,Mpanju-shumbusho, W.,Chirenje Z.M.,Kirumbi, L.,Lebelle T.,Kaggwa,S.(2001). Situation analysis for diagnosis and treatment of cervical cancer in mainland Tanzania. *East African Medical Journal* 78 (20) .60-64

Orodho, A,J. and Kombo, D,K., (2002) *Research methods*. Kenyatta University, institute of open learning Nairobi.

PATH,(2002, May 21-June 1).Cervical cancer screening project in Busia.Roundtable discussion, 28th Annual Global Health Conference, Washington, DC, USA.

Rani, M.& Bonu, S. (2003). Rural Indian Women's Care Seeking Behavior and Choice of Provider for Gynecological Symptoms . *Jounal of Family Planning* 34: 173–185.

Saleem S, Bobak M.,(2005). Women's autonomy, education and contraception use in Pakistan a National study. *Reprod Health*,2:8.

Sankaranarayanan R, Rajkumar R, Arrossi S, Theresa R, Esmy PO, Mahe C, et al. Determinants of participation of women in a cervical cancer visual screening trial in rural south India. *Cancer Detect Prev.* 2003;27:457–65

Saslow,D., Boetes, C., & Burke,W., (2008).American Cancer Society: Guidelines for early detection of cancer .*Cancer Journal for Clinicians* 18 (7) .58-72.

Spencer, J., (2007). Deadly disease and epidemics. Cervical cancer: Infobase publishers Chelsea House ,New York

Stuart, G., McGregor, S., Duggan, M, & Nation, J. (1997). Review of the screening history of

Alberta women with invasive cervical cancer.*Canadian Medical Association Journal,* 157 (56) 513–519.

United Nations World Development Report(1995): *The World's Women: Trends and statistics.*, New York, [chapter 4: 89–103].

Were, E.O., Buziba ,N. G. (2001) . Presentation and health seeking behavior of patients with cervical cancer seen at Moi Teaching and Referral Hospital, Eldoret. *East African Medical Journal* 4:16-19

Were E., Nyaberi,Z., Buziba,N.,(2011).Perception of risk barriers to cervical cancer screening at Moi Teaching and referral Hospital(MTRH) Eldoret Kenya *African health Sciences* 11(1):58-64

Wesley, R., Sankaranarayanan, R., Mathew ,B., Chandralekha, B., Aysha- Beegum, A., Amma N.S.,(1997). Evaluation of visual inspection as a screening test for cervical cancer. *British Journal of Cancer* 75 (3):436-440.

Wong, L, P., Wong, Y. L., Low, W. Y., Khoo, E. M., Shuib. R. (2009): Knowledge and awareness of cervical cancer and screening among Malaysian women who have never had a Pap smear: a qualitative study. *Singapore Medical Journal* 50 (1) : 49

WHO/ICO (2010). Information Center on HPV and cervical cancer (HPV information center): Human papilloma Virus and related cancers in Kenya Summar. Report. Retrieved from http://www.who.int/hpvcenter/en (accessed on 24th February 2012)

WHO/ICO(2009) Information Centre on HPV and Cervical Cancer (HPV Information Centre).Human Papillomavirus and Related Cancers in Africa. Summary Report 2009. Retrieved from http:// www.who.int/hpvcentre . Accessed23 March 2010.

WHO (2002) Cervical Cancer Screening in Developing Countries: Report of a WHO consultation

APPENDIX 1`: Questionnaire

SECTION A

Identification

Name of interviewer-------------------------------- Interview code-----------------------------

Clients code number------------------------------Date of interview---------------------------

Please put a mark (x) in the box against your response and where applicable write the required responses in the spaces provided.

SECTION B: Education Data

1. Please indicate your age in the appropriate box

   ☐ Below 20 year   ☐ 21-30 years

   ☐ 41-50 years   ☐ Above 50 years

2. What level of Education Did you attain?
   ☐ None   ☐ Primary school

   ☐ Secondary school   ☐ Tertiary

SECTION C: Cervical Cancer and cervical cancer Screening services

3. Have you ever heard about cervical cancer screening services?
   ☐ Yes   ☐   No
4. What is the importance of a cervical cancer screening test?

   ☐ To detect cancer

   ☐ To detect changes on the cervical cells and treat them before they develop to cancer

   ☐ To detect any problem in the uterus

   ☐ To detect HIV and sexually transmitted diseases .

5. When should a woman go for the first cervical cancer screening test

    ☐ At 21 years of age and then three yearly

    ☐ When she is having a uterus related problem

    ☐ If she has been bleeding irregularly

    ☐ If she develops irregular unexplained vaginal bleeding

6. Which of the following are risk factors for cervical cancer.(Put an x for the correct answer(s)

Tobacco smoking	
Many deliveries	
Long-term use of hormonal contraceptives	
HIV infections	
Multiple sexual partners	
Sexually transmitted diseases	
Age above 50 years	

SECTION D: Participation in cervical cancer screening programs

7. Have you ever had a cervical cancer screening test?

    ☐ Yes   ☐   No

    If yes, continue with Q 11 &12, and if no jump to question13.

