AWARENESS AND FACTORS INFLUENCING THE

UTILISATION OF CERVICAL CANCER SCREENING AMONG

WOMEN IN RUHANDAGAZI PARISH, BUSHENYI DISTRICT.

BY

TUMWINE MOREEN

BMS/0122/81/DU,

MBCHB (KIU-WC)

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

HUMAN MEDICINE AND SURGERY OF KIU-WESTERN

CAMPUS

DECEMBER, 2013

# Table of contents

# Table of Contents

**Declaration**

I Tumwine Moreen declare that thesis is my original work and has not been submitted for the award of a degree in any other university.

Signed:.................................................. Date:...........................................................

Tumwine Moreen

**Approval**

This is thesis FACTORS AFFECTING THE UPTAKE AND UTILISATION OF CERVICAL CANCER SCREENING SERVICES IN RUHANDAGAZI PARISH,BUSHENYI DISTRICT, was done under my supervision and has been submitted to the faculty Clinical Medicine and Dentistry-KIU WC for examination with my approval as supervisor.

 Signed: ................................................................ Date............................................

Dr.DAFIEWHARE EPHRAIM

**Dedication**

I dedicate this work to my future patients whom I look forward to serve with the knowledge

God has blessed me.

**Acknowledgement**

This study has been made possible by the following; honestly I cant take the completion of this work for granted.

Above all, the Lord God Almighty through His son Jesus the rock of my salvation; for I can do all through Christ who strengthens me.

Great thanks to my family: my parents Mr. And Mrs Kekurutso. My siblings, Aine Syson, Naijjuka Winnington, Barekye Denis, Jackie Kusiima Karugaba, Kekimuri Joseline,Ariho Rodgers, Moses, Agaba Caroline Bamukunda,Mark Rugaba, Phiona Karagara, Ainemugisha Doreen,Nuwajjuna Caroline and Nuwagaba Edward for the great love and care they have always rendered to me.

My appreciation also goes to my sponsor, Hajji Hassan Bassajjabalaba, the Chairman Board of Trustees –KIU for paying my tuition.

Also thanks to my supervisor Dr. Dafiewhare Ephraim for both the parental and professional guidance he gave unto to the success of this study.

Profound gratitude to my friends; Emanuel Maeda, Jessica Kabejja, Naizuli Ketty, Charity Masika, Billy Kurui, DanWambura, and Kwikiriza Immaculate for the great moments we have shared,hence keeping my mind alert for this study.

Also my thanks to St.Luke Anglican chapel-KIU, Papa Dan Muwanguzi and all the Ladies of Virtue –Upper hostel home cell fellowship for the spiritual support that has been vital in my walk with Christ.

Special thanks to Emanuel Maeda, Jesca Kebejja, Noel Linda and Khakasa Brenda; thank you so much for the great contribution to this study.

ABSTRACT

Background

Cancer of the cervix is the second most common cancer in women worldwide and is a leading cause of cancer-related death in women in underdeveloped countries. Worldwide, approximately 500,000 cases of cervical cancer are diagnosed each year with 80% occurring in developing countries.

**Objective**

To assess the awareness and factors influencing the utilisation of cervical cancer screening among women in Ruhandagazi parish, Bushenyi district.

**Methods**

A community based cross-sectional descriptive survey was conducted from November 25th - 29th 2013 in Ruhandagazi parish, Bushenyi district, Uganda. A total of 174 women aged 15-65 years were interviewed using closed ended questionnaires by the researcher. SPSS Windows version 16.0 was employed for data entry and analysis.

**Result**

Of all the respondents,  88% of them had heard about cervical cancer but less than 20% of them were knowledgeable about the disease and only 9.2 heard ever gone for cervical cancer screening services.

**Conclusion**

The comprehensive knowledge of women on cervical cancer was found to be poor. A reason as to why the utilisation of screening services is very low. Community health education about

the disease must include information on risk factors, sign and symptoms of cervical cancer. This will help women understand the severity of this cancer.

# LIST OF ABBREVIATIONS

SSA                    Sub-Saharan Africa

UBoS                   Uganda Bureau of Statistics

VCT                    Voluntary Counselling and Testing

HIV                    Human Immunodeficiency Virus

KIU-WC                 Kampala International University-Western Campus

AIDS                   Acquired Immune Deficiency Syndrome

WHO                    World Health Organization

MOH                    Ministry of Health

UNAIDS                 The Joint United Nations Programme on HIV/AIDS

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background

Cancer has not been considered a major health issue in developing countries until recently, according to a 2005 report by the World Health Organization (WHO) as an overwhelming number of infectious diseases and rampant sanitary problems were given higher priority. Unfortunately, cancer is now becoming more of a global health burden than ever before. *(December 20, 2007, By Aleea Farrakh, Posted in: International health | statistics)*

Cervical cancer is a public health challenge in both developed and developing countries. It is the most commonly diagnosed cancer among women in Sub-Saharan Africa (SSA) and Central America. Of 274,000 deaths due to cervical cancer each year, more than 80% occur in developing countries, and this proportion is expected to increase to 90% by 2020.

Every 10 minutes, a woman in Africa dies from cervical cancer. Each year, more than 60,000 women die in Africa. Compared to the United States, Africa has nine times the incidence of cervical cancer. In addition, each African case is twenty four times more deadly. (PNCC-Prevention International: No Cervical Cancer-2010)

 In East Africa, cervical cancer is the most common cancer affecting women with a prevalence that is almost double that of breast cancer. Less than 3% of women in East Africa have ever been screened for cervical cancer. The HIV/AIDS epidemic has made the challenge even worse, as cervical cancer develops more rapidly among people living with HIV/AIDs.

In Uganda and other Sub-Saharan African countries, Latin America and Southeast Asia, women continue to die from this preventable cancer. Over 500,000 new cases are diagnosed each year worldwide, with 80% occurring in developing countries. East, Central, and South Africa carry the highest age standardized death rates from cervical cancer. Zimbabwe and Uganda lead the region with the highest mortality. In 1997, 67/100,000 women died from cervical cancer in Zimbabwe and 40.8/100,000 women died in Uganda. (PINCC Prevention International: No Cervical Cancer, Africa, Uganda April 2010)

Cervical cancer occurs when the cells in the cervix grow and replicate in an abnormal and uncontrolled way. When this happens, the body cannot organize these cells for normal function and the cells form a mass that is called a tumor. Malignant tumor cells of the cervix can spread to other parts of the body to crowd and destroy normal cells.

Fortunately, we now have measures that offer unprecedented opportunities for preventing this deadly cancer that devastates families. Efficient low-cost screening techniques suitable for low-resource areas and efficacious vaccines for preventing the infections and pre-cancerous changes that can lead to cervical cancer are now available. (WHO 2009-2012).

### 1.2 Problem statement

By 2020, new cancer cases will double to 20 million per year. Already, over half of all new cancers arise among people living in the developing world. By 2020, the proportion will reach 70%. Cancer deaths are also estimated to increase from 6 million to 12 million annually. (Picture of cervical cancer-2005)

Cervical cancer is the commonest cancer and also the leading cause of cancer mortality among women in developing countries. According to WHO, in 2008, there were more than 530,000 new cases of cervical cancer worldwide and 275,000 deaths from cervical cancer. Over 90% of them were recorded in developing countries. In the WHO African region, 75,000 new cases were recorded in the same year and 50,000 women died of the disease.

About 60 to 75% of women who develop cervical cancer in SSA live in rural areas and mortality is very high. "Affecting relatively young women, cervical cancer is the largest single cause of years of life lost to cancer in the developing world. (Cervical cancer-a silent killer. A growing concern in Africa. http://www.consultancyafrica.com)

Cervical cancer is the most preventable cancer worldwide, and the number one cause of cancer death among women around the world, including Uganda. (Prevention International: No Cervical Cancer, 2010)

The incidence of cervical cancer and mortality rates have declined substantially in Western countries following the introduction of screening programmes. However screening programmes in Africa are often undeveloped or non-existent; hence affecting the survival rate of women. The survival rate for cervical cancer in SSA in 2002 was 21% compared with 70% and 66% in the United States and Western Europe respectively.

Despite cervical cancer being the leading cause of deaths among women from cancers in Uganda, there are very few stakeholders working on its prevention and control.

