

## **CHAPTER 1**

### **1.0 INTRODUCTION**

#### **1.1 BACKGROUND INFORMATION**

Cancer of the cervix is a major cause of death in women around the world, but has become less common in countries that use Pap tests (Ferlay, 2004). The woman's cervix (which is the opening of the uterus) is lined with cells that may develop into cancer. Cancer of the cervix occurs when these cells change, which can affect deeper cell layers or spread to other organs near the cervix or metastasize by moving through the blood or lymphatic fluid and cause damage (James, 2008). In most women, the change in the cells from normal dysplastic to cancer takes place over many years. In many cases; a Pap test can detect dysplastic changes so that they can be treated before cancer develops (James, 2008). Women are at risk for cancer of the cervix throughout their lives. If the cancer is found and treated early, as many as 90% of women who have it can be cured (Parham, 2004).

Cervical cancer is a malignant cancer of the cervix that begins as a slight abnormal squamous cellular change, or dysplasia. If left untreated, these cells may progress into severe dysplasia, also known as High-Grade Squamous Intraepithelial Lesions (HSIL), and then onto invasive carcinoma (Gustafsson et al., 1997). Detecting cervical cancer while it is early invasive or pre-invasive significantly improves the probability of curing the disease. Once the cancer has spread to the lymphatic system or parametrial tissue adjacent to the cervix, successful treatment is less likely (Chirenje et al, 2001). Cancer of the cervix is assigned a stage from I to IV, the lower the number, the less the cancer has spread. Stage I (one) is the earliest stage and is the easiest to cure. Stage IV (four) is the most advanced stage, it includes the cancer that has spread to other parts of the body. The cure rate for stage I (one) cancer is 85% to 90%, and the cure rate for stage IV (four) cancer is only 5% to 10%. Invasive cancer of the cervix is treated with surgery, or radiation therapy and chemotherapy (Chirenje et al, 2001).

Cervical cancer can occur at any age. It is found most often in women older than 40 years, but can occur in younger women. The risk for cancer of the cervix depends on a woman's sexual history, immune system, health status, and lifestyle (Ferlay, 2004). The risk factors include: early sexual debut, having multiple sexual partners or having sex with someone who has multiple sexual partners, having sex at an early age (younger than 18 years because they increase the chance of getting Human Papilloma Virus (HPV).

Women who have problems with their immune system are at increased risk of cervical cancer, especially if they have been exposed to HPV (Bosch et al, 2007). Factors that affect the immune system and can increase the risk of cancer of the cervix are: smoking, Human Immunodeficiency Virus (HIV) infection, history of sexually transmitted -infections (STIs), a family history of cervical cancer, older age, and poverty (Bosch et al, 2007). Other risk factors include. history of high-grade squamous intraepithelial lesions, history of cancer of the cervix, vagina, or vulva, and history of not getting routine Pap tests (Bosch et al, 2007). Because cancer of the cervix can recur, women's cancer history also affects their risk for subsequent development of cancer

Pre-cancerous cervical lesions and cancer of the cervix often have no symptoms. By the time symptoms appear, the cancer cells could already have spread. When symptoms do occur, the first signs may be bleeding, spotting, or watery discharge from the vagina. Bleeding may be heavier during menstruation, or bleeding may occur after sex. Other signs of advanced cancer include pain, problems on urinating, and swollen legs if the cancer has spread to nearby organs or the lymph nodes. Most dysplastic changes and early cancers are found in women who have regular Pap tests; most advanced cancers of the cervix are found in women who have not had routine Pap tests, that is why it is important to have routine Pap tests

If a woman has an abnormal Pap test result or symptoms of cervical cancer, there might be a need for further testing methods, such as colposcopy and cone biopsy to determine whether abnormal cells are dysplastic or cancerous. These tests also help

the doctor decide whether treatment is needed and assess the size of the cancer and the extent (if any) to which the disease has spread.

A Papanicolou smear is a screening procedure that provides secondary prevention in the development of cervical cancer by detecting dysplastic cellular changes that may lead to cervical abnormalities. A positive Pap smear result indicates the need for a cervical biopsy in order to diagnose cervical cancer or a pre-cancerous lesion of the cervix. This is often done through colposcopy, a magnified visual inspection of the cervix aided by using dilute acetic acid (e.g. Vinegar) solution to highlight abnormal cells on the surface of the cervix. Other diagnostic procedures include the Loop Electrical Excision Procedure (LEEP), and conization, LEEP and conization are carried out if the biopsy confirms cervical intraepithelial neoplasia. The Pap smear has been the preferred prevention strategy for cervical cancer by periodically screening women to identify abnormal cells, to determine the need for additional procedures that can destroy the abnormal cells before they progress into invasive cancer. Pap smears are effective in preventing deaths from cervical cancer. However, Pap tests are useless to women who do not have access to health care or are not aware of their importance (Bosch et al, 2007).

In the developed world, potentially dangerous changes in the cervix are usually spotted before cancer emerges which is predominantly attributed to national screening programs (James, 2008). The British system is a good example of a successful screening program. It prevents around 4,500 deaths each year in the United Kingdom, by detecting cervical disease when it is still at the easily treatable, pre-cancerous stage. Similar programs in North America, Western Europe and Australia have also seen the number of cervical cancer cases fall dramatically (James, 2008).

Most developing countries lack population-based cervical cancer screening programs of any kind (Vermund, 2007) because of factors including extreme poverty, shortages of human and material resources, dysfunctional health-care infrastructure, disenfranchisement of women, and unmet health care-needs related to problems such as HIV , malaria, tuberculosis (Vermund, 2007).

The success of efforts to reduce deaths due to cervical cancer would be influenced by women's health care practices, including adoption of preventive measures and utilization of Pap smear services (WHO 2006). Countries like Mauritius that have worked hard to promote Pap smear services have often been rewarded by dramatically lowered levels of cancer of the cervix. The incidence of cancer of the cervix in Mauritius is 18%, since it adopted more widespread access to Pap smears compared to Tanzania whose incidence is 68.6% and Zambia whose incidence is 53.7% (WHO, 2006). To mitigate the impact of cervical cancer, the Ministry of Health (MoH) and the Center for Infectious Disease Research in Zambia (CIDRZ) have undertaken the following measures:

- Introduced free cervical cancer screening services in most local clinics in Lusaka
- Trained a number of nurses to diagnose and treat cervical cancer.
- Developed community programmes to provide education about cervical cancer, its causes, and the importance of screening.
- Distributed educational materials about cervical cancer in the appropriate languages.
- Provided educational meetings for the staff of government operated clinics where cervical cancer prevention services are discussed.
- Promoted the involvement of peer educators who talk to the groups of people in the community.
- Organized community-based drama groups which create sketches using key messages about cervical cancer, as well as announcing the availability of new screening and treatment facilities. Drama groups are held within the various communities once per quarter
- Provided public radio spots that provide information about cervical cancer and the screening procedures
- Transmitted information on cervical cancer through television programmes.
- Established 14 prevention sites in outlying government- operated public health clinics and a modern outpatient evaluation center.

## 1.2 STATEMENT OF A PROBLEM

Cancer of the cervix is a public health concern in Zambia and in many low resource countries. For instance each year, more than 80% of the 493,000 new cases of cervical cancer and 274, 000 deaths from cervical cancer occur among women who reside in developing regions of the world (Ferlay, 2004). The mortality due to cervical cancer worldwide is 195, 000 deaths per year (Muri et. al, 2006). In a recent study conducted by Yang et al. (2004) on cancer and years of life lost, cervical cancer was found to be responsible for 2.7 million (age-weighted) years of life lost worldwide. In the United Kingdom, there are around 2,800 new cases and 1,100 cervical cancer deaths a year, whereas in the United States there are 10 000 new cases and 3,700 deaths per year. Globally, a woman dies of cervical cancer somewhere in the world every 2 minutes (James, 2008).

In Zambia, cervical cancer strikes 63 women in 100, 000 (Mwanahamuntu, 2008). Mwanahamuntu further pointed out that in 2003 alone, more than 1,000 women died of cervical cancer with two or more dying every week. The current estimates indicate that every year 1650 women are diagnosed with cancer of the cervix and that 1340 die from the disease in Zambia (WHO, 2002). The same study showed a 30.6% crude incidence rate of cervical cancer in Zambia, this could be attributed to lack of awareness on cervical cancer and Pap smear services offered at the 2<sup>nd</sup> level hospitals in all provincial centers except Lusaka at the University Teaching hospital and urban clinics where a single visit approach is used involving visual inspection with acetic acid (VIA) application. VIA has not yet been scaled up to the entire country, hence the rest of the nine provinces still use the Pap smear test. In Zambia, as in most developing countries, cervical cancer is usually diagnosed at an advanced stage, making it very difficult to treat (James, 2008). Yet with screening, early detection and treatment, this form of the disease is usually preventable and curable (James, 2008).

According to a WHO summary report on HPV and cervical cancer according to age in Zambia, women of reproductive age are the most affected. The trend according to (Table 1) shows a reduction in the number of new cases as age increases and a rise at

65 years of age and above. A Similar trend (Table 1) is seen in the number of deaths from cervical cancer.

**Table 1: New cases and number of deaths from cervical cancer according to age in Zambia.**

Age group	No of new cases of cervical cancer	No of deaths from cervical cancer
15 - 44	547	421
45 - 54	352	271
55 - 64	334	278
65 + years	417	370

**Sources: WHO HPV and cancer of the cervix in Zambia summary report (2004)**

More than 1000 cases of cervical cancer are diagnosed at the University teaching hospital each year and most of them die (WHO, 2002). Zambia is at risk of the cancer of cervix since it has over three million women over 15 years of age (WHO, 2002). Statistics from the University Teaching Hospital a (UTH) Registry and Cancer Hospital in Lusaka District show an increased numbers of women with cervical cancer (Table 2) in the last 5 years. This is a reflection of the cancer of the cervix situation in Zambia, since UTH is a referral hospital.

**Table 2: Prevalence of cancer of the cervix from 1994 to 2008 at UTH**

2004	2005	2006	2007	2008
350	375	378	388	570

**Sources: UTH Registry records (2008)**

Historically, access to cervical cancer screening in Zambia, as in most resource-constrained nations, has been limited to Provincial centers and only available to the affluent and/or overtly symptomatic (Parham, 2005). A pilot study done on cervical cancer screening on 150 women seeking HIV care and treatment at the University Teaching Hospital of Zambia showed a further increase in the number of cases

(Parham, 2005). The results revealed that 33% of the study participants had Pap smear evidence of high grade cervical pre-cancer while 20% already had evidence of cancer, almost 40% of screened women had positive tests and required some treatment (Parham, 2005). The results of this study reinforce the importance of ensuring adequate information on cervical cancer and screening services for HIV-infected women in resource limited settings such as Zambia (Parham, 2005).

The Livingstone General Hospital (LGH) yearly report (2008) revealed an increase in the number of women with cancer of the cervix in the district. The number of cervical cancer cases has been high from 12 to 41 in the last 5 years and no Pap smear was performed and that most of the clients seek medical attention when cervical cancer has advanced making treatment impossible. (Table 3). Below shows that Livingstone general hospital has never attended to women seeking Pap smear services in the past 5 years not even referrals from the district's health centers.

**Table 3: Prevalence of cancer of the cervix at Livingstone General Hospital**

	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Cervical cancer</b>	12	21	37	41	33
<b>Pap smear</b>	Nil	Nil	Nil	Nil	Nil

**Sources: Livingstone General Hospital's (2008) Health Information Management systems records (HIMS)**

According to the statistics on the prevalence of cervical cancer obtained from UTH it is evident that, most of the women in Zambia have cervical cancer and that women lack detailed information on cervical cancer. However, seeking Pap smear services early can reduce mortality due to cervical cancer. It is most likely that these women did not utilize Pap smear services.

If nothing is done to encourage women to seek preventive measures early, cancer of the cervix will continue consuming enormous health care resources including hospital

space, chemotherapy, radiotherapy, supplies as well as time of health care providers and many women will die from the disease.

Therefore the researcher was prompted to conduct a study among the women of 18 years of age and above to assess if they were aware of cancer of the cervix and how it could be prevented.

### **1.3 THEORETICAL FRAMEWORK**

In this study, the Health Belief Model and communication-behavior change model were applied to help to understand human behavior in preventing and awareness of cervical cancer.

#### **1.3.1 COMMUNICATION-BEHAVIOR CHANGE MODEL**

The communication-behavior change model was developed by McGuire to design and guide public education campaigns. It is included here because the model is based on communication inputs and outputs which are designed to influence attitudes and behavior (McGuire, 1969)

The five communication inputs described by McGuire are:

- 1. Source:** the person, group or organization from whom a message is perceived to have come. The source can influence the credibility, clarity and relevance of a message. For example, the same message delivered from hospitals, celebrity, non-government organization will have different credibility and relevance to different target audiences.
- 2. Message:** what is said and how it is said. The content and form of a message can influence audience response. For example, the use of fear or humor to communicate the same message may provoke different responses from different target audiences. Considerations such as length of message, language and tone of voice need consideration.



3. **Channel:** the medium through which a message is delivered. Traditionally the media include television, radio, print media (e.g. newspapers, pamphlets, posters). Techniques such as direct mail: Issues to be considered in selecting a channel for communication include the potential reach of different media.
4. **Receiver:** the intended target audience. Recognizing differences in audience segments and their media preferences are important in matching the right message to the right channel from the right source
5. **Destination:** the desired outcome to the communication. This may include change in attitudes or beliefs, or more likely, changes in behavior.