8. If yes to Q10, was the cervical cancer screening done within the past 3 years?

    ☐ Yes   ☐   No

9. Why did you seek this service
    ☐ Needed to know am healthy
    ☐ Had problems with my womb
    ☐Was requested by the doctor

Section E:Family support

10. In your family who makes decisions about seeking health services?

☐ Self

☐ Male Partner

☐ Self and Male partner

☐ Others specify --

11. What kind of support do you require when enable you seek preventive health services like cervical cancer screening?

☐ Financial support for seeking cervical cancer screening services

☐ Escorted to the health facility

☐ Encouraged to seek preventive services like cervical cancer screening

☐ No support is given

☐ Specify any other support--

ACCESSIBILITY

12. How far is your home place to this health facility?

☐ 0-5 Km   ☐ 5 Km and above

13. How do you rate the amount of money charged for cervical cancer test in this facility.

☐ Very expensive   ☐ Expensive   ☐ Fair

14. How much time do you wait at the hospital to receive cervical cancer screening services

☐ 10-20 minutes

☐ 21-30minutes

☐ 30 minutes -1hr

☐ More than 1hr

Thank you for your cooperation.

Appendix 2 Sampling Frame

Target population

Days	Daily attendance in the clinic	Weeks	Weekly attendance
1	46	1	230
2	46	2	230
3	46	3	230
4	46	4	230
5	46		
Total	**230**		**920**

Daily Samples

Days	Daily attendance	Sampling ratio	Sample size
1	46	30%	14
2	46	30%	14
3	46	30%	14
4	46	30%	14
5	40	30%	14
Total	**230**	**30%**	69

Table 3.3 Weekly attendances.

Weeks	Weekly attendance	Sampling ratio	Sample size
1	230	30%	69
2	230	30%	69
3	230	30%	69
4	230	30%	69
Total	**920**	**30%**	290

Sample size for the study =290

APPENDIX 2: INTRODUCTION LETTER

AGNES WANGECHI GICHOGO

P.O BOX 1010 NYERI

Cell Phone: 0722636490

THE MEDICAL SUPRINTENDENT

CENTRAL PROVINCIAL GENERAL HOSPITAL

P.O BOX 27- NYERI

Dear sir/Madam

REF: Permission to carry out an academic research in your institution

I am a student of University of Nairobi Pursuing a Masters degree in Project Planning and Management. I am conducting an academic research on the factors influencing utilization of cervical cancer .The purpose of this letter is to request to be allowed to conduct this research in your institution.

I wish to state that I will strictly adhere to the required code of conduct required with total respect to confidentiality. All records and information obtained will be handled with discreetly and professionally, will remain confidential unless otherwise through your consent and any other person involved.

I m looking forward to your kind and favorable consideration

Yours faithfully

AGNES WANGECHI GICHOGO

APENDIX 3: CONSENT FORM

Hello: My name is AGNES WANGECHI GICHOGO , I am a student of Nairobi University conducting a study on utilization of cervical cancer screening services, in order to improve the services clients receive at this facility. I would like to ask you some questions related to cervical cancer screening and your experience here today or in the past.

The decision to allow this interview or not is completely voluntary and will not in any way affect the services you will receive today or in the future visits .You may decline to answer any question or any part of the question if you are not comfortable with it. You may also stop the interview at any stage. I however encourage you to answer the questions as the information gathered will be useful in the improvement of cervical cancer screening services in this clinic.

The information you will provide will be confidential and will not be used for any other purpose other than this study. Further your identity will remain completely confidential.

Do you have any questions?

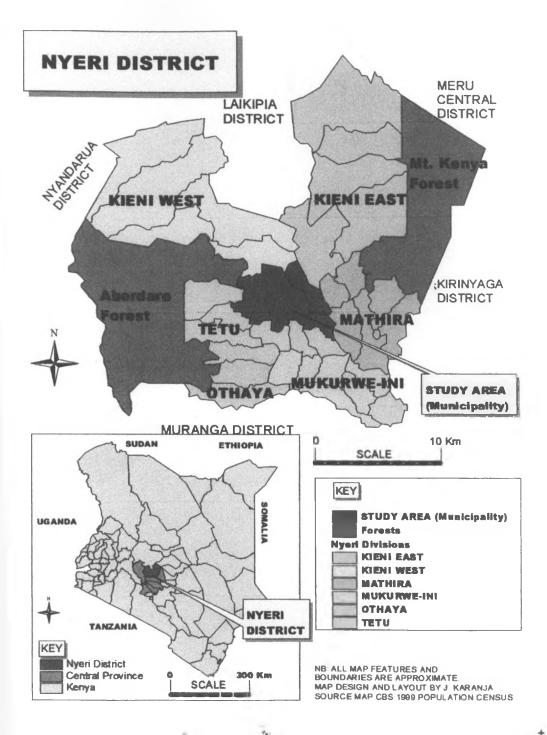Do I have your permission to continue with the interview?

-- Date -------------/------------/2012

Interviewer's signature

Record the time interview was started.

57

APPENDIX 6: Map of study area and map of Kenya