Cervical cancer remains a formidable challenge because it has still not evolved into a health systems project mode. "There is much more to do to strengthen health systems delivery of cancer care and community involvement" (Ramya Khan- CHENNAI, August 5, 2013)

Most Ugandans live in rural areas and females constitute a larger percentage of these rural dwellers. Currently, little is known about cervical cancer incidence in rural Uganda, to be able to develop an effective screening program in the country; hence it is essential to explore women's perception of the disease.

## 1.3 Purpose

Over the years, awareness and uptake of cervical cancer screening services has remained poor in developing countries. Challenges associated with cervical cancer incidence include ignorance, late reporting and cultural issues relating to cervical cancer screening. This study seeks to explore the awareness, perception and utilization of cervical cancer screening services among women in Ruhandagazi parish of Bushenyi District, Uganda as well as factors that influence utilization.

In particular, the study shall assess what the community knows about cervical cancer in terms of what it is, risk factors, clinical manifestations, what preventive measures are in practice and the utilization of cervical cancer screening services.

## 1.4 General objective

To assess the awareness of cervical cancer among women in Ruhandagazi cell of Bushenyi District Uganda and determine their uptake of cervical cancer screening services.

**1.5 Specific objectives**

1. To determine the level of awareness of cervical cancer among women living in Ruhandagazi from October-November 2013

2. To determine the level of awareness of cervical cancer risk factors among women in the study population

3. To determine the level of awareness of clinical manifestations of cervical cancer among women in the study population

4. To investigate the factors influencing the utilization of cervical screening services in the study population

5. To determine the number of those who have utilized cervical cancer screening services.

**1.6 Research questions**

If cervical cancer is preventable, why do many women still die from this disease?

**1.7 Significance of the study**

It is hoped that the study shall improve the awareness of cervical cancer and cancer screening services among the rural community women.

The study shall also help identify the gaps concerning the utilization of the screening services.

**1.8 Scope of the study**

This study shall be confined to the rural women of ages 15-65 years in Ruhandagazi Parish, Bushenyi.

## LITERATURE REVIEW

Cervical cancer is a disease that affects the cervix in the female reproductive system. The cervix is the lower portion of the uterus that connects the upper vagina to the uterus. It is about two inches long. During childbirth, the cervix dilates, allowing the baby to travel from the uterus to the vagina. (Lisa Fayed, former About.com Guide-Updated December 20, 2007)

Cervical cancer occurs when the cells in the cervix grow and replicate in an abnormal and uncontrolled way. When this happens, the body cannot organize these cells for normal function and the cells form a mass that is called a tumor. Malignant tumor cells in the cervix can spread to other parts of the body where they crowd and destroy normal cells. (WHO, regional office for Africa, 2009-2012)

Cervical cancer often develops very slowly over a period of years. Before the cancer actually manifests, there are early changes that occur in the cells of the cervix. While these abnormal cells (cervical intra-epithelial neoplasia or CIN) are not cancerous, and many women with these cells do not develop cancer, they may progress to become cancerous. These cells are sometimes referred to as precancerous, meaning that they have the potential to develop into cancer if not treated.

CIN usually results from a viral infection by the human papillomavirus (HPV). HPV is a common virus that is sexually transmitted. While there are many types of HPVs, only a few have been linked to the development of cervical cancer. Even when women are infected with HPV,

their immune system generally eliminates it. For women whose immune system does not eliminate the virus, HPV may in time develop into cervical cancer.

There are three ways that cancer spreads in the body and these are:

1. Through tissue (local spread). Cancer cells invade the surrounding normal tissues.

2. Through the lymphatic system. Cancer cells invade the lymphatic system and travel through the lymph vessels to other places in the body.

3. Through the blood. Cancer cells invade the veins and capillaries and travel through the blood to other places in the body.

When cancer cells break away from the primary (original) tumor and travel through the lymph or blood to other places in the body, another (secondary) tumor may form. This process is called distant metastasis. The secondary (metastatic) tumor is the same type of cancer as the primary tumor. For example, if cervical cancer spreads to the bones, the cancer cells in the bones are actually cervical cancer cells. The disease is metastatic cervical cancer, not bone cancer.

**Epidemiology**

In SSA, cervical cancer affects mostly women in the 20-40 year age group. It accounts for 22.2% of all cancers in women and it is also the most common cause of cancer death among women. (Cervical cancer-a silent killer. A growing concern in Africa)

The developing countries are responsible for 80% of the 500,000 new cases of cancer of the cervix diagnosed annually worldwide, and account for 85% of the 250,000 deaths recorded yearly from the disease. Cervical cancer is the predominant cause of cancer-related deaths among

women of sub-Saharan Africa. (Justus N Eze, Odidika U Umeora, Johnson A Obuna Vincent E Egwuatu Brown N Ejikeme.Annals of African Medicine, volume 11,Issue4,2012 Page : 238-243)

**Risk factors;**

One of the main risks for developing cervical cancer is being infected with the human papillomavirus (HPV). HPV is a common virus that is transmitted through sexual contact. Other cervical cancer risk factors include having sex at an early age, smoking cigarettes, having multiple sexual partners, and having a weakened immune system. In summary risk factors are;

1.  Frequency peaks between 45 and 60 years of age.

2.  Increased incidence is related to:

    i.   First intercourse at a young age

    ii.  Multiple sexual partners

    iii. Cigarette smoking. By-products of cigarette smoke are concentrated in cervical mucus and have been associated with a depletion of the cells of Langerhans, which are macrophages that assist in cell-mediated immunity.

    iv.  High-risk sexual partners (e.g. those whose previous sexual partners developed precancerous or cancerous conditions of the cervix or penis)

    v.   Immunosuppression (e.g. from HIV infection or medications to maintain immunosuppression for organ transplantation)

    vi.  Oral contraceptives

    vii. Positive family history

    viii. Low socio economic status

   ix.  Diethylstilbestrol (DES)

  3. Infectious associations

 i. Human papillomavirus infection (HPV) – Primary factor

   o HPV 16, HPV 18, HPV 31, HPV 33, HPV 45

   o 50% are caused by HPV 16 AND  18

 ii. HIV infection

 iii. Chlamydia infection

 iv. Herpes simplex virus-2 (HSV-2). HSV-2 DNA and messenger RNA sequences have been found in cervical cancer cells and may increase the likelihood of HPV infection.

Risk factors only increase the likelihood of developing cervical cancer; they do not necessarily cause cancer.

**Signs and symptoms:**

In the early stages of cervical cancer, there are usually no symptoms. Cervical cancer symptoms begin to appear as the disease advances, invading deeper into the cervix and surrounding tissues. As the disease progresses, women may experience Abnormal vaginal bleeding, including post-menopausal bleeding. This is the most common symptom of invasive cancer and may take the form of a blood-stained leucorrhea discharge, scanty spotting, or frank bleeding. Leucorrhea, usually sanguineous, purulent and non-pruritic is frequently present. A history of post-coital bleeding may be elicited on specific questioning.

Pelvic pain, often unilateral and radiating to the hip or thigh, is a manifestation of advanced disease.

Other manifestations include involuntary loss of urine or feces through the vagina which occur when there is fistula formation. Weakness, weight loss, and anemia are characteristic of the late stages of the disease, although acute blood loss and anemia may occur in an ulcerating stage I lesion.

Physical examination findings include:

A grossly normal-appearing cervix with preclinical disease. As the disease progresses locally, physical signs appear.

Infiltrative cancer produces enlargement, irregularity, and a firm consistency of the cervix and eventually of the adjacent parametria. The growth pattern can be endophytic, leading to a barrel-shaped enlargement of the cervix, or exophytic, where the lesion generally appears as a friable, bleeding, cauliflower like lesion.

Ulceration may be the primary manifestation of invasive carcinoma. In the early stages, the change is often superficial, so that it may resemble an ectropion or chronic cervicitis. With further progression of the disease, the ulcer becomes deeper and necrotic, with indurated edges and a friable bleeding surface. Next, the adjacent vaginal fornices may become involved. Eventually, extensive parametrial involvement by the infiltrative process may produce a nodular thickening of the uterosacral and cardinal ligaments with resultant loss of mobility and fixation of the cervix.

**Staging system for cervical cancer**

Stage 1: carcinoma is confined to cervix

   i.    Stage 1A: microscopic tumors less 5mm deep or less 7mm wide

  ii.    Stage 1A1: invasion 3mm in depth and 7mm in width

iii.    Satge1A2: invasion >3mm and <5mm in depth, and more than 7mm in width

iv.    Stage 1B: all other cases of stage 1

Stage II: carcinoma extends beyond cervix but not onto pelvic side wall. Cancer extends into vagina but not lower third.