The communication-behavior change model also provides a twelve step sequence of events, representing outputs from communication, which link initial exposure to communication to long-term change in behavior. These are: exposure, attention, interest, understanding, skill acquisition, attitude change, memorization, recall, decision-making, behavior change, reinforcement and maintenance (McGuire, 1969).

These steps illustrate that in order for a communication strategy of cervical cancer awareness and uptake of Pap smear to be effective, the message has to be carefully designed and delivered through an appropriate channel to reach the target audience who in this study are the women above 18 years of age. The women have to be exposed to the message, pay attention to it and understand it in order to change behavior.

Once understood by women, the message must create an inclination of change that will be reflected in attitude of change that will be stored, maintained and make the women act on that attitude of change that will be reflected in their knowledge about cervical cancer when asked about the disease and their desire to seek preventive services.

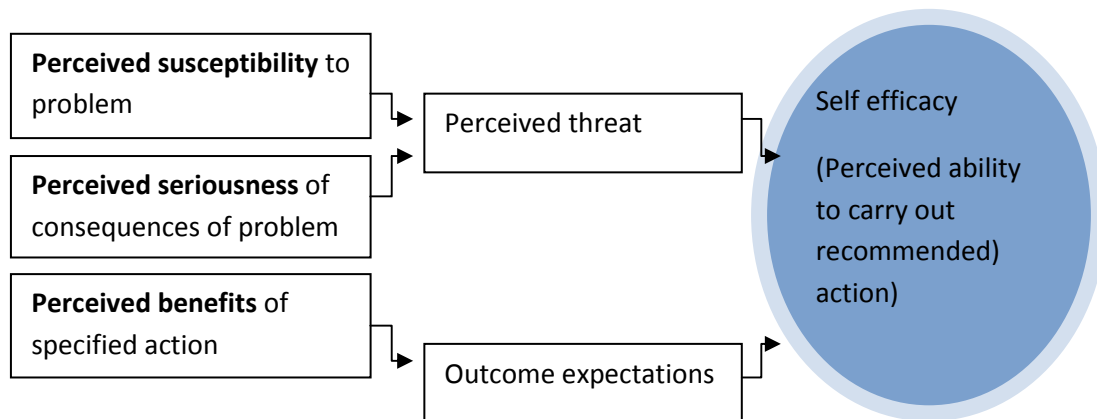
### **1.3.2 THE HEALTH BELIEF MODEL**

The Health Belief Model (HBM) is designed to explain health behavior by better understanding beliefs about health. It was originally articulated to explain why

individuals participate in public health screening and immunization programs and has been developed for application to other types of health behavior (Becker, 1976)

As its core, the model suggests that the likelihood of an individual taking action related to a given health problem is based on the interaction between four different types of belief (figure 1).

**Figure 1: Health belief model: major components and linkages**



The model predicts that individuals will take action to protect or promote health (Becker, 1976). For example, if application of this model to the prevention of cervical cancer is considered, in order to adopt behaviors that minimize the risk of cervical cancer is taken by women, they need to:

- Perceive themselves to be susceptible to cervical cancer
- Perceive that cervical cancer has potentially serious consequences
- Perceive that preventive measures are available that can reduce their susceptibility, or minimize the consequences of cervical cancer.
- Perceive that the benefits of taking action outweigh the costs or barriers.

The model apply to cervical cancer in the sense that, if women know that they are susceptible to cervical cancer, if they know that cervical cancer has serious consequences on their lives, if they know that preventive measure are available that can reduce their susceptibility or minimize the consequences of cervical cancer, and if they

believe that benefits outweigh the costs, they would be motivated to seek preventive services (Becker, 1976).

#### **1.4 FACTORS INFLUENCING CERVICAL CANCER AWARENESS AND UNDER-UTILISATION OF PAPANICOLAOU SMEAR SERVICES BY WOMEN IN REPRODUCTIVE AGE (15 to 45)**

The following are the factors influencing cervical cancer awareness and Pap smear uptake among women of reproductive age in Livingstone district. They are classified into three broad categories of socio-economical-cultural factors, service related factors, and disease related factors:

##### **1.4.1 SOCIO-ECONOMICAL AND CULTURAL FACTORS**

- ***Socio-economic status***

The Government's Structural Adjustment Program (SAP) whose aim was to redress the serious economic difficulties that the country faced never spared District (National Gender Policy, 2002). It saw the closure of companies which were the engine of economy in the district. In Zambia SAP left most of the women without source of income since their spouses lost their jobs (National Gender Policy, 2002).

Due to poor economic status of the country, many women of reproductive age have little or completely no means of survival, the underdevelopment of the country, economic insecurity and poverty make women not to access the services since women need money to reach the hospital where the services are offered, also women might not be able to pay hospital insurances or pay for hospital schemes (National Gender Policy, 2002).

- ***Age***

It is more likely that the older women than the young will seek Pap smear services, older women tend to have more concern about their health and cancer of the cervix in

particular because in the past cancer of the cervix affected the older women more than the young (Muri, 2006).

- ***Grand multi-parity***

Women who have had a lot of children (more than 5) would be concerned with the state of their cervix because of increased parity that could have traumatized the cervix many times predisposing it to cancer of the cervix, this might be a source of drive for women to seek Pap smear services (Muri, 2006).

- ***Sexual relationship***

Sexual intercourse exposes women to viral infection of the cervix (CCPPZ, 2004). The name of the virus is the Human Papilloma virus which is sexually-transmitted and the virus turns the cervix into pre-cancerous state and then into cancer (CCPPZ, 2004). Married and single women exposed to sex might be motivated to seek Pap smear services because of frequent exposure to sex (CCPPZ, 2004).

- ***Fear of unknown and fear of the outcome***

Most women don't seek Pap smear services because of fear of the unknown, not certain of expectations at the health centre and life after the results (Bayo, 2002). The majority of the women might have the fear of the outcome especially a positive result, and if the cancer has advanced believing that it cannot be treated (Bayo, 2002).

- ***Education level***

The level of education can have a positive or negative impact on Pap smear services (National Gender Policy, 2002). Women with low levels of education may not see the need to seek Pap smear services. Women with higher levels of education are more likely to be well informed about the consequences of not seeking Pap smear services (National Gender Policy, 2002).

- ***Lack of Knowledge***

Both educated and uneducated women might lack knowledge as to where Pap smear services are offered, or about the importance of the services, and the natural history of the cancer of the cervix (National Gender Policy, 2002).

- ***Shame and Embarrassment***

The study done on women and health, found out that shame and embarrassment can lead to reluctance of women to share information about their health problems with their family members and health providers. In addition, many women are hesitant to confide in male health providers and this can deter many from the service. (Stjernsward et al, 1995).

#### **1.4.2 SERVICE RELATED FACTORS**

- ***Accessibility of Services/Distance to Health Centres***

Long distances and poor road networks are some of the barriers to effective access to health facilities by women (National Gender Policy, 2000). The National Gender Policy states that women as custodians of health, and care-takers in the family are more disadvantaged when health facilities are distances away from home (National Gender Policy, 2000). They have to make several visits to the health facilities, this might demotivate most of the women and young women may not have accessibility to youth friendly services where issues of cancer of the cervix are discussed (National Gender Policy, 2000). Women also might get discouraged where upon reaching the hospital; they are given another appointment due to non availability of the health providers specialized in the Pap smear services (National Gender Policy, 2000).

- ***Attitude of Health Care Providers***

Clients need a safe and supportive environment which includes the attitude of care givers at all levels, which should respect the patient's wishes and should be non-judgmental (WHO, 2002). Lack of trained personnel and resources may pose a

challenge for preventive care (WHO, 2002). However, if health workers have a good attitude, and if health facilities provide quality care without long waiting periods, women would be more likely to seek preventive services (WHO, 2002).

- ***Information Education and Communication***

Information, Education and communication (IEC) on cancer of the cervix and how it can be prevented is helpful as it encourages responsibility. Knowledgeable women tend to seek health care services (UNAIDS, 1997)

- ***Quality of Health Services***

Quality of health services, according to UNAIDS (1997), may act as a barrier to essential cancer of the cervix prevention. The quality of services offered includes observing confidentiality by the health care providers. Some clients might not want anyone to know their condition in fear of stigmatization.

### **1.4.3 DISEASE RELATED FACTORS**

- ***Long latency period***

Initially cancer of the cervix patients were asymptomatic or displays very few symptoms (Smeltzer & Bare, 2004). This may make the women not to take cancer of the cervix seriously and may continue behaving negatively towards the prevention strategies (Smeltzer & Bare, 2004). Most of the patients with cancer of the cervix live for many years without experiencing any disease effects, so they may ignore the advice given by the health care providers (Smeltzer & Bare, 2004).

- ***Early sex initiation***

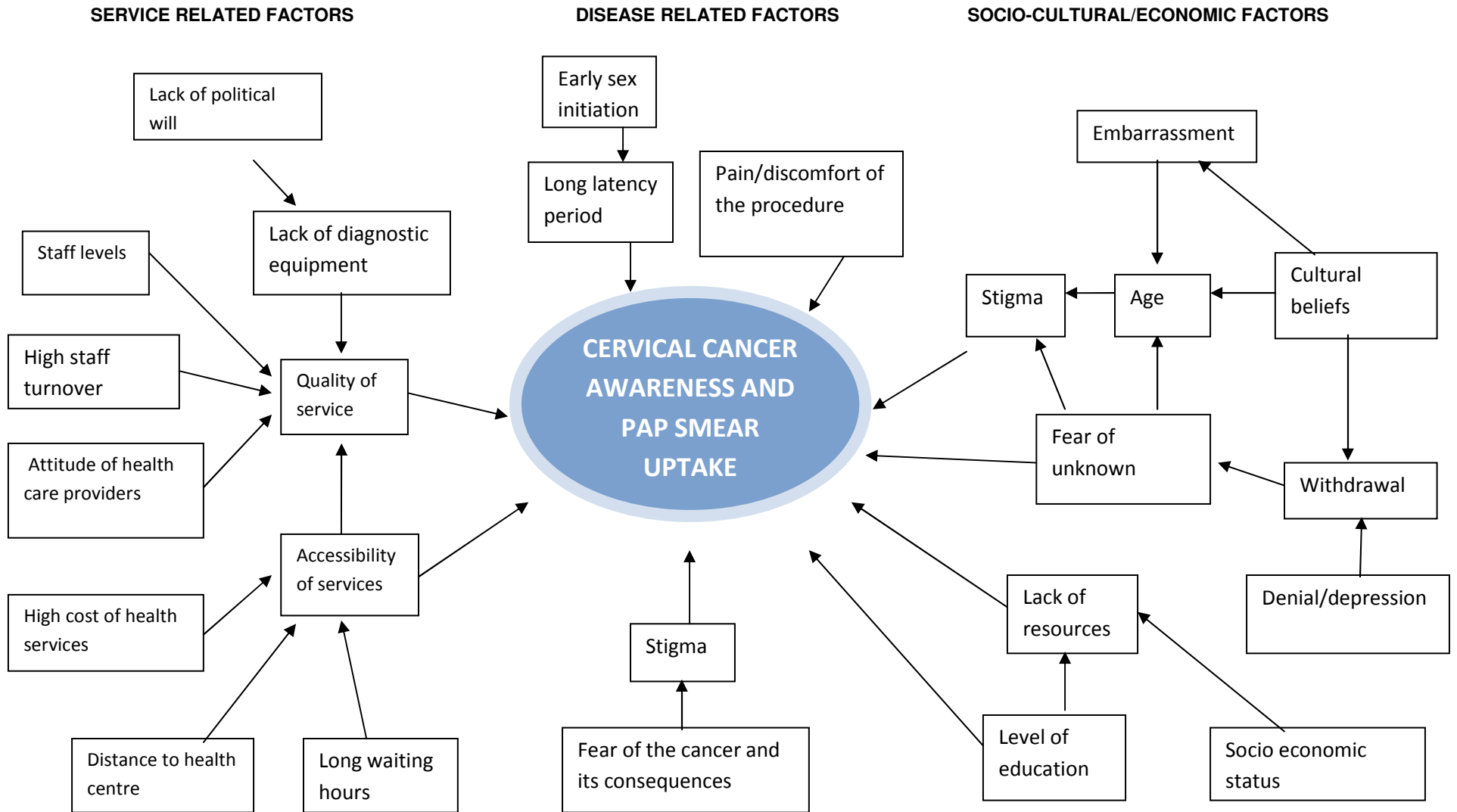
The Centre for Disease Control (CDC) and Youth Risk Behavioral Survey (YRBS), reports that many young people begin having sexual intercourse at an early age for example, 47% of high school students have had sexual intercourse, and 7.4% reported first sexual intercourse before age of 15 years. Cancer of the cervix education needs to take place at correspondingly young ages, before young people engage in sexual

behaviors that put them at risk of Cancer of the cervix (CDC, 1993). Cervical cancer begins with a viral infection of the cervix. The HPV is sexually-transmitted and the women who began sexual intercourse at an early age might be concerned and seek the Pap smear services than those began sexual intercourse later in age (Bosch, 2007).