Stage IIA: no obvious parametrial involvement

Stage IIB: obvious parametrial involvement

Stage III: Carcinoma extends to pelvic sidewall. On rectal examination, there is no cancer-free space between tumour and pelvic sidewall. Tumour extends to lower third of vagina. All cases of hydronephrosis and non functioning kidney should be included in stage III diagnoses unless another cause for these conditions can be found.

Stage IIIA: tumor extends to lower third of vagina, with no extension to pelvic sidewall

Stage IIIB: extension onto pelvic sidewall, hydronephrosis or nonfunctioning kidney.

Stage IV: carcinoma extends beyond true pelvis or clinically involves mucosa of bladder or rectum

Stage IVA: spread to mucosa of bladder or rectum

Stage IVB: spread beyond true pelvis

**Screening for cervical cancer**

Why screen?

1. Invasive cervical cancer is preceded by dysplastic changes in the cervical epithelium

2. These changes appear at the squamo-columnar junction (the Transformation Zone)

3. There is a long interval between development of initial cellular changes and malignancy

4. Screening enables detection of dysplasia before development of malignancy

Basis for screening;

I. Pre-invasive and early invasive cervical cancer can be detected by exfoliative cytology before onset of clinical diagnosis

II. Pre-invasive and early invasive stages may be asymptomatic

III. Abnormality should always be confirmed by histology

Pathological basis for screening:

Dysplastic cells manifest abnormalities

1. Nuclei    - large or multiple nuclei, hyper chromatic nuclei, irregular shape or chromatic pattern, abnormal mitotic figures

2. Cytoplasm    - vacuolations

3. Membranes    - indistinct boundaries (loss of cellular architecture )

Techniques for screening:

a) Unaided Visual inspection (UVI)

b) UVI using acetic acid

c) Pap smear

d) Colposcopy

**Unaided visual inspection:**

a) Utilizes presence of gross changes in epithelium which are indicative of neoplastic changes. Areas of abnormal cervical epithelium may be hyperemic or discolored on speculum exam.

b) The test may be enhanced by Schiller's reagent which utilizes the inability of abnormal epithelium to stain dark brown with Lugol's iodine

**UVI using acetic acid**

a) Acetic acid is painted on the cervical surface

b) Areas with dysplasia appear *aceto-white (*due to condensing of chromatin)

UVI with or without acetic acid does not differentiate between dysplasia and scar tissue

All abnormal areas require biopsy and histological assessment.

**Papanicolau smear**

a) Dysplastic cells are exfoliated from abnormal epithelium more easily than from normal epithelium

b) Should be done for every sexually active woman, the first 2 smears done within one year.

c) Thereafter every 3-5 years depending on risk

d) To collect specimen, cyto-brush, glass micropipette or Ayre's spatula are used, then spread onto glass slide. Drying must be avoided.

e) Specimen is fixed by 95% ethanol and diethyl ether onto a microscopic slide

f) Staining is done using H&E Stains (Hematoxylin and Eosin)

**Colposcopy**

a) Presents a magnified view of the cervical epithelium using a low power microscope

b) Enables biopsy the suspicious areas

c) Abnormalities include such vascular changes:

-mosaic pattern of blood vessels

- corkscrew appearance

-Intraepithelial capillaries with a punctuate pattern

When should screening be done?

1) Screening Guidelines for the Early Detection of Cervical Cancer, American Cancer Society 2003;
2) Screening should begin approximately three years after a woman begins having vaginal intercourse, but no later than 21 years of age.
3) Screening should be done every year with regular Pap tests or every two years using liquid-based tests.
4) At or after age 30, women who have had three normal test results in a row may get screened every 2-3 years. However, doctors may suggest a woman get screened more if she has certain risk factors, such as HIV infection or a weakened immune system.
5) Women 70 and older who have had three or more consecutive Pap tests in the last ten years may choose to stop cervical cancer screening.
6) Screening after a total hysterectomy (with removal of the cervix) is not necessary unless the surgery was done as a treatment for cervical cancer.

(American cancer society, cancer facts and figures 2004, Atlanta 2005)

New data published since the Society, ACOG (American College of Obstetricians and Gynecologists), and the US Preventive Services Task Force last updated their cervical cancer screening recommendations in 2002 and 2003 shows that not only is cervical cancer extremely rare in women younger than age 21 (1 case per million), but screening adolescents has not been successful in preventing these rare cancers," (Saslow). "Further, as the Society discussed in the

publication of its cervical cancer screening guidelines in 2002, there are known harms associated with screening adolescents, and overtreatment is common.

A successful screening programme prevents thousands of deaths every year. The British system is a good example of a successful screening programme, preventing around 4,500 deaths each year in the United Kingdom.

However, in many poorer countries, screening is less consistent and most developing countries have been unable to implement comprehensive and decentralized Pap smear screening programmes. In developing countries where Pap smear screening is available, it is often only accessible to a small proportion of women. This is generally through private health care providers, residing in the cities where the country's main hospitals are located or it is offered primarily to young women through maternal or child health clinics or family planning clinics where the population being screened generally may not be at high risk. A key challenge then is encouraging women at highest risk of treatable precancerous lesions - often women in their 30s and 40s - to seek preventative services.

Most women find Pap smear tests to be embarrassing or traumatic, and this may explain why screening fails to reach everyone at risk. Hence it is essential to ensure high quality care at screening sites where women should be treated with respect. Programme experience from many developing countries has demonstrated that women will not attend preventive care services if they believe they will be treated poorly and not respected. (Cervical Cancer – the silent killer: A growing concern in Africa, Consultancy Africa Intelligence, 14 Jun 2012)

**Prevention of cervical cancer;**

1) Educate all providers, men and women regarding HPV and the link to cervical cancer.

2) Adolescents are an especially high-risk group due to behavior and cervical biology.

3) Delay onset of sexual intercourse.

4) Condoms may help prevent sexually transmitted disease.

**Conclusion**

It is evident that cervical cancer is a preventable and curable disease. Thousands of deaths from cervical cancer can be prevented by large-scale vaccination, early detection through screening and appropriate definitive treatment based on the stage of diagnosis. The control and prevention of cervical cancer is particularly urgent in Sub-Saharan Africa, where morbidity and mortality rates are unacceptably high. Increasing cervical cancer awareness, advocating for affordable HPV vaccines among all rural and urban women, and the allocation of financial and human resources to the health sector in rural and urban areas can help to improve the prevention, treatment and control of cervical cancer

# CHAPTER THREE

## METHODOLOGY

### 3.0 Study design

This was a descriptive cross-sectional study where questionnaires were used for collecting data from respondents.

### 3.1 Study area

The study was conducted in Ruhandagazi Parish which is located in Busheny-Ishaka municipality, Bushenyi district. This district is located in Western Uganda and it is named after its main town (Bushenyi) which is the district's headquarter.

Prior to 2010, Bushenyi District was one of the most western of Uganda's districts, by location. It covered an area of approximately 4,292.5 square kilometres (1,657.3 sq. mi), of which 8.6% was covered by water, 2.2% was wetland and 18.3% was protected national forest reserve. On 1st July 2010, the old Bushenyi District was split into the following districts by Act of Parliament:

1) Buhweju District

2) Bushenyi District - New and smaller

3) Mitooma District

4) Rubirizi District

5) Sheema District

The new Bushenyi District is bordered by Rubirizi District to the northwest, Buhweju District to the northeast, Sheema District to the east, Mitooma District to the south and Rukungiri District to

the west. The largest town in the district, Ishaka, is about 60Km from Mbarara, by road, northwest of Mbarara (the largest city in the region). The coordinates of the district are: 00 32S, 30 11E.

The district is part of the larger Ankole sub-region, consisting of nine districts, and home to an estimated 2.2 million Banyankole (2002 National census).The population of Ishaka-Bushenyi municipality is estimated to be 73,380 (CIS-2009). However, since the splitting, there has been no census conducted to estimate the population of the smaller Bushenyi.

The 2002 national census estimated the population of Bushenyi Town to be 22,422. In 2008, the Uganda Bureau of Statistics (UBoS) estimated the town's population to be 25,200. In 2011, UBoS estimated the mid-year population of Bushenyi to be 26,800

The district has one county (Igara), 9 sub-counties, 1 municipal council, 43 town boards, 3 wards, 64 parishes and 565 villages.