- ***Stigma***

Most women are concerned with stigma (National Gender Policy, 2000). The presence of social stigma leads people to feel a need for secrecy, and they feel if the test comes out positive, they may not be accepted by family members and the community (National Gender Policy, 2000). Those who are married may be concerned about their spouses who might divorce them if tested positive (National Gender Policy, 2000).

**FIGURE II: CONCEPTUAL FRAMEWORK OF CERVICAL CANCER AWARENESS AND PAP SMEAR UPTAKE AMONG THE WOMEN ABOVE 18 YEARS OF AGE**





## **1.5 JUSTIFICATION**

Sub-Saharan Africa remains one of the regions with the highest mortality among women with cancer of the cervix, ranging from 68.6% to 18.2% (James, 2009). Zambia is no exception. Statistics show that 63 out of 100,000 women in Zambia die from cervical cancer (James, 2009). This figure is very high considering the fact that cervical cancer incidence can be reduced by cervical cancer awareness and Pap smear uptake. A good example on successful Pap smear screening program is the British one that prevents around 4,500 deaths each year. United Kingdom detects cervical cancer when it is still at the easily treatable, pre-cancerous stage (James, 2008). This study therefore, seeks to investigate cervical cancer awareness and Pap smear uptake among women above 18 years of age in Livingstone district. Such a study has never been done in Livingstone. The study will assist to generate data as a basis for subsequent studies and interventions.

It is hoped that the information generated from this study will be used by health care workers and Non Governmental Organizations involved in reproductive health to increase awareness about cervical cancer and the uptake of Pap smear and help women seek Pap smear services before experiencing signs and symptoms of cervical cancer. This will help reduce mortality among women in the district and the country as a whole.

It is also hoped that, this study will increase awareness on cervical cancer, and will therefore assist policy makers find ways of increasing knowledge on cancer of cervix consequently increase uptake of Pap smear services.

## **1.6 RESEARCH QUESTIONS**

This study addressed the following research questions:

1. What is the level of cervical cancer awareness among women over the age of 18 years in Livingstone District, Zambia?
2. What is the rate of Pap smear uptake among women over the age of 18 years in Livingstone District, Zambia?
3. What are the relationships between cervical cancer awareness and Pap smear uptake and selected variables including cultural beliefs, economic status, level of education, and age?

## **1.7 OBJECTIVES**

### **1.7.1 GENERAL OBJECTIVE**

To determine the awareness of cancer of the cervix and Pap smear uptake among the women aged 18 years and above, and the relationship between cervical cancer awareness, Pap smear uptake, and selected variables including cultural beliefs, economic status, level of education, and age among women in Livingstone District, Zambia.

### **1.7.2 SPECIFIC OBJECTIVES**

The specific objectives for this study are to:

1. Assess cervical cancer awareness among women above 18 years old.
2. Assess the level of utilization of the Pap smear services by the women above 18 years. Explore the relationship between cervical cancer awareness, Pap smear uptake, and selected variables including cultural beliefs, economic status, level of education, and age

## 1.8 HYPOTHESES

### 1.8.1 NULL HYPOTHESES

There is no association between cervical cancer awareness and Pap smear uptake, cultural beliefs, economic status, level of education, and age among women above 18 years of age.

## 1.9 CONCEPTUAL DEFINITIONS

**Awareness:** Knowing that something exists and is important, being interested in something. (Cormack D.F, 1987)

**Cancer:** A disease characterized by malignant tumor formation or proliferation of aplastic cells (James, 2008)

**Cancer of the cervix:** This is a malignant disease that occurs when the cells of the cervix proliferate to abnormal cells and can affect deeper cell layers or spread to other organs and cause damage.

**Pap smear:** A test in which cells are taken from the cervix and examined under a microscope (James, 2008)

**Uptake:** This is the rate or number of times of which women undertake Pap smear test (Ferlay, 2004).

**Social stigma:** A feeling of disapproval that women with cancer feel (Cormack D.F, 1987)

**Human Papilloma Virus:** This is a virus that triggers alterations in the cells of the cervix, which can lead to the development of cervical intra-epithelial neoplasia, which can lead to cancer of the cervix (Cormack D.F, 1987)

**Precancerous cells:** These are cells that may turn into cancer if they are not treated (Ferlay, 2004)

**Dysplastic cells:** This is when the cervix begins as slight abnormal squamous cellular change which may develop into severe dysplasia if left untreated (Ferlay, 2004)

**Invasive carcinoma:** The cancer that has spread involving adjacent and distant organs (James, 2008)

**Women:** Females aged 18 years and above (Lim, 2002).

**Health belief:** Different ideas women have concerning their health (Bosch, 2007).

**Behavior:** Acting in a way that can either be positive or negative concerning one's health (Bosch, 2007).

**Communication:** Means of dissemination health information for the purpose of initiating change in behavior (Lim, 2002).

### 1.10 OPERATIONAL DEFINITIONS

**Awareness:** women's knowledge of cancer of the cervix and their knowledge on where Pap smear services are offered.

**Cancer:** A tumor that has no treatment but can be prevented if detected early before spreading to other organs of the body.

**Cancer of the cervix:** A preventable tumor of the cervix.

**Cervix:** It is the part that is in between the uterus and the vagina.

**Pap smear:** A small piece of tissue excised from the cervix to test for cervical cancer

**Uptake:** If women have done Pap smear.

**Human Papilloma Virus:** A sexually transmitted organism that causes cervical cancer.

**Invasive carcinoma:** Cancer of the cervix that has spread to other organs.

**Women:** Females aged 18 years and above.

**Health belief:** Ideas held by women above 18 years concerning their health status.

**Behavior:** Actions that promote good health.

**Communication:** Transmitting messages that bring change in behavior.

**Table 4: VARIABLES CUT OFF POINTS AND INDICATORS**

<b>VARIABLES</b>	<b>CUT OFF POINTS</b>	<b>INDICATORS</b>
<b>INDEPENDENT VARIABLES</b>		
Cultural beliefs	Positive	Cultural beliefs encouraging use of Pap Smear Services
	Negative	Cultural beliefs that don't encourage use of Pap Smear Services
Economic Status	High	Monthly income above K1, 500.00
	Low	Monthly income below K1, 500.00
Level of Education	High	College and University/Secondary School
	Low	Primary and none
Age	Young Adults	18-40 years old
	Middle Age	41-65 years old
	Elderly	Above 65 years old
Cervical Cancer awareness	Aware	Respondents answers the questions correctly
	Not aware	Responds who get the questions wrong
<b>DEPENDENT VARIABLES</b>		
Pap Smear Uptake	Very good	Seeks Pap Smear Services every after 5 years
	Average	Seeks Pap Smear Services at least once
	Below average	Seeks Pap Smear when experiencing signs and symptoms of Cancer of the Cervix or does none at all

## **CHAPTER 2**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

The literature review focuses on cervical cancer awareness and Pap smear uptake among women of reproductive age. Sources of reviewed literature include books, articles, policy papers, professional journals and dissertations both published and unpublished.

Several authors have written on many aspects of cervical cancer awareness and Pap smear uptake among the women. Some of these studies were done in the West and so the findings cannot be generalized to African countries as Pap smear services might be different. However, the studies can still be used and can give a rough idea about cervical cancer awareness and Pap smear uptake. The review is aimed at establishing what is already known about the topic and to identify gaps in the existing literature. In this chapter, literature review is arranged according to the variables of interest, cervical cancer awareness and uptake of Pap smear.

#### **2.2 CERVICAL CANCER AWARENESS**

Cancer of the cervix has a devastating impact on women's health around the world, especially in developing countries, where it is the most common cancer and the leading cause of death in women. It is estimated that 500 000 new cases occur every year worldwide, the majority (80%) being in the developing world (WHO, 2001).

In Malaysia, cervical cancer is the second most common cancer in women. According to the 2002 report of Malaysia's National cancer Registry, there was an average of 2,000 – 3,000 hospital admissions of cervical cancer per year in Malaysia, with the majority of cases presenting at late stages of the disease (Lim, 2002).

A study done on Malaysia women on knowledge and awareness of cervical cancer revealed lack of knowledge on cervical cancer and the Pap smear test among the

respondents (Lim, 2002). When they were asked about cervical cancer, women often referred to cancer in general. Most had heard of cervical cancer, but 39% were not aware of cervical cancer and how it could be prevented. Many respondents perceived cervical cancer as a deadly disease with absolutely no cure. However many of the women who were older and married, were aware that early detection and treatment saves lives.

In the same study, those who were married had a higher recognition of cervical cancer risk factors than those who have never been married. Respondents had correctly cited several risk factors for cervical cancer that included being sexually active, having multiple sexual partners and having a partner who had multiple sexual partners (Lim, 2002).

A study by Dhamija (1993) on knowledge of cervical cancer in New Delhi, India. The study was undertaken as a part of knowledge, attitude and Practice (KAP) study prior to initiation of cytological screening. The total number of women interviewed by KAP survey were 1411 selected through a two- stage stratified random sampling. Subjects for the present analysis consisted of a group of women who had reported previous gynaecological problems related to cervical cancer. The study brought out that younger women had better awareness and knowledge about cervical cancer and related information. Literacy status for education and exposure to family planning was influential in creating awareness about cervical cancer. Lastly, the earlier episodes of gynaecological problems, and treatment seeking behavior led to higher awareness.

A cross-sectional study carried out by Adanu, (2002) on four different groups of well-educated women at the University of Ghana and medical campuses in Accra. These were a group of medical students, non medical undergraduate's studies, nurses and senior University workers. The study aimed at determining the level of knowledge about cancer of the cervix and Pap smear and level of Pap smear use and identify factors that promote cervical cancer awareness and Pap smear. The study was done on 175 women ranging from 18 and 56 years old and the findings were that 164 (93%) had heard of cervical cancer, but only 65 (37%) had adequate knowledge about the disease,

regarding the etiological factors for cervical cancer, 72 (41%) mentioned multiple sexual partners, and 63 (36%) thought that vaginal douching and insertion of substances into the vagina increase the risk of cervical cancer. Forty (23%) respondents had no idea about the etiological factors for cervical cancer.

According to Mwanahamuntu (2008) cervical cancer is still the number one killer of women in Zambia, he further pointed out that, out of the thousand women screened in Lusaka, 200 were diagnosed with the cervical cancer, he also emphasized on the need to continue sensitizing women in the country about the disease as it is both preventable and curable.

Mwanahamuntu (2008) explained that once the cancer of the cervix is in its advanced stages, it becomes very difficult to treat as it affects the pelvic bone adding that most patients would only have 20 per cent chance of survival. Mwanahamuntu (2008) also noted that although all women of 18 years and above are prone to cervical cancer, HIV/AIDS patients were more prone to the disease. He has since urged all women in the country to conduct regular screening annually to help curb the deadly disease. In addition Macha (2008) a cervical cancer specialist at the University Teaching Hospital said that the joint team is working on creating preventive and treatment strategies and that 30% of detected cases of cancer of the cervix in Zambia are considered to be serious and require surgery.

A retrospective study on epidemiology of cancers at University Teaching Hospital in Lusaka that was based on the pathology specimen in both men and women by Bowa (2008) revealed that most common cancer in women was cancer of the cervix which was 41.5%. The researcher through the extensive literature search done did not come across studies done on the topic in Zambia. No studies were done on incidence of Pap smear and factors influencing Pap smear uptake or cervical cancer awareness in Zambia.



## 2.3 PAP SMEAR UPTAKE

The study done on Malaysia women revealed that Younger respondents had little knowledge of the role of the Pap smear test in the early detection of cervical cancer. When probed, most of them indicated that they had no understanding that early detection of cervical cancer might save one's life. Several commented that there was nothing they could do if cervical cancer was diagnosed.

Some respondents erroneously thought that the Pap smear test screens for sexually-transmitted infections, the human immunodeficiency virus or a growth in the uterus. Despite considerable awareness of a link between cervical cancer and sexual activity, as well as the role of a sexually-transmitted infection, none of the respondents had heard of the HPV (Lim, 2003).

A study by the national breast and cervical cancer early detection program in the USA identified 15,119 cervical intraepithelial neoplasias in 472,188 Pap smear tests (James, 2008). James (2008) reported that about 3,700 women die in the USA each year from this disease. Data are comparable in other countries that have implemented similar cervical cancer screening programme for example studies in the Netherlands showed the women ages 35 to 54 diagnosed with invasive carcinoma decreased from 18.6 per 100,000 women to 3.3 per 100,000 over a period of 6 years (James, 2008).

A case control study in the Philippines by Coursaget et al (1997) on invasive cervical cancer revealed that only 61% of the respondents had heard or read about the Pap smear. The same study showed that only 37% of the respondents showed that they had ever had a smear and for those who have not had a smear, only 27% have considered having one. It was further revealed that 20% of the respondents had ever received advice from a medical person about the importance of a smear. Reasons given by the respondents for not undergoing a Pap smear were busy, not married, no symptoms, expensive, afraid, too young, and ashamed. Want a lady doctor, got sick, don't like, not applicable, not aware. Similarly, Ramiro et al (1999) indicated similar findings from a Knowledge, Practice and Attitude (KAP) study on Pap smear among Filipino women.

Lack of knowledge of where to avail a Pap smear, lack of supplies/medical expertise/training, indifference to self-health, influence of husband and lack of a vigorous campaign on cervical cancer and its control.

A study conducted in 2006 by Becker (2006) among Native American women in the US reported that only sixty (76%) of the women in the study had a Pap smear in the previous 24 months. Non-participation in Pap smear tests was related to a lack of awareness, shyness and discomfort in discussing and undergoing the procedure (Clarke et al, 1998). On the other hand, health care providers need an increased awareness and understanding of cultural concepts of cancer and its prevention and sensitivity to cultural behaviors (Young et al, 2001). The shortage of primary care providers means that a woman does not get consistency or continuity of care (Young et al, 2001); Moreover, their preference for female providers may be denied. Transportation and distance from care facilities were factors in accessing screening programs, as is lack of knowledge of the benefits of screening and fear of cancer: not wanting to know about cancer or results of tests (Young et al, 2001). Some communities lack telephones thus communication is a barrier to participation in cervical screening programs (Young et al, 2001). Another barrier to Pap testing is that screening is a preventive behavior that conflicts with the cultural belief that one does not go to the doctor unless one is ill (Young et al, 2001).

A study by Michielutte et al (2004) of the Northern Plains tribes revealed highest rates of mortality due to cervical cancer and low participation in Pap tests screenings related to cultural, social and economic reasons. The same study revealed that 30% (n=305) of the women did not know about a test to check for cervical cancer. Of the participants, 35% had not had a Pap test in the past year. Fourteen (14%) had not had a Pap test in the past 3 years. The responses to risk factors indicated that 54% of the women did not know that sex at an early age was a risk. As well, 29% did not know that multiple sexual partners is a risk factor and 14% did not know that a woman can do something to prevent cervical cancer.

A recent evaluation of the cervical cancer screening program in Chile indicated that more than 80% of the married women had been screened at least once (WHO, 2001). The program was reorganized in the early 1990s, and mortality from cervical cancer has subsequently begun to decline. The study shows that organized cervical cancer screening programmes promote usage by women.

In Colombia, the Colombian National League against Cancer (a part of the public health system) and private organizations such as PROFAMILIA have been offering Pap smear screening since the 1970s (WHO, 2001). Subsequently, the cervical cancer mortality rate in the country has, however, remained stable. According to WHO (2001) report, there has been a steady and substantial decline in the incidence of cervical cancer in the city of Cali, possibly as a result of the ongoing screening activities carried out there since 1967, including educational and early detection campaigns. The report further states that in 1990, a 5-year nationwide cervical cancer control program was initiated to provide Pap smears to more than 60% of women aged 25 to 69 years over a 3-year period and to provide follow-up to over 90% of the women screened. The program trained over 4000 nurses, 40 gynecologists, and 36 pathologists. Pap smear services were centralized and extensive community information and education campaigns were launched (WHO, 2001). Midway through the project, the centralized national health care system was reorganized and several services were decentralized to encourage the creation of efficient networks of services and surveillance (WHO, 2001). However, 5 years after the initiation of the program, cervical cancer mortality data suggested that the situation had remained unchanged (WHO, 2001).

In Costa Rica nationwide Pap smear services have been available to women aged 15 years since 1970 (WHO, 2006). Information/education campaigns have been used to encourage sexually active women to have annual Pap smears and in all pelvic examinations performed, a Pap smear is also obtained (WHO, 2006).

A national cervical cancer screening program was initiated in Mexico in 1974 and now operates in the Federal District and all 31 states of the country (WHO, 2001). Pap

smears are offered annually to women aged 25 to 65 years and the program is integrated with the existing health care services (WHO, 2001). Studies indicate that less than 30% of the women in rural areas have been screened so far (WHO, 2001). There is no systematic effort to coordinate the program through a central organization for call, recall, and follow-up of screened women (WHO, 2001).

WHO (2002) reports that Peru has also recorded a high incidence of cervical cancer; there are no organized screening programs in the country. A large demonstration project of cervical cancer screening with visual inspection with acetic acid (VIA) is currently on-going in San Martin region of Peru (WHO, 2002). Disorganized screening programs might be de-motivating to women, hence reducing the urge of women to seek the services.

A study by Ferlay (2004) in the Czech Republic revealed that since 1990, the incidence of cervical cancer has been fluctuating around 19 – 22/100,000 women and no further decrease has been observed. The same study revealed 19.1 new cases of cervical cancer per 100,000 women in 2005 and that the absolute number of new cases reported annually still exceeds 1000. The same study revealed that, a high incidence of cervical carcinoma affects a wide spectrum of age categories, more than 30% of new cases of cervical carcinoma occur in women under 45, the age-specific incidence starts to grow from 29 years on the reaches a peak at the age of 45 – 55 and that mortality rates are relatively high in these age categories, which is partly due to the fact that almost 30% of patients are diagnosed in an advanced clinical stage 3 or 4. It was revealed that more than 400 Czech women die of cervical cancer each year.

Although an opportunistic cervical cancer screening has been running in the Czech Republic since 1996m its effects have not been visible on the population level since early 1990s, due to a relatively small proportion of participating women and the absolute number of new cases is 1003 (Ferlay. 2004).

Findings from a quantitative study conducted by the WHO (2001) in India suggested that after two or more negative cytology smears, even screening once every 10 years yields

a 64% reduction in the incidence of invasive cervical cancer, assuming 100% compliance.

A cross sectional study was conducted by Ezem (2004) on awareness and uptake of cervical cancer screening in Owerri South-Eastern Nigeria on 460 public servants, 246 teachers, 72 nurses, 20 administrators, 20 self employed, 3 students. Twenty five (25) respondents did not state their occupations. Three hundred and sixty (42.6%) of the respondents were aged between 20 and 40 years, while 396 (46.8%) were between 40 and 65 years, and 90(10.6%) did not state their ages. Single women were 112 (13.2 %) while the rest were married. The study population was predominantly Christian 800 (94.6%). Nulliparous women (102) constituted 12.1%, while 384, (45.4%) had 1-4 children and 336 (39.7%) had greater than four children 24 respondents (2.8%) did not state their parity. Six hundred and thirty (74.5%) had tertiary education, 124 (14.7%) had secondary education while 24 (2.8%) did not indicate their educational status, 447 (52.8%) of the respondents were aware of cervical screening, 390 (46.1%) were unaware while 9 did not answer the question.

Amongst the respondents (447) who were aware of screening 140 (31.3%) got their information from hospital sources while 138 (30.9%) got their information from friends, and 94(21%) from books or magazines. Only five got their information from relations who had had carcinoma of the cervix. Only 60, (7.1%) of the respondents had ever done the test and most of these were done over three years ago. The reasons for the lack of uptake included lack of awareness 390 (46.1%), no need for it 106 (12.5%) and fear of a bad result 98(11.6%).

According to the International Agency for Research on Cancer (IARC) database, East Africa has the highest cervical cancer incidence and mortality rates in the world, led by Tanzania with a prevalence rate of 55.6 per 100 000, respectively, Zambia at 44.0 per 100 000, and Zimbabwe at 43.1 per 100 000. This calls for urgent intervention by governments and all stakeholders in Sub-Saharan African countries if the scourge has to be reduced.

Although cervical cancer is a preventable disease, it still remains a major burden on public health resources in sub-Saharan Africa (WHO, 2001). Sub-Saharan Africa has by far the highest burden and mortality associated with cervical cancer in the world (Rogo, 1990). Countries in this region have some of the world's highest age-standardized death rates from cervical invasive cancer, e.g. 67 per 100 000 people in Harare, Zimbabwe (2) and 40.8 per 100 000 in Kampala, Uganda in 1997 (Kasule et al, 2001). Data from hospital-based registers in Nairobi, Kenya have indicated that cancer of the cervix accounted for 70–80% of all cancers of the genital tract and 8–20% of all cancer cases for the period 1981–90 (Kasule et al, 2001). He further reported that there are 10–15 new cases of cervical cancer in Nairobi, Kenya each week. These findings are similar to data from Zimbabwe where cancer of the cervix accounted for 30% of all registered cancers and 80% of gynaecological cancers in the entire country in 1995 (WHO, 2001).

Okonofua (2007) reported (use past tense to describe previously published findings) that a total of 5318 new cases of cervical cancer were detected in South Africa in 1997, while the risk of development of cervical cancer in South African women has been estimated to be 1 in 29. He also documented that in Nigeria, the estimated incidence rate of cervical cancer was 25 per 100,000 women; with an estimated 8000 new cases of cervical cancer diagnosed in the country each year. He also reported that high rates of cervical cancer have been reported from several African countries including Uganda, Malawi, Ethiopia and Kenya. Recent data from the World Health Organization indicate that while a woman in the United States has a 70% chance of surviving cervical cancer, that chance is reduced to 58% in Thailand, to 42% in India, and to only 21% in sub-Saharan Africa (Okonofua, 2007).

In a study done in several East, Central, and South African (ECSA) countries By WHO (2001) revealed that cervical cancer accounts for 80% of all gynecological cancer admissions among young women, with a peak incidence in women aged 45 years and that more than 50% of the patients' present cancers beyond stage 3. This study showed that 95% of the institutions surveyed at the primary, district, provincial and tertiary levels in ECSA countries had the basic infrastructure to perform exfoliative cervical cytology

screening. However, only very few women were actually being screened for cervical cancer at the time of the survey, with an average of only four Pap smears per month at the primary level. On average, 20 smears per month were performed at the district and provincial levels, and 86 smears per month at the tertiary level; however Uganda and the United Republic of Tanzania showed the lowest numbers of women screened per month (WHO, 2001). This study thus confirms the findings from WHO (2001), which reported that <5% of women in developing countries were screened for cervical cancer per year, compared with 45–50% of women in industrialized countries. WHO (2001) attributed the differences in cervical cancer incidence rates are a result of the very low screening coverage in developing countries.

This survey showed that there were no clear policy guidelines on cervical cancer screening throughout the entire ECSA region. The few women who were screened were screened more by chance: they were often women under 25 years of age (at which age pre-cancer lesions are not common), or symptomatic women who were harboring invasive disease. The lack of policy guidelines could partly explain the very low number of women being screened in institutions that have the basic infrastructure and facilities for cervical cancer screening. However, the infrequent supply of materials (such as fixatives and laboratory reagents for staining the smears) and lack of cytology technicians in most of the surveyed institutions were often the reasons for missed screening opportunities.

A study by Adefuye (2006), Oweri state, Nigeria revealed that amongst 447 respondents who were aware of screening, 140 (31.3%) got their information from hospital sources while 138 (30.9%) got their information from friends, and 94 (21%) from books or magazines. Only five got their information from relatives who had had carcinoma of the cervix. Only 60 (7.1%) of the respondents had ever done the test and most of these were done over three years ago. The same study revealed that reasons for the lack of uptake included lack of awareness 46.1%, no need for it 12.5%, fear of a bad result 11.6%, too expensive 5.4%. The findings of the same study were that 52.8% of the respondents were aware of cervical screening and that 7.1% had ever done the

test however the level of awareness of 52.8% found in this study is less than 69.9% from Ilorin state, 70% in Ibadan (Adefuye, 2006). The differences in the levels of awareness may be partly explained by educational status. The highest levels of awareness are from studies using undergraduates and health care professionals while the lowest levels come from studies using commercial sex workers and clinic attendees (Adefuye, 2006).

The study in Ilorin, Nigeria by Roberts (2004) on muslim community, revealed the following reasons for not doing the Pap smear test: unavailability of the test, fear of detection of cancer and its being against religious beliefs in 52.5%, 19.2% and 14.6% of those studied. This was attributed to lack of appreciation of the disease and the failure of the health system to effectively disseminate information. Roberts (2004) also states that fear and anxiety associated with a bad result stems from the poor understanding of the principle being cervical screening.

From the Ugandan experience, Wabinga (2000) says that cervical cancer is the commonest malignancy among women. Over 80% of patients diagnosed with cancer at Mulago hospital present with advanced disease. He also says patients with cancer of the cervix on palliative radiotherapy account for 20% to 30% of the patients on the gynecological wards at Mulago hospital. He further states that there are no organized screening programs in Uganda, same as in most of the developing countries, however, opportunistic screening of those women who come to health units for other reasons is carried out.

Although cervical cancer can be cured if detected and treated early, it is a tragedy that more than 3 400 South African women die every year from this disease (F:\CANSACancer association of SouthAfrica.htm). Due to a lack of screening services and awareness, it is estimated that less than 20 percent of South African women have ever gone for a Pap smear (F:\CANSACancer association of SouthAfrica.htm). CANSA encourages all sexually active women to find out where they can go for regular Pap smears in order to detect any abnormal cells in the cervix which could develop into cervical cancer.



By contrast to the high burden and mortality associated with cervical cancer in Africa, very few primary and secondary prevention initiatives are currently available to curtail the disease in Africa (WHO, 2001). To date, cervical cancer screening and Pap smear that have significantly reduced the rates of cervical cancer in high and middle income countries are still very poorly applied in Africa (WHO, 2001). Part of the low acceptance of secondary prevention services for cervical cancer in Africa include the lack of awareness of cervical cancer and the role of screening, inappropriate health seeking behaviour by women, poor organization of health services and the low priority accorded to women's health by policymakers (WHO, 2001).

A cross-sectional study carried out by Adanu, (2002) on four different groups of well-educated women at the University of Ghana and medical campuses in Accra. These were a group of medical students, non medical undergraduate's studies, nurses and senior University workers. The study aimed at determining the level of knowledge about cancer of the cervix and Pap smear and level of Pap smear use and identify factors that promote cervical cancer awareness and Pap smear. The study showed that 68 respondents (39%) had sufficient knowledge about Pap smear only 15 (8.5%) had ever had a Pap smear done. From the above results, one would conclude that women merely have knowledge but very few have detailed information concerning cancer of the cervix, this could have led to very few women who sought screening services.