## 3.2 Study population

The target population was women aged 15-65 years only and a sample of 180 women was used.

## 3.4 Sample size determination

The sample size (n) was calculated using the Kish and Leslies, 1960 formula below:

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

Where d = margin of error of setting a significance level of 0.05 (i.e. 5%)

Z = Level of significance (1.96) for confidence interval of 95%

P = Incidence of knowledge about cervical cancer. In a study done in Kenya, only 12% of the women had a conclusive knowledge about cervical cancer. (Annals of Tropical medicine and public health, 2012)

Therefore P =0.12

n = sample size

Hence; n= $(1.96)^2$ 0.12 (1-0.120÷ $(0.05)^2$

n=162

## 3.5 Sampling technique

Participants for this study were selected through simple random sampling technique. This refers to the selection of a sample without bias from the target/accessible population. It is mainly used to select a random representative or sample. It gives every female member of the target population aged between15 and 65 years an equal and independent chance of being included in the sample.

## 3.6 Study variables

The dependant variable of the study was cervical cancer screening service uptake. Independent variables included socio-demographic variables (age, education level attained and marital status), cervical cancer risk perception, and attitude towards cervical cancer and screening services.

## 3.7 Data collection:

Pre-tested questionnaires were used for data collection. The questionnaires were administered to the selected participants by the Researcher.

## 3.8 Data quality assurance:

The questionnaires were pre-tested among a small sample of the target population. Thereafter any challenge detected was corrected before commencing data collection with the updated questionnaire. Respondents were closely guided during data collection.

**3.9 Data analysis**

The data obtained was inputted into the computer manually and analyzed using EPIDATA and SPSS.

**3.10 Limitations.**

There were no major hindrances apart from the weather (rainy season), which led to a delay in data collection.

**4.1 Ethical considerations**

Permission for this study was obtained from the office of the Dean of Clinical Medicine and Dentistry.

Informed consent: Respondents were briefed about the study and allowed to decide whether or not they would participate. Those who agreed to participate signed a written informed consent.

Researcher's responsibility: The researcher was sensitive to human dignity and ensured confidentiality at all times.

# CHAPTER FOUR

# DATA ANALYSIS, INTERPRETATION AND PRESENTATION

## 4.0 Introduction

The results obtained are presented below in words, figures and tables. This study investigated the awareness and factors affecting the uptake of cervical cancer screening services in Ruhandagazi Parish. This was in the light of cervical cancer being the commonest cancer and also the leading cause of cancer mortality among women in developing countries. The data collected was analysed using SPSS.

180 questionnaires were administered, out of which a total of 174 correctly filled by respondents.

*SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION*

**Statistics**

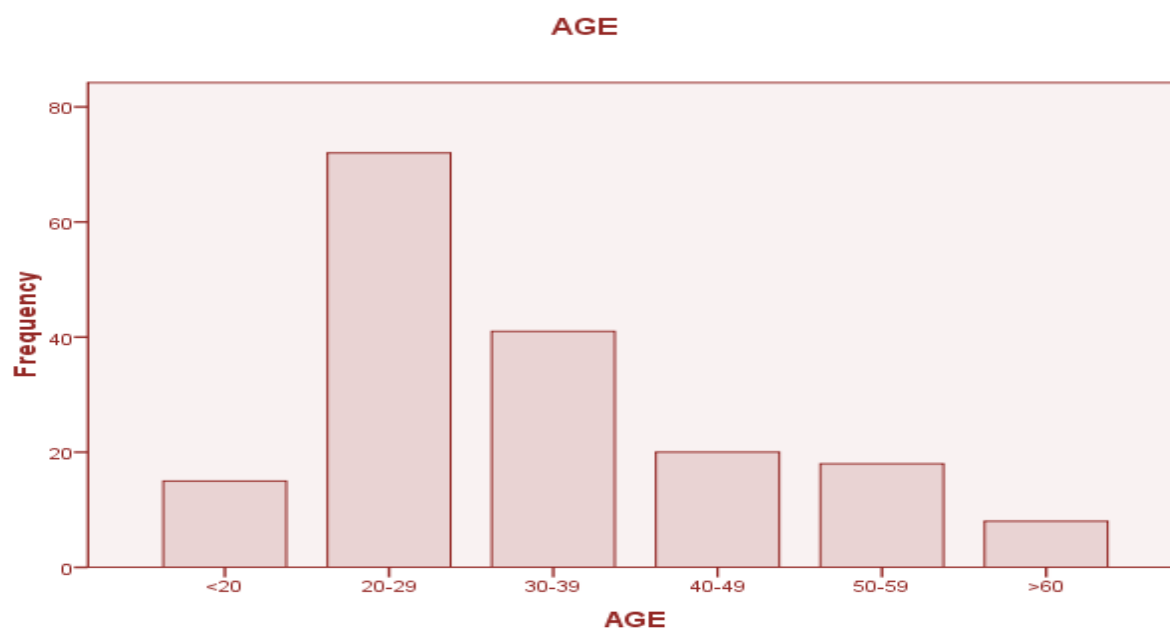|  |  | AGE | MARITAL STATUS | CONDOM USE | EDUCATION LEVEL | SEXUAL CONTACT | NUMBER OF PARTNERS |
|---|---|---|---|---|---|---|---|
| N | Valid | 174 | 174 | 172 | 173 | 169 | 159 |
|  | Missing | 0 | 0 | 2 | 1 | 5 | 15 |

Figure 1: histogram showing age distribution of respondents.

Of the 174 participants, the majority 41.4% were aged 20-29 years of age.

| Status | Married | Single | Divorced | Widowed | Other (dating) | Total |
|---|---|---|---|---|---|---|
| Frequency | 130 | 16 | 8 | 16 | 4 | 174 |
| Percent | 74.7 | 9.2 | 4.6 | 9.2 | 2.4 | 100 |

Table 1: showing the marital status of the respondents.

The greatest percentage 74.7% of the study population was married.

| Level | None | Primary | Secondary | Tertiary | Total | Missing |
|---|---|---|---|---|---|---|
| Frequency | 26 | 76 | 51 | 20 | 173 | 1 |
| Percent | 14.9 | 43.7 | 29.3 | 11.5 | 99.4 | 0.6 |

Table 2: showing the education level of the respondents.

The greatest number (43.7%) of respondents had attained education up to primary school followed by secondary school (29.3%).

Risk factors for cervical cancer that were assessed using condom use, age of first sexual contact, number of sexual partners since birth and relative who had ever suffered from cervical cancer.

**Condom use**

|         | always | sometimes | never | missing | total |
|---------|--------|-----------|-------|---------|-------|
| freq.   | 5      | 27        | 140   | 2       | 174   |
| percent | 2.9    | 15        | 80    | 1.1     | 100   |

Table 3: showing the respondents who were using condoms.

**first sexual contact**

| age     | <15  | 15-20 | 21-25 | 26-30 | >35 | never had sex | Total |
|---------|------|-------|-------|-------|-----|---------------|-------|
| Freq    | 9    | 120   | 25    | 5     | 3   | 7             | 169   |
| %       | 5.3  | 71.0  | 14.8  | 3.0   | 1.8 | 4.1           | 100   |
| missing |      |       |       |       |     |               | 6     |

Table 4: showing the respondents' age of first sexual contact.

**Number of partners**

| No.  | 1    | 2 | 3    | 4    | 5   | 6   | >6  |     |
|------|------|---|------|------|-----|-----|-----|-----|
| Freq | 119  | 7 | 25   | 4    | 2   | 1   | 1   | 159 |
| %    | 68.4 | 4 | 14.4 | 2.3. | 1.1 | 0.6 | 0.6 | 100 |

Table 5: showing the respondents' number of sexual partners since coitache.

**Relative victim of cervical cancer;**

16.7% had had relatives who have ever suffered from cervical cancer.