Under utilization of Pap smear is not only common in Zambia but it is also common in sub-Saharan African countries (Chirenje, et al., 2001). In a situational analysis on cervical cancer diagnosis and treatment in the East, central and Southern African countries revealed that, though 95% of health care facilities had the infrastructure for cervical screening, very few women were screened (Chirenje, et al., 2001).

In Zambia, women are disproportionately affected by cancer of the cervix, for example, Mwanahamuntu (2008) said many women in urban areas of Zambia had realized the importance of undergoing a pap-smear test, which involves taking out a few cells from the cervix and placing them under a microscope and examining them for any abnormal

growth. He said in the past, women went to the hospital when it was too late for doctors to treat the cancer but the situation had changed as more women in the urban (especially in Lusaka) were now aware of the dangers of the disease. Mwanahamuntu further stated that reduction in cases was as a result of women becoming aware that cervical cancer was in no way connected to abortion and there was no shame in women going to the hospital for medical examination when they suspected something.

Mwanahamuntu (2008) stated that it is unfortunate that cervical cancer has continued to kill more women even though it was preventable. He is of the view that not much had been done to prevent the disease in most of the areas in Zambia. "Equally most of the women in Zambia are not aware of how to prevent it. This prevention can happen now by just going to the clinic and the doctors look at the cervix and the cancer cells can be removed so as to prevent spread of the cancer cells. He further advised women to be aware that they are all at risk of cancer of the cervix because of the human papilloma-virus infection which causes cervical cancer.

Mwanahamuntu (2008) said that while the results in urban areas may be encouraging, this is not the case in rural areas where women continue to lack information on cervical cancer. He further said rural women still had the highest rate of patients being referred to UTH (University Teaching Hospital), adding that rural women were vulnerable as very little information about the importance of pap-smear reached them. He acknowledged receiving women from as far as Kasama the peri urban city of Zambia who had come to Lusaka seeking medical attention.

## **2.4 CONCLUSION**

The studies revealed the increased prevalence of cervical cancer, some revealed that despite the preventive measures, the scourge has continued to affect many women world over. Studies still revealed low uptake of Pap smear among the women world wide. Even countries that have the basic infrastructure to perform exfoliative cervical cytology screening, very few women are actually being screened for cervical cancer.

But in countries where Pap smear has been emphasized by private organization, cervical mortality rate has declined.

Studies on cervical cancer awareness revealed that most of the women are not aware of cervical cancer for example A study by Dhamija (1993) on knowledge of cervical cancer in New Delhi, India which was undertaken as a part of knowledge, attitude and Practice (KAP) study prior to initiation of cytological screening. The study brought out that younger women had better awareness and knowledge about cervical cancer and related information. Literacy status for education and exposure to family planning was influential in creating awareness about cervical cancer. This shows that sensitization of women on cancer of the cervix could be achieved during family planning visits by women. Therefore Government policies aimed at making women aware of cancer of the cervix must be included in the family planning package so that many women could be reached.

Another study carried out by Adanu, (2002) on four different groups of well-educated women at the University of Ghana and medical campuses in Accra. These were a group of medical students, non medical undergraduate's studies, nurses and senior University workers. The study aimed at determining the level of knowledge about cancer of the cervix and Pap smear and level of Pap smear use and identify factors that promote cervical cancer awareness and Pap smear. The study was done on 175 women ranging from 18 and 56 years old and the findings were that 164 (93%) had heard of cervical cancer, but only 65 (37%) had adequate knowledge about the disease, regarding the etiological factors for cervical cancer, 72 (41%) mentioned multiple sexual partners, and 63 (36%) thought that vaginal douching and insertion of substances into the vagina increase the risk of cervical cancer. Forty (23%) respondents had no idea about the etiological factors for cervical cancer.

The studies show the inadequacies in the knowledge about cancer of the cervix by women, this has led to the increase of incidence and prevalence of cancer of the cervix world wide, Even if the whole world is affected by the scourge, Sub-Saharan Africa to which Zambia belongs is the most affected. Ideally the women are expected to be

knowledgeable of cervical cancer and be concerned about their health and seek Pap smear services, but the opposite is the case. The women have only heard but they don't know the details about cervical cancer and women don't see the need of seeking Pap smear services but they are quick at seeking medical attention when they are sick.

The study findings is an eye opener to policy makers to deliberately come up with programmes aimed at updating health workers on diseases especially cancer of the cervix which is currently killing mostly the young female generation especially in Sub-Saharan Africa. When health workers are updated, correct message on the disease will accurately be communicated to women.

The researcher hopes the results of the study will help the policy makers develop policies that will promote awareness of cervical cancer and policies that will encourage women seek preventive measures so that cervical cancer can be detected early and early treatment given.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter describes the research methodology that was used in this research. It comprises of the study design, study population, selection, data collection techniques, ethical consideration, pre testing, data analysis, dissemination and utilization of results and limitation of the study.

#### **3.2 STUDY DESIGN**

A research study design is a researcher's overall plan for obtaining answers to the research questions or for testing the research hypotheses (Polit & Hungler, 2001). The study adopted a cross sectional, descriptive study design which was a mixed methods research design. It was descriptive in nature because it set out to describe and document aspects of a situation (Polit & Hungler, 2001). The study involved collection and presentation of data about cervical cancer awareness and Pap smear uptake among the women above 18 years of age in Livingstone district in a systematic manner without manipulating the variables. This study was cross-sectional because it involved the collection of data at one point in time (Polit & Beck, 2003). The phenomena under study were captured during one data collection period (Polit & Beck, 2003). Cross-sectional designs are especially appropriate for describing the status of phenomena or relationships among phenomena at a fixed point (Polit & Beck, 2003).

#### **3.3 RESEARCH SETTING**

The study was conducted in Livingstone District, in the Southern Province of Zambia. According to Central Statistics Office (2000) Livingstone has a population of 1,212,124; women are estimated at 51, 460 (CSO, 2007). The district is a constituency and has 17 wards and 14 health centers and one (1) 2<sup>nd</sup> level hospital (CSO, 2007). Out of the 17 wards, Maramba compound has a female population of 4,504. The compound was selected using a multistage cluster sampling approach.

### **3.4 STUDY POPULATION**

A study population is the entire aggregation of cases that meets a specified set of criteria (Polit & Hungler 2001). The study population was comprised of all women at the research setting whether they had done a Pap smear or not, while the target population were women aged 18 years and above as this is the age group that can give consent for participating in research.

### **3.5 SAMPLE SELECTION**

Sample selection is the process of selecting a portion of the population to represent the entire population (Hungler & Polit, 2001). In order to obtain a representative sample of the population selected for the study, the sample was obtained from the target population. A multistage cluster sampling approach was used in this study. Livingstone as a constituency is divided into 17 Political wards; one out of these wards was randomly selected for logistics reasons and to minimize cost. Each of the wards is divided into sections. Two sections were again selected using simple random technique from the one ward previously selected. The researcher and research assistants visited the house holds in the two sections selected in Maramba compound. Using convenient sampling technique interviewed women aged 18 years and above using a structured interview schedule.

#### **3.5.1 Inclusion criteria**

- Women aged 18 years and above residing in the study area
- Only those who provided consent

#### **3.5.2 Exclusion criteria**

- All men
- Women below 18 years
- Women above 18 years old who did not consent

### 3.6 SAMPLE SIZE

The sample was calculated using Epi info version 6 statcalc command for descriptive study.

Population size	=	4,504
Expected frequency	=	50%
Worst acceptable	=	45%
Confidence interval	=	95%
n	=	354
Increased by 10%	=	35.4
n	=	389

Expected frequency is the percentage (%) of respondents who were aware of cervical cancer and those who have had a Pap smear done derived from the literature review. In this study 50% was used since there was no study in Zambia done on the topic.

### 3.7 OPERATIONAL DEFINITIONS

#### 3.7.1 Cervical cancer awareness

In this study awareness was measured by using the following variables: whether the respondents had heard of cervical cancer, their sources of information, signs and symptoms of cervical cancer, stage at which cancer can be treated, risk of developing cancer of cervix, predisposing factors, whether a healthy person can develop cancer of the cervix, can cancer of the cervix be avoided, how it can be avoided, causes of excessive foul smelling discharge, and cultural beliefs.

#### 3.7.2 Up take of Pap smear

Up take of Pap smear was measured by the following variables: have you heard of Pap smear, if yes where, source of information, whether they had Pap smear done, where Pap smears are done and if Pap smear always reveal cancer of the cervix

## **3.8 DATA COLLECTION TOOL**

Data were collected over a period of one month beginning 1<sup>st</sup> week of October to 1<sup>st</sup> week of November 2011. Two types of data collection tools were employed in this study and these were structured interview schedule and focus group discussion guide.

### **3.8.1 Structured interview schedule**

A structured interview schedule is a formal instrument, used in structured self report studies, that involves asking a pre-specified set of questions in a pre-specified order usually with closed-ended questions. It contained three sections; section A will contain demographic information; section B; awareness questions and section C Pap smear uptake questions. The respondents were interviewed by the researcher with the help of research assistants and asked to respond to the same questions in the same order. Open-ended questions were asked to allow participants to respond to questions in their own words. The interviewers wrote down responses using verbatim technique. The interview schedule was translated into local languages namely Tonga and Lozi and the research assistants were selected on basis of the two languages.

### **3.8.2 Focus Group Discussion**

Focus group discussion (FGD) is an interview with a small group of individuals who meet together and are asked questions by a moderator about a certain topic or topics (Nieswiadomy, 2001). Purposive sampling was used to select FGD participants. The focus group discussion consisted of 6 persons guided by a facilitator. Participants were invited at least two days in advance and the general purpose of the focus group discussion was explained. Two focus group discussions were conducted, one involving the age group 18 to 35, the second one involving 35 and above.

The facilitator introduced herself and introduced the recorder. The participants were asked to introduce themselves. The purpose of the FGD was to generate a lot of dialogue from the participants on the topic though other participants may be uncomfortable expressing their views or describing their experiences in front of a group (Nieswiadomy, 2001). The facilitator encouraged participation by trying to avoid a question and answer session, clarifications were



encouraged instead. The interviewer (researcher) led the discussion according to the set questions and one of the research assistants acted as a recorder. The discussion was recorded on the audiotape.

### **3.8.3 Validity**

To ensure the quality of a data collection tool, it is important to establish its validity. Validity is the degree to which an instrument measures what it is supposed to be measuring (Hungler & Polit, 2001).

The validity of the instrument used in this study was maintained by ensuring that all aspects of variables pertaining to women above 18 years, cervical awareness and Pap smear uptake were included in the interview schedule for the respondents. An extensive literature review was conducted before designing the tools. Experts in obstetrics and supervisors checked the questions and made corrections on the interview schedule and the focus group guide, corrections done on the instruments were rephrased. Pre-testing of the instruments was done to determine whether they bring out the desired information, then adjustments were made on the content and sequencing of questions. The use of open-ended questions allows spontaneous responses, which are more valid than answers suggested in closed ended questions. The questions were clearly constructed to avoid ambiguity.

### **3.8.4 Reliability**

Reliability refers to the consistency with which an instrument measures the attribute (Hungler & Polit, 2001). Reliability of the interview schedule was measured by training the research assistants in the use of the instrument and also by pre-testing it. The questions were simple, concise and brief. During the pre-test, respondents were asked if there were any questions they did not understand. This allowed room for alteration of questions on the interview schedule if necessary. Open-ended questions in the interview schedule provided an opportunity for clients to add their own ideas thereby bringing out issues not thought of when designing the interview schedule.

### **3.9 DATA COLLECTION TECHNIQUE**

The researcher used an interview schedule and a focus group discussion as data collection procedures. The interview was conducted in such a manner that each client was interviewed in privacy. The interviewer introduced herself to the respondents and explained the purpose of the study and permission was sought from them to allow the researcher to conduct the interview or focus group discussion. Respondents were assured of confidentiality and anonymity. Only one person was interviewed at a time. Names were not written on the interview schedule. Instead numbers were allocated to all participants

After the respondents appeared relaxed and at ease the interviewer proceeded with the interview. Any questions that were not clear to the respondents were repeated, rephrased ensuring that the meaning of the question was not changed. The interviews were done in privacy and 15 to 20 minutes were taken for each respondent. The interviewer thanked the respondents for their time and participation at the end the interview.

For the Focus Group Discussion (FGD) the researcher used a focus guide. The researcher engaged one (1) research assistant to help with recording and time keeping while the researcher asked questions. Each individual was given a chance to express her views freely to ensure maximum participation. Each FGD took about 45 minutes, Anonymity and confidentiality was maintained.

### **3.10 PRE-TEST**

Pre-test is the trial administration of a newly developed instrument to identify flaws, refine or assess time requirements (Polit & Hungler, 2001). Pre-testing of the data collection tools was done using a sample with similar characteristics (women 18 years and above) in Dambwa compound. This is one of the compounds in Livingstone district. This compound was purposely chosen because it is representative of the socio-economic background of most of the people in Livingstone District. Ten (10) respondents were selected for the pre-test, which is 10% of the sample. The respondents will be selected using systematic sampling of houses in one of the residential sections of Dambwa compound. The researcher will pre-test the data

collection tool in order to identify flaws and areas that will need modification or refining in the tool. The pre-test was done in order to:

- Detect any errors in the questionnaire for the main study.
- Assess the duration of each interview schedule.
- Assess the appropriateness and clarity of questions.