4.1 The first objective of this study was to know the level of awareness of the existence of cervical cancer. To achieve this objective the women were asked whether they have ever heard of cervical cancer.
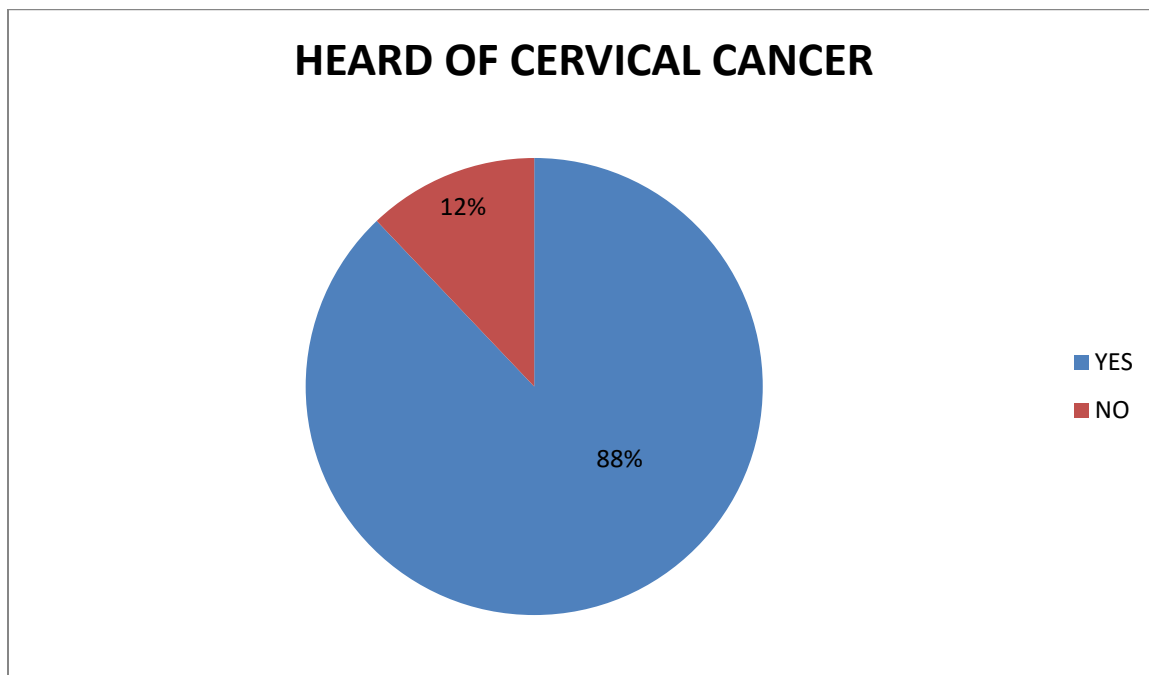


Figure 2: showing the % of respondents who had heard about cervical cancer before.

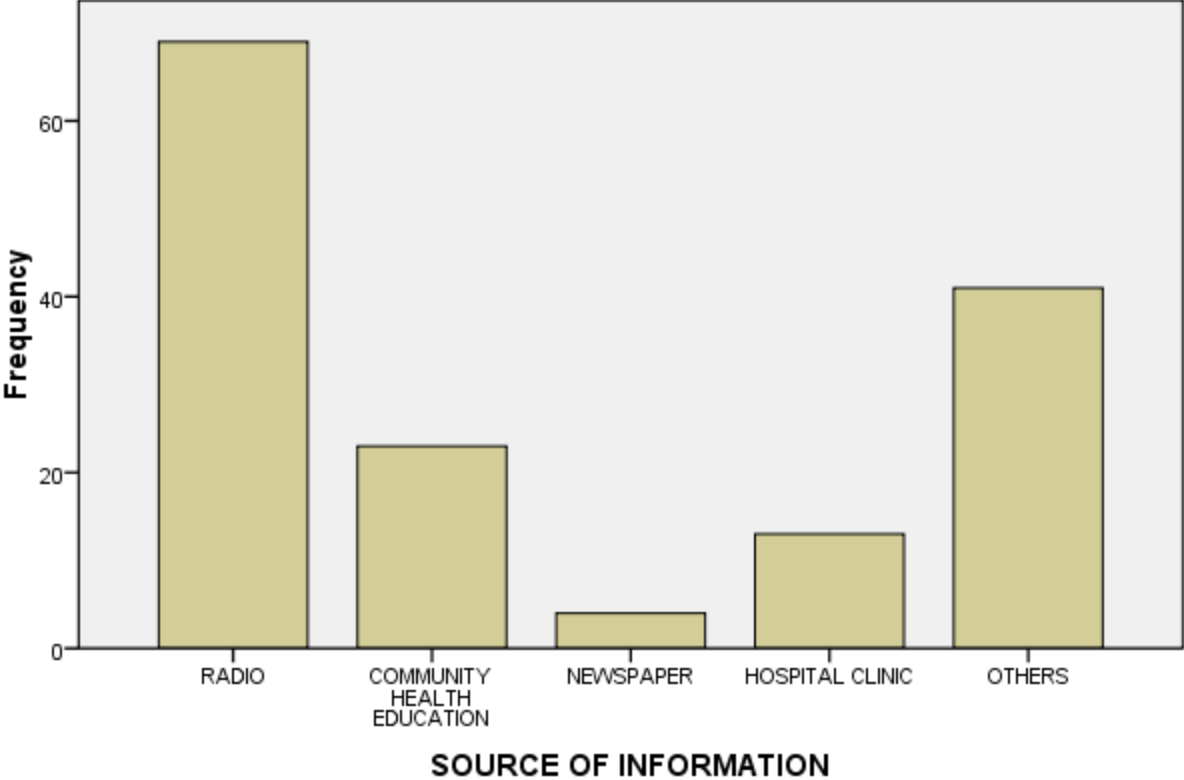## SOURCE OF INFORMATION



**SOURCE OF INFORMATION**

Figure 3: showing the distribution of the respondents' source of information about cervical cancer.

The majority (88%) had ever heard of cervical cancer and the main source of information was radio (46%)

4.2 The second objective of this study was to determine the level of awareness of cervical cancer risk factors among women in the study population;
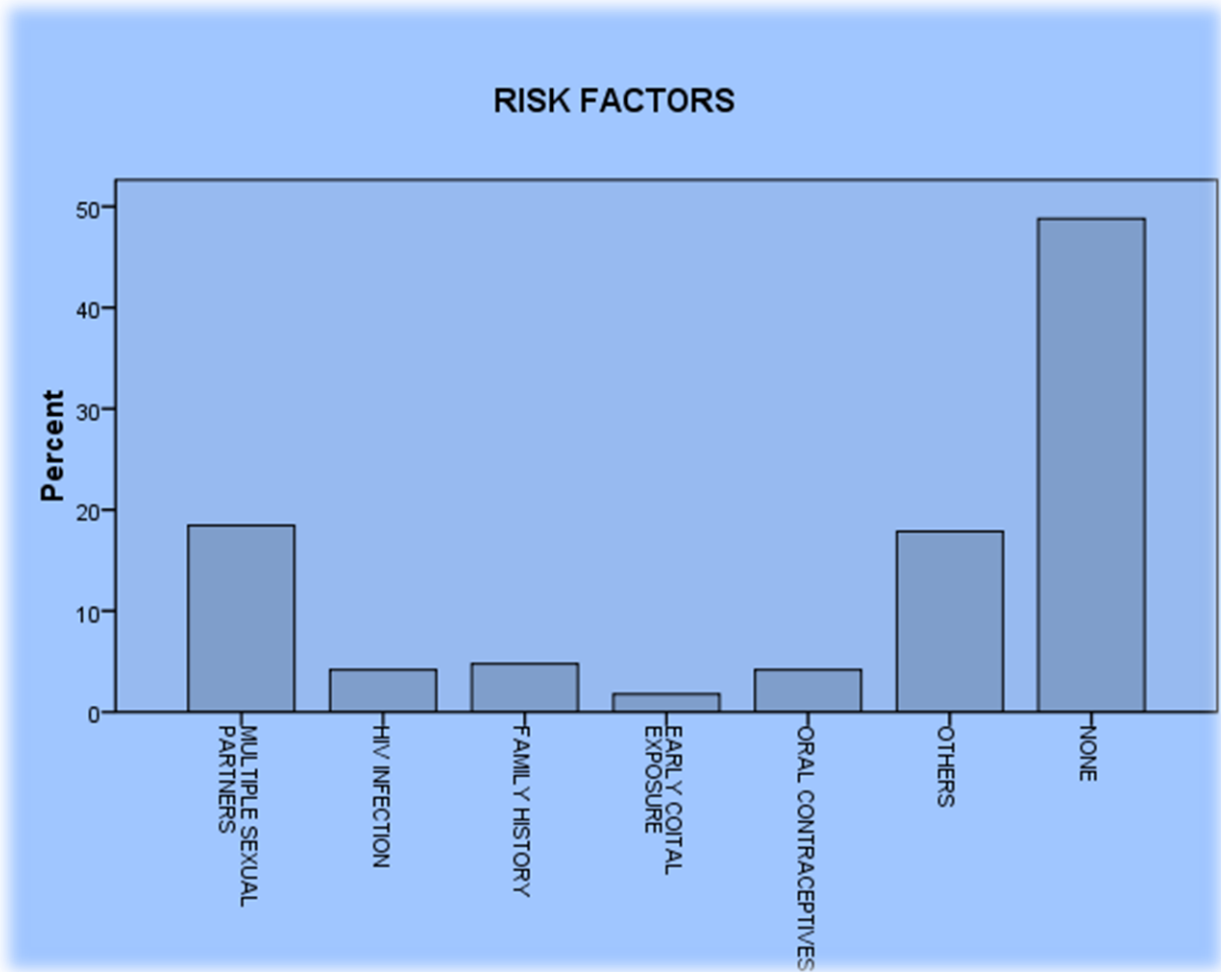
Figure 4: showing the distribution of respondents who knew the risk factors of cervical cancer.