The following adjustments were made to the questions: responses for question six (six) were changed to 1. Above K1, 500 000.00, 2. Below K1, 500, 000.00, question nine (9) was assigned responses 1. Bleeding, 2. Pain, 3. Water discharge, 4. No idea. Question nineteen (19) was assigned responses 1. Witchcraft, 2. Don't know. Question 20 read Have you heard of Pap smear before, responses were 1. Yes, 2. No. Question 22 read have you done Pap smear, responses were 1. Yes, 2. No. Question 23 read if no to question 22 why? Responses were 1. Hospital far, 2. Not aware of Pap smear, 3. Procedure painful, 4. Fear of positive results. Question 23 became 24 and question 24 changed to question 25

### **3.11 ETHICAL CONSIDERATIONS**

Ethics can be defined as a system of moral values that is concerned with the degree to which research procedures adhere to professional. Legal and social obligations to the study participants (Polit, & Hungler 2001).

Ethics clearance was obtained from the University of Zambia Bio Medical Research Ethics committee. Written permission to conduct the study was obtained from the Town Clerk of Livingstone Municipal Council, the Permanent Secretary Southern Province and, the District Health Management Team (DHMT).

The purpose and nature of the study was explained to the study participants. Those who declined to participate were reassured that no privileges were going to be taken away from them. Those who agreed to take part in the study were asked to sign a consent form and the illiterate women were asked to thumb stamp the consent which was written in Tonga and Lozi. Those who participated in the study were not remunerated in any way. The respondents

were in the natural setting and hence were not exposed to any physical and emotional danger or harm.

Confidentiality and anonymity were maintained to the respondents in that no names will appear on the answer sheets. Respondents were interviewed in a room where there were no other people to ensure privacy. After each interview session the investigator put all questionnaires under lock and key and no persons other than the researcher were allowed to access the collected data.

## **CHAPTER 4**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 INTRODUCTION**

Data analysis is defined as “the systematic organization and synthesis of research data and testing of research hypothesis using those data” (Polit & Hungler, 2001). Data was collected using a structured interview schedule and a focus group discussion guide. A total of 389 respondents were interviewed and there was a 100% response rate. Two group focus group discussions were held.

#### **4.2 DATA PROCESSING AND ANALYSIS**

##### **4.2.1 QUANTITATIVE DATA**

Following data collection, categorization was done where the structured interview schedules were sorted out and edited for internal consistence, completeness, legibility and accuracy. Closed ended questions were assigned numerical codes for easy entry and analysis using the computer. Open ended questions were analyzed by reading through the data in its entirety to identify and group answers that belong together.

Following data categorization, the researcher assigned numerical codes (1, 2, 3, 4 and others). The codes were then entered and analyzed using SPSS soft ware computer package. Chi-square (Yates corrected) was used to test association between quantitative variables and the outcome. (Cervical cancer awareness and uptake of Pap smear). The quantitative variables were knowledge of cervical cancer, level of utilization of Pap smear services and barriers to Pap smear uptake. The cut off point for statistical significance was set at 5%, P-values of 0.05 or less were considered statistically significant thereby rejecting the null hypothesis.

#### **4.2.2 QUALITATIVE DATA**

After every focus group discussion the recorder read the points to the group members to check the information for accuracy and inconsistencies, and the study participants were asked to clarify them. Data obtained was first transcribed then translated from Tonga to English by a Linguist. Using the participants' own words, the key statements were listed, including the ideas and attitudes expressed for each topic were categorized. The researcher read through all the data to obtain a general sense of the information and to reflect on its overall meaning. Data were analyzed by performing content analysis. Content analysis involves an analysis of the content narrative data to identify prominent themes and patterns among the themes (Polit & Hungler, 2001). A full report of the focus group discussion was prepared that reflected the discussion as much as possible. Answers of the two subgroups (those women between 18-35 and above 35years) were compared.

Trustworthiness of the focus group discussion was applied to ensure credibility, dependability, transferability and applicability (Burns & Grove, 2009). Credibility was obtained by means of prolonged engagement of the participants during the whole period of operative phase, the personal views, knowledge and preconceived ideas were bracketed. Reflective notes were kept, Transferability was achieved by means of purposive sampling.

The following steps were used during content analysis: Reading through the data that was collected and brief notes of interesting or relevant information was recorded. Different types of information found were listed. The listed information was categorized in a way that offered a description of what it was about. The step that followed was to identify whether or not the categories could be linked any way and listed them as major categories (or themes) and / or minor categories. The major and minor categories were compared and contrasted. The Themes were each examined in detail and considered if they fitted and whether they were relevant.

After all the transcript data was categorized into minor and major categories/themes, it was reviewed in order to ensure that the information was categorized as it should be and whether some categories could be merged or if some needed to be sub-categorized. At the end of the analysis, a review of the original transcripts is done to ensure that all the information that needed categorizing has been done.

### **4.3 DATA PRESENTATION**

#### **4.3.1 QUANTITATIVE DATA**

The findings have been presented according to the lay out of questions and sections of the interview schedule. Some have been grouped together to give an overall picture. The findings have been presented in different forms such as tables, bar charts, pie charts and cross tabulations. The tables are suitable because they summarize findings in meaningful way thus giving easy understanding. The cross tabulations are helpful in showing relationships between variables. The pie charts and bar charts provide a variety of ways in which to present data which helps to avoid the monotony of narrative presentations.

The table (5) in section A represents the demographic characteristic of the respondents, the tables, pie charts and bar charts in section B represent the respondents' knowledge on cervical cancer awareness and tables in section C represent Pap smear uptake of the respondents. The cross tabulations in section D represent the relationship between variables.

#### **4.3.2 QUALITATIVE DATA**

Data obtained from focus group discussions were summarized using a narrative. The findings were interpreted and the most useful quotations that emerged from the discussion to illustrate the main ideas were selected.

## SECTION A

This section comprises of socio-demographic data of the respondents. The socio demographic data consisted of respondent's age, marital status, religion, educational level, occupation and monthly income. The socio-demographic data has been presented in a table form showing their frequencies and percentages

**TABLE 5: SOCIO DEMOGRAPHIC DATA (n = 389)**

	FREQUENCY	PERCENTAGE
<b>AGE</b>		
18-28	224	57.6
29-39	151	38.8
40-50	9	2.3
51-60	5	1.3
<b>TOTAL</b>	<b>389</b>	<b>100</b>
<b>MARITAL STATUS</b>		
Single	49	12.6
Married	340	87.4
<b>TOTAL</b>	<b>389</b>	<b>100</b>
<b>RELIGION</b>		
Christian	389	100
<b>EDUCATIONAL LEVEL</b>		
None/Primary	232	59.6
Secondary/College	157	40.4
<b>TOTAL</b>	<b>389</b>	<b>100</b>
<b>OCCUPATION</b>		
Employed	67	17.2
Not employed	322	82.8
<b>TOTAL</b>	<b>389</b>	<b>100</b>
<b>MONTHLY INCOME</b>		
Above K1, 500 000	88	22.6
Below K1, 500 000	301	77.4
<b>TOTAL</b>	<b>389</b>	<b>100</b>

Respondents who had no education and those with primary education were categorized as all having low education.

Respondents with Secondary and College education were categorized to have high or moderate education.



Most 57.6% (224) of the respondents interviewed were within the age group 18-28 years. Almost three quarter of these 87.4% (340) were married or once were married but now separated, widowed or divorced.

All respondents 100% (389) were Christians. Almost half of these 57% (223) had low levels of education, while 42.6% (166) had moderate or high education.

Most 82.8(322) of the respondents were not employed, 17.2% (67) were employed. The majority of the respondents 77,4% (301) had an income below K1, 500, 000 per month while 22.6% had an income above K1, 500, 000 per month.

## **SECTION B**

### **AWARENESS OF CERVICAL CANCER**

This section presents information on awareness of cervical cancer, the following variable were used to measure cervical cancer awareness: have you heard of cervical cancer, sources of information, signs and symptoms of cervical cancer, stage that cervical cancer can be treated, risk of developing cervical cancer, predisposing factor to cervical cancer, can a healthy person have cervical cancer, can cervical cancer be avoided, if yes, how can it be avoided, what causes excessive foul smelling discharge and cultural beliefs. The respondents were asked a total of 13 questions on awareness. Total scores on awareness were 33; the scores for awareness were categorized in two group high and low. Low level scores ranged from between 0–10 and high ranged scores were from 11-33

### FIGURE 3: THOSE WHO HAVE HEARD OF THE CANCER OF THE CERVIX

(n = 389)

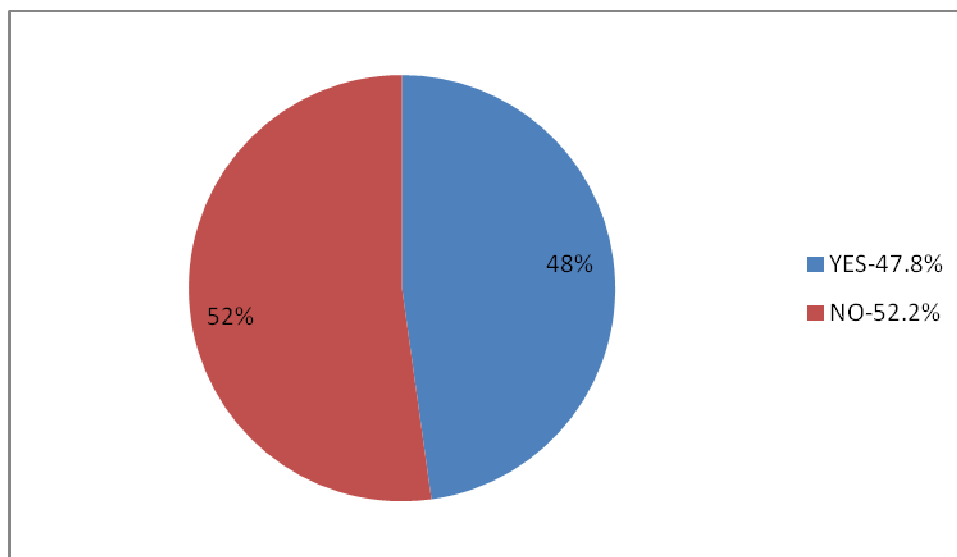
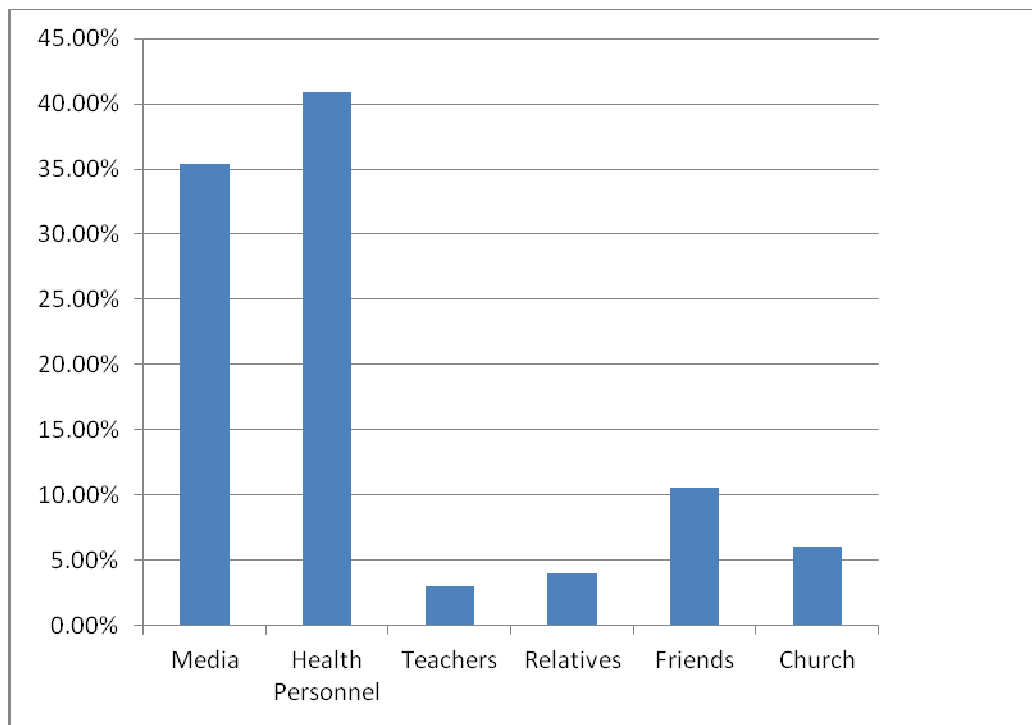


Figure 2 shows that slightly more than half 52.2% (203) of the respondents had not heard of cancer of the cervix whilst slightly less than half 47.8% (186) of the respondents had heard of cancer of the cervix.

The responses in figures, frequency tables, pies below shows responses of only the respondents who said they were aware of cervical cancer, so the total does not add up to 389

**FIGURE 4: SOURCE OF INFORMATION ON CERVICAL CANCER (n = 187)**



**SOURCE OF INFORMATION**

Figure 3 shows that the commonest source of information on cervical cancer for the respondents 187 (47.8) who said they were aware of cervical cancer was the health personnel which was mentioned by 40.9% (81) of the respondents and the least common was teachers mentioned by 3% (6) of the respondents.

**TABLE 6: SIGNS AND SYMPTOMS OF CANCER OF THE CERVIX (n = 187)**

<b>SIGNS AND SYMPTOMS OF CANCER OF THE CERVIX</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Vaginal bleeding	41	21.9
Pain	69	36.9
Water discharge	47	25.1
No Idea	30	16.1
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 6 shows that only 36.9% (69) of the respondents indicated pain as a cardinal sign of cancer of the cervix while 16.1% (30) had no idea of the signs and symptoms of cancer of the cervix.

**TABLE 7: STAGES AT WHICH CANCER OF THE CERVIX CAN BE TREATED****(n = 187)**

<b>STAGES</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
At an early stage	122	65.1
Don't know	65	34.9
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 7 shows that 65.1% (122) of the respondents knew that cancer of the cervix can be treated at an early stage and almost slightly less than half 34.9% (65) of the respondents has no idea at what stage cervical cancer could be treated.

**TABLE 8: THOSE AT RISK OF DEVELOPING CANCER OF THE CERVIX (n =187)**

<b>THOSE AT RISK</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
All women	77	41.2
Married women	43	23.0
Young women	5	2.7
Women sexually active	62	32.8
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 8 shows that 41.2% (77) of the respondents said that all women were at risk of developing cancer of the cervix and 2.7% (5) of the respondents said that young women are the ones at risk of developing cancer of the cervix.

**TABLE 9: PREDISPOSING FACTORS TO CANCER OF THE CERVIX (n = 187)**

<b>PREDISPOSING FACTORS</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Multiple sexual partners	82	44.1
Low immunity due to HIV/AIDS or other factor?	18	9.7
Smoking	25	13.4
Starting sex early	36	19.4
Sexually transmitted diseases	26	13.4
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 9 shows that 44.1% (82) of the respondents said that multiple sexual partners predisposes women to developing cancer of the cervix and 9.7% (18) of the respondents said that low immunity due to HIV/AIDS predisposes to cancer of the cervix.

**TABLE 10: CAN A HEALTHY PERSON HAVE CANCER OF THE CERVIX (n = 187)**

<b>HEALTH PERSON DEVELOPING CANCER OF THE CERVIX</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Yes	142	75.9
No	25	13.4
Don't know	20	10.7
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 10 shows that the majority 75.9% (142) of the respondents said that a healthy person can have cancer of the cervix and 10.7% (20) said that healthy persons cannot have cancer of the cervix.

**TABLE 11: CAN CANCER OF THE CERVIX BE AVOIDED (n = 187)**

<b>CAN CANCER OF THE CERVIX BE AVOIDED</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
YES	117	62.6
NO	37	19.9
DON'T KNOW	33	17.7
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 11 shows that the majority 62.6% (117) of the respondents said that cancer of the cervix can be avoided and 17.7% (33) of the respondents did not know if cancer of the cervix can be avoided.

**FIGURE 5: HOW CAN CANCER OF THE CERVIX BE AVOIDED (n = 117)**

The respondents were 117 because they are the ones who said cancer of the cervix can be avoided.

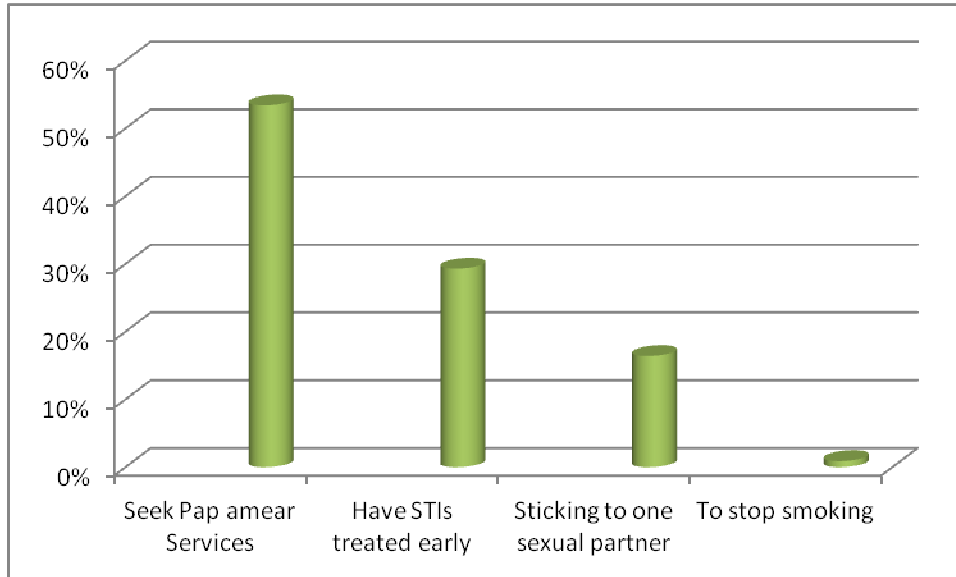


Figure 4 shows that the majority 53.8% (63) of the respondents said that cancer of the cervix can be avoided by seeking Pap smear services, 16.2% (19) of the respondents said that cancer of the cervix can be avoided by sticking to one sexual partner and only 0.9% (1) said stopping smoking.

**FIGURE 6: CAN CANCER OF THE CERVIX BE TREATED (n = 187)**

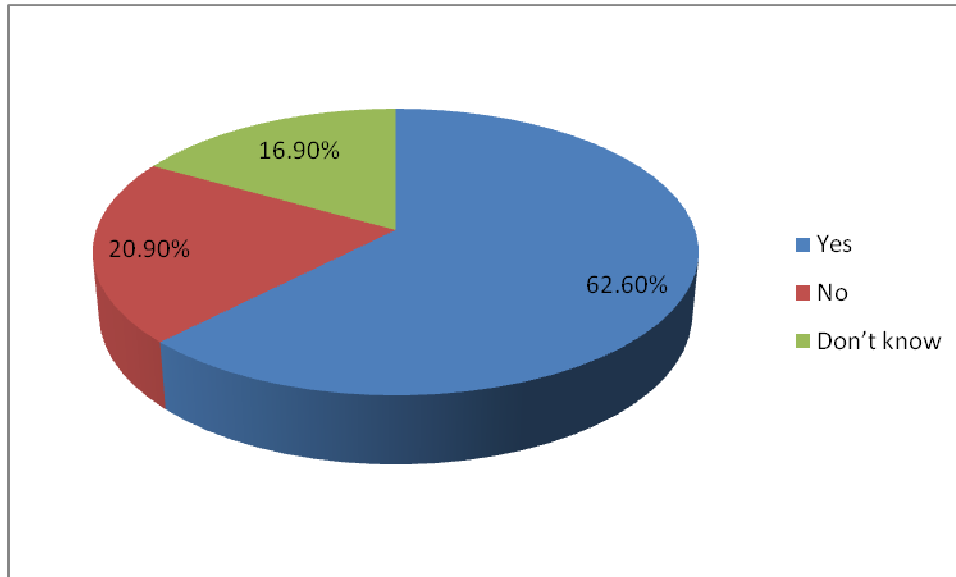


Figure 12 shows that the majority 62.6% (117) of the respondents said that cancer of the cervix can be treated and 20.9% (39) said that cancer of the cervix cannot be treated

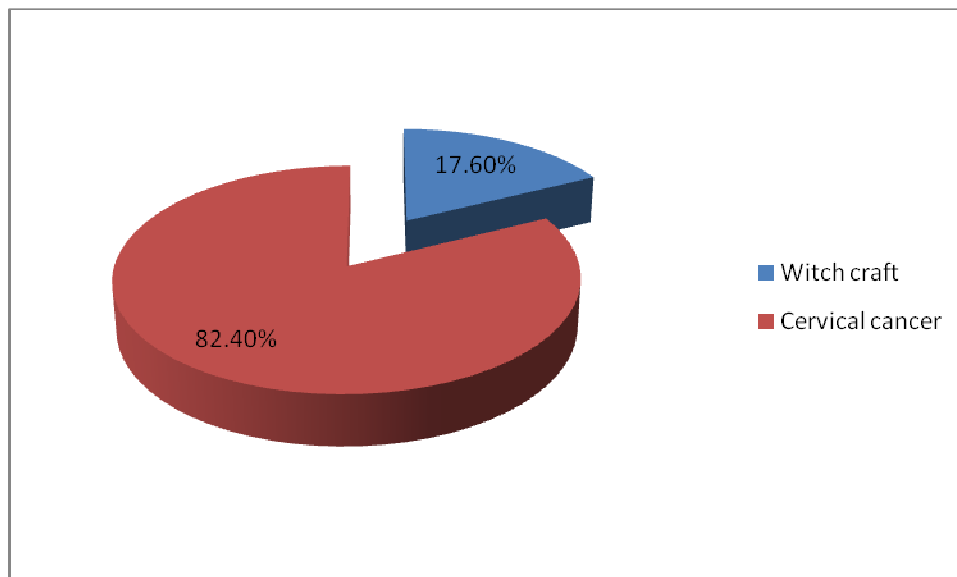
**TABLE 12: WHEN CAN IT BE TREATED (n = 117)**

The respondents were 117 because they are those who said cancer of the cervix can be treated

WHEN IT CAN BE TREATED	FREQUENCY	PERCENTAGE
Before it spreads to other organs	106	90.6%
After it spreads to other organs	11	9.4%
<b>TOTAL</b>	<b>117</b>	<b>100</b>

Table 12 shows that the majority 90.6% (106) said that cancer of the cervix can be treated before it spreads to other organs and only 9.4% (11) said it can only be treated after it has spread to other organs.

**FIGURE 7: CAUSES OF EXCESSIVE PROLONGED FOUL SMELLING DISCHARGE FROM THE VAGINA (n = 187)**



The majority 82.4% (154) of the respondents said cancer of the cervix was the major cause of the excessive prolonged foul smelling discharge from the vagina while 17.6% (67%) said the cause was witchcraft. There could be other causes of foul smelling vaginal discharge but only 2 were used in this study.

**TABLE 13: CULTURAL BELIEFS THAT MAKE WOMEN WITH PROLONGED VAGINAL DISCHARGE NOT SEEK MEDICAL ATTENTION EARLY (n = 187)**

CULTURAL BELIEFS	FREQUENCY	PERCENTAGE
Witchcraft	151	80.7
Don't know	36	19.3
<b>TOTAL</b>	<b>187</b>	<b>100</b>

Table 13 shows that the majority 78.4% (305) believed that prolonged vagina discharge/bleeding was caused by witchcraft that's why they would not seek medical attention early while 21.6% (84) displayed ignorance of any cultural beliefs which could cause women not to seek medical attention early. This study used witchcraft only due to the assumptions the researcher had about the respondents whose beliefs are more of superstition.



## SECTION C

### PAP SMEAR UPTAKE

This section presents information on Pap smear uptake. The variables that were used to measure Pap smear uptake include the following; have they heard of Pap smear, if yes where did they hear from?

**FIGURE 8: HAVE YOU HEARD OF PAP SMEAR (n = 389)**

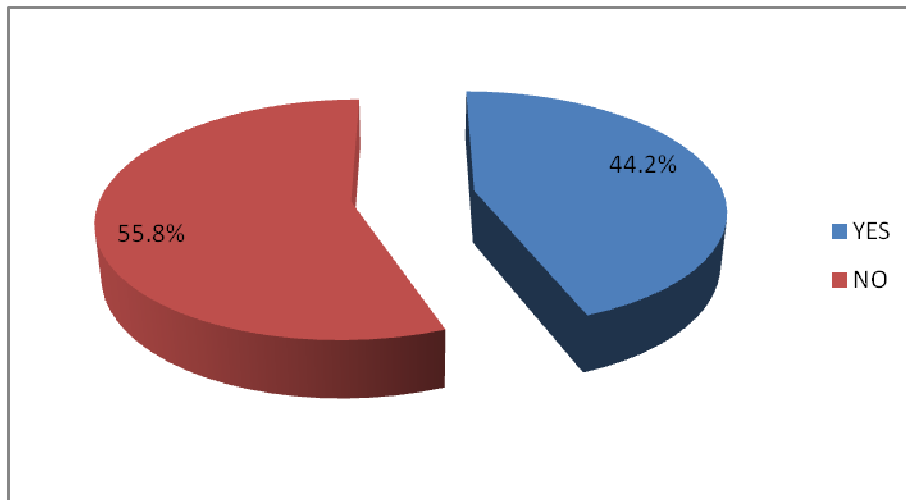


Figure 7 shows that almost half 55.8% (217) of the respondents had never heard of Pap smear while 44.2% (172) had heard of Pap smear.