The greatest percentage 48.8% could not elicit the risk factors of cervical cancer.

4.3 The third objective was to determine the level of awareness of clinical manifestations of cervical cancer among women in the study population;
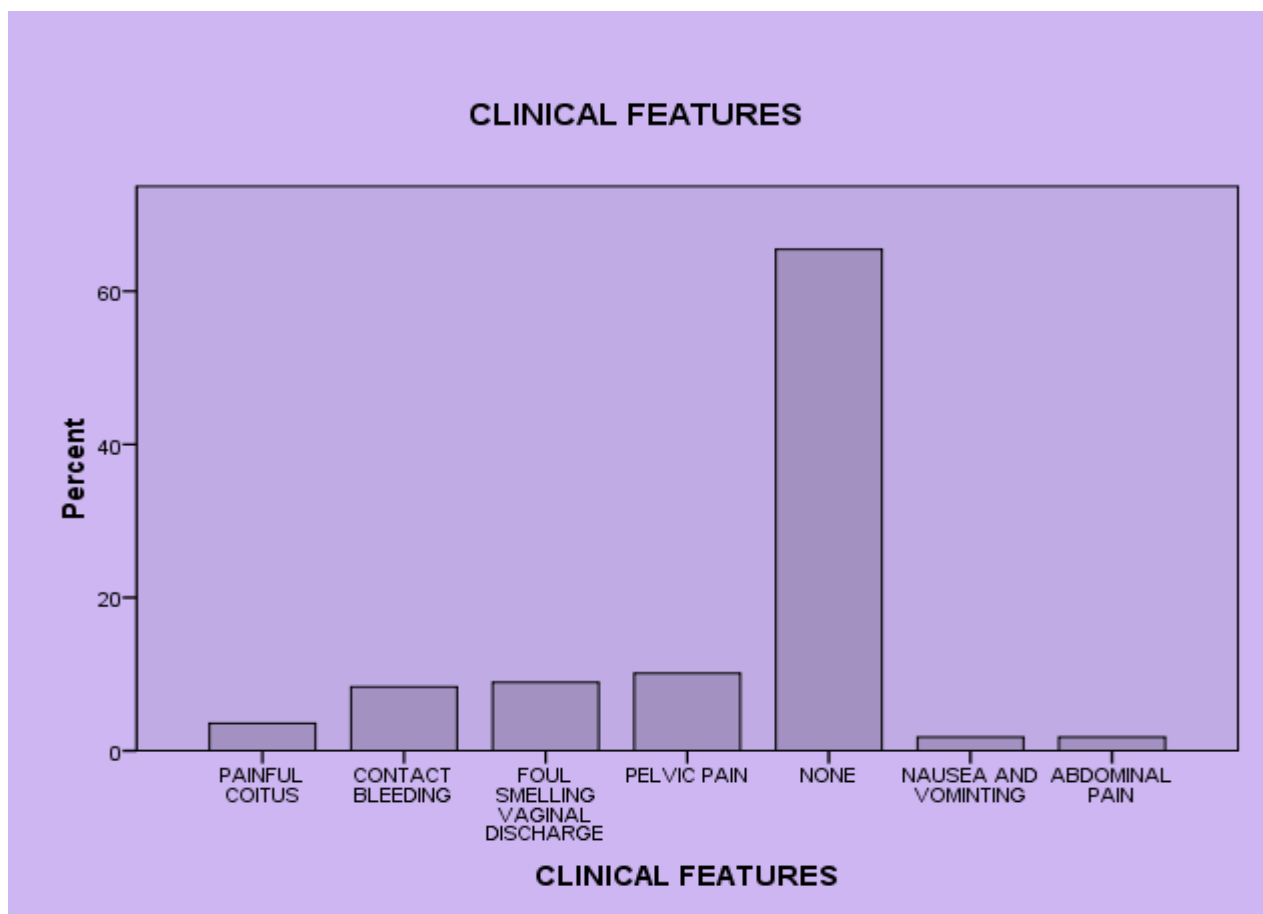


Figure 5: shows the distribution of respondents who could elicit the clinical manifestation of cervical cancer. The greatest percentage (63.2%) didn't know the signs and symptoms of cervical cancer.

4.4 The fourth objective was to investigate the factors influencing the utilization of cervical cancer screening services in the study population. Data on this objective was analysed under the following questions;

I). Have you ever heard of cervical cancer screening services and the source of information.

|  | Frequency | Percentage |
|---|---|---|
| YES | 123 | 71 |
| NO | 51 | 29 |
| TOTAL | 174 | 100 |

Table 5: showing the number of respondents who had ever heard of cervical cancer screening.

71% had ever heard of the cervical screening services and 29% had no idea of existence of cervical cancer screening services.
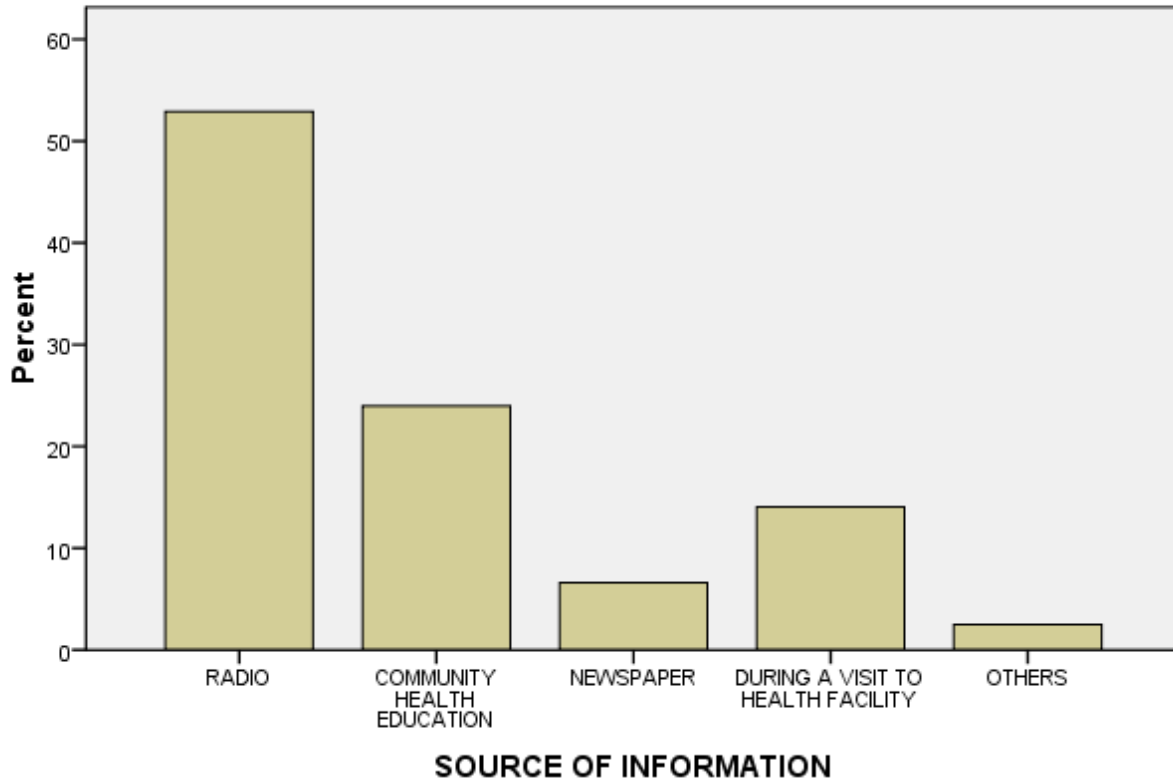
## SOURCE OF INFORMATION

Figure 6: showing the respondents' source of information about the screening services.

For those who had ever heard of the cervical cancer screening services, the major source of information was the radio (52.9%) followed by community health education (24%)

II). Reasons for not utilizing the screening services

|  | Frequency | Percentage (%) |
|---|---|---|
| Not at risk | 15 | 10.1 |
| Not sick | 63 | 42.6 |
| An embarrassing procedure | 2 | 1.4 |

| | | |
|---|---|---|
| Facility is far | 7 | 4.7 |
| Its too expensive | 8 | 5.4 |
| Others | 53 | 35.8 |
| Missing | 26 | 14.9 |
| Total | 148 | 100.0 |

Table 6: showing the respondents reason for not going for screening services.

4.5 The fifth objective was to determine the number of those who have utilized cervical cancer screening services.

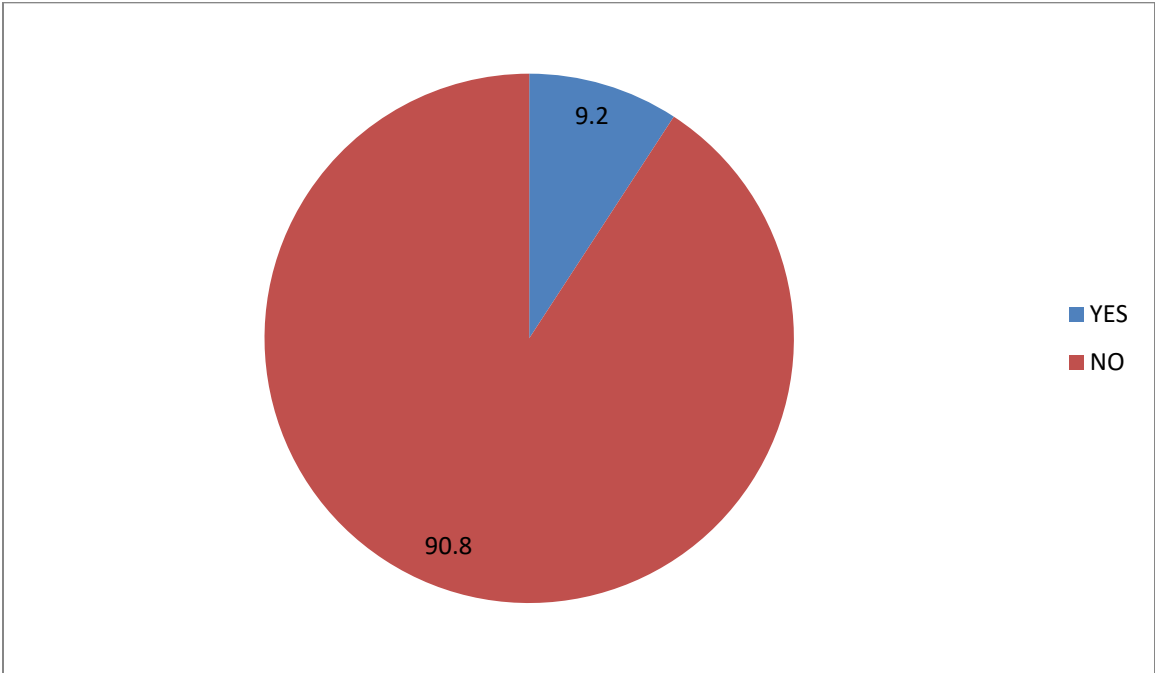Have you ever gone for cervical cancer screening?



Figure 7: showing the percentage of the respondents who had been screened.

Only 9.2% had ever gone for cervical cancer screening services.

**CHAPTER FIVE**

**DISCCUSSION, CONCLUSION AND RECOMMENDATIONS**

**5.0 Introduction**

Cancers that originate in the female reproductive system are called women's reproductive cancers. These include cancer of the cervix, breast, ovaries, vagina, vulva and endometrium. Breast and cervical cancers are the most frequently occurring types of reproductive cancers in women worldwide. Cervical cancer, a complication of Human Papillomavirus (HPV) infection, is the second most common cancer in women with 529,000 new cases each year worldwide. Eighty percent of the cases occur in low-resource countries like Africa, Latin America and Southeast Asia. It is also a leading cause of mortality worldwide with 270, 000 women during every year. 85% of these deaths occur in the developing world.

Cervical cancer affects women in the premenopausal and postmenopausal years. It is a social challenge due to the effects of the deaths of these women on their children and families. The incidence and mortality from this form of malignancy has been largely reduced in the developed parts of the world because of organised screening for the premalignant lesions of the cervix as well as adequate treatment of these lesions.

While cervical cancer screening has become a success story of cancer prevention in the developed countries, this cannot be said of developing countries, which still bear the burden of this preventable malignancy.

A community based descriptive cross-sectional survey was conducted among women aged 15-65 years in Ruhandagazi Parish of Bushenyi District Uganda to assess the awareness of cervical cancer  and determine their uptake of cervical cancer screening services.

180 questionnaires were administered to 180 participants who consented to participation in this study. 180 were retrieved; of these only 174 were correctly filled while others (6) were poorly filled.

41.4% of the women were aged 20-29 years of age, 74% were married, 80% had never used condoms and 71% of them had had their first sexual contact between 15-20 years, the mean being 17 years.

**5.1 Demographic characteristics in relation to cervical cancer**

One of the risk factors for the development of cervical cancer is early age of initiation of sexual intercourse. This is because the most critical phase of initiation of squamous metaplasia is at puberty and during the first pregnancy. Others include; multiple sexual partners, lack of use of condoms, family predisposition.

Most women in this study were at high risk for developing cervical cancer. In this study 120 of the women (71.0%) had their first sexual intercourse before the age of 20 years with a mean age of 17 years. 81.4% were not using condoms hence a risk of HPV infection, 29.6% had more than one sexual relations and 17% had a familial predisposition. 74.7% of the respondents were married and most of these were using oral contraceptives.

Thus the risk of developing this disease among the respondents, taking into consideration the recognized risk factors, is very high. Screening will therefore be essential and probably life saving in this group of rural women.

**5.2 The level of awareness of cervical cancer among women living in Ruhandagazi.**

Data analysis and interpretation revealed that 88% of women had heard of cervical cancer and the major source of information being the radio (46%), followed by community women talk (23.6%) amongst them and thirdly community health education (13.2%). In this study, 88% women had heard about cervical cancer which is consistent with the study conducted in Ghana, Accra (93.0%) and Gondar town, Ethiopia, April 2010 (78.5%). This big percentage from the radio could be due to the fact that almost every Ugandan has a radio in the house.

A series of questions regarding risk factors, main symptoms and prevention of cervical cancer were asked to evaluate the respondents' knowledge about cervical cancer. 47.1% of the respondents did not know the risk factors for cervical cancer. 17% of the study participants were unable to mention a risk factor although they said that cervical cancer has a risk factor. 42.9% of them were able to identify at least one risk factor for cervical cancer. Multiple sexual partners (31%) and HIV infection (17.8%) were the leading risk factors as mentioned by the participants.

Among all the participants, (63.2%) could not elicit the signs and symptoms of cervical cancer while (9.8%) of them mentioned pelvic pain and (8.6%) mentioned foul smelling vaginal discharge.

Concerning its prevention, only 49.4% were aware that it is preventable, (46.6%) said it was not preventable while (4%) had no idea concerning its prevention.

It is evident that the 88% who had heard about cervical cancer, didn't have a conclusive knowledge about the disease as seen in the low percentages of knowledge of risk factors, clinical features and its prevention. Studies from Nigeria (23.4%) and Ghana (37.0%) also showed that

comprehensive knowledge about cervical cancer is low. This could be explained by the fact that; since the predominant source of information is radio, where limited information is given. More so community talk among women being the other source doesn't provide significant knowledgeable information about cervical cancer; to the extent of risk factors and clinical features for its just "hearsay" or gossip.

**5.3 The fourth objective was to investigate the factors influencing the utilization of cervical screening services in the study population.**

This was achieved by asking the respondents knowledge of the cervical cancer screening services, source of information and the reasons for not going for screening.

29% of the participants had never heard of cervical cancer screening services and the major reasons for not going for screening were not being sick (42.6%) and not being at risk (10.1%).

Lack of knowledge about cervical cancer and its prevention is an important barrier to women seeking cervical screening. This result is similar to a study done in South west Nigeria by Dr. Olusegun K. Ajenifuja and Dr. Adepiti CA,which revealed that 19.5% of women had never heard of cervical cancer screening services.

**5.4 The fifth objective was to determine the number of those who have utilized cervical cancer screening services;**

Only 9.2% of the study population had been screened for cervical cancer while 90.8% had never been screened. Most of the respondents (42.6%) believed they did not need screening because they had no symptoms while others others said they had heard about cervical cancer screening

but just didn't care. Sadly, some women went for the screening but they were not screened because they were asked to pay money (5000Ug.shs) which they didn't have; this contradicted the information they had heard on radio that the screening services were free.

It was revealed that after sensitization by the researcher, about cervical cancer screening, 87.5% of the study population were interested in to going for screening.

## Conclusion

The results of this study revealed that knowledge about cervical cancer was poor among women in Ruhandagazi Parish though majority of them had heard about the disease. Specifically, the knowledge of women on risk factors and clinical manifestations was poor.

 This study also showed the low uptake of screening services as seen in other studies around Africa. This could be due to lack of adequate knowledge about cervical cancer.

## Recommendations

More public enlightenment programme about the risk factors and provision of screening services to the population. Education about the disease must include information on risk factors, sign and symptoms of cervical cancer. The government should to implement and equip all health facilities with free screening services to the public for a cancer free Uganda.

More so, community health education should be implemented because women who had heard information from the community health education had a better knowledge of cervical cancer and the screening services.

# REFERENCES

Cervical Cancer – the silent killer: A growing concern in Africa, Consultancy Africa Intelligence, 14 Jun 2012

Aleea F Posted in: International health statistics, December 20, 2007

Screening for cervical cancer.US preventive service task force recommended statement. March 2012 http://www.uspreventiveservices taskforce.org.

Lisa Fayed, former About.com Guide Updated December 20, 2007

National cancer institute, national institutes of health, October 2013

Edward K.cervical cancer in Uganda blog. June, 2013, cervical cancer stakeholders in Uganda,

"What causes cancer of the cervix?" American Cancer Society 2006-11-30

Nanda, Rita (2006-06-09) cervical cancer, Medline plus Medical encyclopedia. National Institutes of Health (2007)

"Cervical cancer" cervical cancer: pathology, symptoms and signs, diagnosis, prognosis and treatment. Armenian Health Network, Health. am

NCCC National Cervical Cancer Coalition 2008

American cancer society, cancer facts and figures 2004, Atlanta 2005

Lisa Fayed, former About.com Guide-Updated December 20, 2007

Justus N Eze, Odidika U Umeora, Johnson A Obuna Vincent E Egwuatu Brown N Ejikeme.Annals of African Medicine, volume 11,Issue4,2012 Page : 238-243)

American Cancer Society: *Cancer Facts & Figures*. Atlanta: American Cancer Society; 2011. PubMed Abstract

Hamad HM: Cancer initiatives in Sudan**.** *Ann Oncol* 2006, 17 Suppl 8**:**viii32-viii36. PubMed Abstract | Publisher Full Text

Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM**:** Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008.

*Int J Canc* 2010, 12**7**(12)**:**2893-2917. Publisher Full Text

Wittet S, Tsu V: Cervical cancer prevention and the millennium development goals.

*Bull World Health Organ* 2008, **86**(6)**:**488-490. PubMed Abstract | Publisher Full Text | PubMed Central Full Text

WHO/ICO: Human papiloma virus and related cancers in Ethiopia. *Summary report* 2009.

WHO, 2009-2012

Sankaranarayanan R, Ferlay J: Worldwide burden of gynaecological cancer: The size of the problem. Best Practice &Research Clinical Obstetrics and Gynaecology 2006 Vol 20 (2) 207-22.

Ajayi IO, Adewole IE. Knowledge and Attitude of General Outpatient Attendants in Nigeria to Cervical Cancer.  Central African Journal on Medicine 44 (2)41-42.1998.

# APPENDICES

a. Budget

| No. | Item | Description | Unit cost | Estimated amount |
|---|---|---|---|---|
| 1. | Stationery | Printing | 200 per page (proposal-2 copies) | 20000 |
| | | | Report 2 copies (7000@) | 14000 |
| | | Photocopying | Questionnaires | 10000 |
| | Transport | To the village | 2000 per day | 8000 |
| | Lunch and refreshments | | 5000 | 20000 |
| | Miscellaneous | | | 8000 |
| | Total | | | 80,000Ug shs. |

b. Time framework

| Developing a proposal | 1month | September –November |
|---|---|---|
| Data collection | 4 days | 0ctober |
| Data analysis and interpretation | 1 week | November |
| Typing, printing and submission of report | 2 weeks | November |

c. Questionnaire:

Dear Respondent,

This study is designed to assess the awareness of cervical cancer and uptake of cervical cancer screening services among women in Ruhandagazi Parish, Ishaka-Bushenyi municipality.

Please fill or tick the correct answers in the spaces provided. All answers shall be treated confidentially. Participation is entirely voluntary. There is no financial benefit or any other form of inducement. Your refusal to participate will not cause you any penalty.

**Consent Form:**

The purpose of this study has been explained to me and I accept to participate as a subject.

……..………………. ……..…………………….…..

Respondent's signature                    Researcher's signature

1. Age: <20 years ☐ 20 -29 years ☐ 30 -39 years ☐ 40-49years ☐ 50-59years ☐ > 60 ☐

2. Marital status: married ☐ single ☐ divorced ☐ other specify………..

3. Education level: None ☐ Primary ☐ Secondary ☐ Tertiary ☐

4. How often do you use condom? Always ☐ Sometimes ☐ Never ☐

5. At what age did you first have sexual contact? <15 years ☐ 5-20 years ☐ 21-25 ☐
   26-30 years ☐ >35years ☐ Never had sex ☐

6. Have you had sexual relations with more than one man? Yes ☐ No ☐

7. If yes to question 6 above, how many men have you had sex with since you were born?
   (Circle the no.) 1     2     3     4     5     6     7     > 7

8. Have you ever heard of cervical cancer? Yes ☐ No ☐

9. If yes, from where? Radio ☐ Community health education ☐ Newspaper ☐
   Hospital/clinic ☐ Others (Please specify)_____

10. What are some of the risk factors for developing cervical cancer?

☐

40

Multiple sexual partners ☐　　　HIV infection　　　Family history ☐

Early coital exposure ☐　　　others *(Please specify)*……… None

11. What are the signs and symptoms of cervical cancer?

Painful coitus ☐ Contact bleeding ☐ foul smelling vaginal discharge ☐

Pelvic pain ☐　　　None ☐　　　nausea and vomiting ☐ abdominal pain ☐

12. Do you have or ever had a close relative with cervical cancer? Yes ☐ No ☐

13. If yes to question 8 above, how are/were you related to that person?

_____

14. Are you aware that cervical cancer is preventable? Yes ☐ No ☐

**EXPERIENCES OF CERVICAL CANCER SCREENING SERVICES**

1. Have you ever heard of cervical cancer screening services?

Yes ☐　　No ☐

2. If yes, from where?

Radio/ television ☐　　　Community health education ☐

Newspaper ☐　　Health worker during a visit to health facility ☐

Others (Please specify) _____

3. Have you ever gone for cervical cancer screening?

Yes ☐　　　　　　No ☐

4. If no, why?

I am not at risk ☐　　　I am not sick ☐　　It is an embarrassing procedure ☐

The facility is far ☐　　　It is too expensive ☐　　　others (Please specify)

_____

5. If yes, how was it?

   Uncomfortable ☐       The health worker was insensitive ☐    It was expensive ☐

   Other (Please specify) _____

6. Would you love to go for cervical cancer screening? Yes ☐       No ☐

   **THANK YOU FOR YOUR TIME AND ANSWERS**