**FIGURE 9: SOURCES OF INFORMATION ON PAP SMEAR (n = 389)**

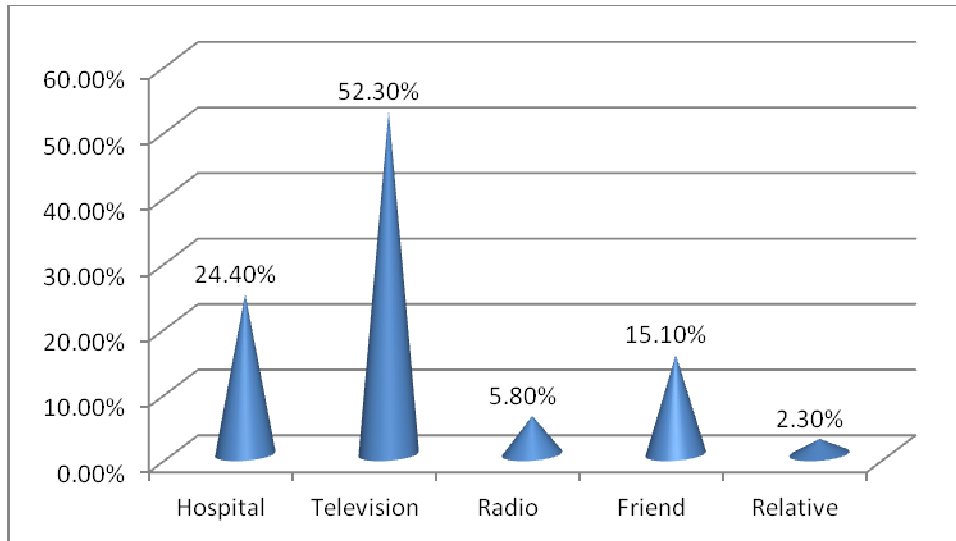


Figure 8 shows that 52.3% (90) of the respondents said they heard about Pap smear on the Television while 24.4% (42) heard from the hospital and 2.3% (4) heard from the relatives.

**TABLE 14: WHERE IS A PAP SMEAR DONE (n = 389)**

WHERE PAP SMEAR IS DONE	FREQUENCY	PERCENTAGE
Hospital	353	90.7
clinic	22	5.7
Don't know	14	3.6
<b>TOTAL</b>	<b>389</b>	<b>100</b>

Table 15 shows that the majority 90.7% (353) of the respondents said that Pap smear is done at the hospital while 5.7% (22) said it was done at the clinic

**TABLE 15: HAVE YOU DONE A PAP SMEAR (n = 389)**

<b>HAVE YOU EVER DONE A PAP SMEAR</b>	<b>FREQUENCY</b>	<b>PERCENTATE</b>
YES	0	0
NO	389	100
<b>TOTAL</b>	<b>389</b>	<b>100</b>

Table 16 shows that non 100% (389) of the respondents had done Pap smear

**TABLE 16: REASONS FOR NOT DOING PAP SMEAR (n = 389)**

<b>REASONS FOR NOT DOING PAP SMEAR</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Not aware of Pap smear	219	56.3
Procedure painful	13	3.3
Fear of positive results	157	40.4
<b>TOTAL</b>	<b>389</b>	<b>100</b>

Table 14 shows that 56.3% (219) of the respondents said that they were not aware of the Pap smear services offered while 40.4% (157) they did not do Pap smear because of fear of positive results. Other reasons could be there but at the time when the study was carried out the assumption was that only the three responses would be the reasons for not doing a Pap smear.

**TABLE 17: WILL A PAP SMEAR ALWAYS REVEAL THAT THE WOMAN HAS CERVICAL CANCER (n = 389)**

<b>PAP SMEAR REVEAL CERVICAL CANCER</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
YES	28	7.2
NO	344	88.4
DON'T KNOW	17	4.4
<b>TOTAL</b>	<b>389</b>	<b>100</b>

Table 16 shows that the majority 88.4% (344) said that Pap smear won't always reveal cancer of the cervix and 7.2% (28) said it will always reveal cancer of the cervix.

## SECTION D

This section is showing association between the dependent, independent variables and socio-demographic variables. The dependent variable was awareness of cervical cancer, independent variables were uptake of Pap smear, socio-demographic data, cultural beliefs, sources of information, however in this study none of the respondents had a Pap smear done.

**TABLE 18: ASSOCIATION BETWEEN DEMOGRAPHIC CHARACTERISTICS AND AWARENESS OF CANCER OF THE CERVIX (N = 389)**

	AWARENESS OF CANCER OF THE CERVIX		TOTAL	P-VALUE
	YES	NO		
<b>AGE</b>				
18-28	108 (48.2%)	116 (51.8%)	224 (100%)	0.601
29-39	69 (45.7%)	82 (54.3%)	151 (100%)	
40-50	6 (66.7%)	3 (33.3%)	9 (100%)	
51-60	3 (60%)	2 (40%)	5 (100%)	
<b>MARITAL STATUS</b>				
Single	25 (51.0%)	24 (49.0%)	49 (100%)	0.631
Married	161 (47.3%)	179 (52.6%)	340 (100%)	
<b>EDUCATIONAL LEVEL</b>				
None/Primary	106 (47.5%)	117 (52.5%)	223 (100%)	0.669
Secondary/College	80 (48.1%)	86 (51.8%)	166 (100%)	
<b>OCCUPATION</b>				
Employed	26 (38.8%)	41 (61.2%)	67 (100%)	0.105
Not employed	160(49.7%)	162(50.3%)	322(100%)	
<b>ECONOMIC STATUS</b>				
Above K1, 500, 000	54 (61.4%)	34 (38.6%)	88 (100%)	0.004
Below K1, 500, 000	132 (43.9%)	169 (56.1%)	301(100%)	
<b>TOTAL</b>	<b>186 (47.8%)</b>	<b>203 (52.2%)</b>	<b>389(100%)</b>	

Table 17 shows associations between socio-demographic characteristics and respondents' awareness of cancer of the cervix. Out of these factors, only economic status was significantly associated with the outcome awareness of cancer of the cervix.

There is significant association between the respondents whose income was above K1, 500, 000 and awareness of cancer of the cervix (61.4%, P-value 0.004).

#### **4.4 FOCUS GROUP DISCUSSION**

##### **4.4.1 DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS**

All the participants were from Maramba compound situated in Livingstone urban and were divided into two groups which comprised six (6) females each. The first group comprised married women aged 18-35years. Three of the Participants (3) had completed Grade Twelve (12), two (2) went up to Grade nine (9) and two (2) were Grade Seven (7) drop outs. All the Participants were Christians and full time house wives. Only one (1) participant was in formal employment and all were from a low socio-economic status.

The second group had women aged 35years and above. Four (4) of the women were married and Two (2) were widows, only one had gone up to Grade Nine, while the rest had primary school level of Education. All were Christians and had children. One (1) participant was in informal employment and five (5) were from a low socio-economic status.

The two major themes identified during the data analysis were:

- Cervical cancer awareness
- Pap smear uptake

##### **4.4.2 CERVICAL CANCER AWARENESS**

The participants were asked to define cervical cancer in their own understanding and most of them said that it “is a disease,” although some defined it is “a wound or lump.” This is evidenced by the following responses from the participants:

Participant 1 from the first group (aged 18 – 35years), said that cancer of the cervix is like “*a wound, or lump that cause difficult in urinating, with yellowish discharge from the vagina and that if the disease prolongs the cervix will harden and that it kills*”. Participant

2 said *"it is a disease"*, participant 3 said *"it is a tumor"*. The other three participants said that they did not know what cervical cancer was and that *"they only heard from people that it was the disease for women, but we don't really know"*. In the 35years and above age group, participant 1 said that *"it is the disease where women have a lot of white discharge coming out from the vagina"*, participant 2 said *"in fact, it is a disease that is believed to come about due to witchcraft, especially where a husband has a girl friend, the wife at home will be bewitched by the girlfriend"*. Participant 3 also added saying *"yes it is true, the woman will have prolonged bleeding from the vagina"*. Participant 4 said that *"it is a disease like any other disease"*.

When asked about the causes of cancer of the cervix, the following were the responses from the participants interviewed:

- This illness is caused by the traditional herbs women like drinking and adding to the porridge to keep their bodies warm, as one participant in the 18-35 year age group said *"the powders we add to the porridge for drying vaginal secretions are a cause of cancer of the cervix"*. One participant in the 18-35year age group said that *"as for me, I have never used traditional herbs since I got married, even my husband knows"*. The other participant from the same age group said that *"we are forced to take these powders in porridge by our friends during social conversations"*. Participant 3 said that *"you see, I am worried now because of these powders I have been using, I will tell my husband about it so that I can stop, I fear to die from this disease"*.
- Insertion of herbal powders in the vaginal canal to dry up the secretions in order to make the vaginal canal small: One participant in the age 35 years and above said that *"the herbs women insert in the vagina are to excite men during sexual intercourse so that they feel nice and good"*. The other participant from the same age group said that *"I have never used powders myself because they can destroy the cervix which is soft and tender, making it easy for germs to enter and cause cancer"*.

- Use of family planning especially contraceptives: This was said by a participant from the age group 35year and above *“you develop cancer of the cervix if you take oral contraceptives for a long time, especially those women who miss periods because they omit the red tablets, this leads to blood accumulating in the uterus consequently lead to tumors and cancer of the cervix”*.
- The participants in the age 35 years and above said that *“witchcraft is also a cause especially where your husband flirts around with other women. The girl friends will consult a witch doctor that will play magic on the wife and cause vaginal bleeding.”* The other participant reacted sharply as a way of approval saying, *“she is not lying, it is true, the same happened to my niece who is late now”*.
- Sexually transmitted diseases; one participant from the age group 18-35years said that *“sexually transmitted infections like **“bola bola”** gonorrhoea, and syphilis cause cancer of the cervix.*

When asked about the complaints a patient who develops cancer of the cervix will experience, responses were as follows: the participants from the age group 18-35 said that *“pain during sexual intercourse”* the other participant from the same age group said that *“yellowish discharge”*, and one participant from the age group 35years and above said that *“bleeding **“kuzwa bulowa kubukaintu”** and **“back ache”**”*.

When asked on the prevention of cancer of the cervix, diverse responses were given to the question asked: *“women should stop inserting powders in their vagina, and that women should be going to the hospital early when they discover abnormal vaginal discharges, pain during sexual intercourse. They said early treatment will reduce the spread of the cancer to other organs that can later cause death.*

When asked if women of their same age would suffer from cancer of the cervix, they said yes because of their activities of insertion of powders in their vagina, *“if they stopped such practices then young people won’t suffer from cancer of the cervix”*. One participant said that *“**ma,ma,ma**, we must stop eating herbs, God made our bodies*



*warm and that we should stop listening to women who encourage us to use powders to insert in the vagina”.*

#### **4.4.3 PAP SMEAR UPTAKE**

Participants were asked if they had any information on Pap smear or if they had once done a Pap smear, however the participants except one (1) showed ignorance about what Pap smear was. They knew that Pap smear is done in the hospital, but did not know that such services were offered at Livingstone hospital. They did not know how often women could have Pap smear done. One participant asked that *“what Pap smear was,”* in reply the researcher explained that, it is a service offered at the Livingstone general hospital where a small piece of tissue is got from the cervix and sent to Lusaka UTH for examination and results are sent back which are explained to the woman. One participant exclaimed, *“mawee, bending forward”*. When asked why she said *mawee*, *“the procedure is bad, why remove a tissue from the cervix, wont the woman bleed.”* The other participant from the age group 18-35 year asked, *“Is it not painful?”*

The participant from the age group 18-35 said that *“it is not painful, I did it last week at Monze Mission Hospital, it was free, they did not charge me anything, they used a camera, I don’t really know what they actually did inside the vagina, but after a few minutes the procedure was finished and they told me I had no cancer of the cervix”*. She further said that *“I encourage you women especially you who have been inserting powders in your vagina, you should go to Monze hospital for check up”*. One participant said that, *“The problem is the issue of money. One needs a lot of money to reach Monze. Why can’t that procedure done at Monze hospital where they use a camera be done here for the benefit of women who can’t afford to travel to Monze.*

When asked on cultural beliefs that could affect women seeking Pap smear services, the majority of those between ages 18-35 said that *“we fear to be told that we have cancer of the cervix because this could cost our marriages”*. One Participant said that *“uu huu, if I am found with cancer of the cervix, my husband will definitely divorce me”*. The majority of the women above 35 years of age said that, *“cancer of the cervix is*

*caused by witchcraft". One participant said that "if your husband is involved in extra marital activities, then the girlfriends will bewitch you that will lead to signs and symptoms of cancer of the cervix".*

#### **4.4.4 SUGGESTION FOR IMPROVEMENT**

The participants strongly felt that cancer of the cervix could be prevented by disseminating information through workshops, open discussions with women in communities, radio programmes, Television shows/sketches/drama and drama organized by women in the community also enlightening men on cervical cancer. They also said that women must be educated on the causes of cancer of the cervix so that they could stop using traditional herbal.

They also said the VIA (Visual Inspection with application of Acetic acid) procedure done at Monze Mission hospital must be started at Livingstone General hospital for easy access of the services.

## **CHAPTER FIVE**

### **5.0 DISCUSSION OF FINDINGS**

#### **5.1 INTRODUCTION**

The main objective of the study was to determine cervical cancer awareness and uptake of Pap smear among women of 18 years and above in Livingstone District. Data was collected using an interview schedule and two Focus Group Discussions.

#### **5.2 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE**

The socio-demographic characteristics of the study population are shown in table 5. Most (57.6%) of the respondents interviewed were within the age group 18-28 years and 1.3% were in the age group 51-60 years. The explanation for this finding could be that most of the young women aged 18-28 years could have completed school at the time of data collection and most of them were housewives and not in informal employment.

The majority (87.4%) of the respondents in this study were married, and 12.6% were single (Table 5). The explanation of the findings above could be that early marriages are likely to have occurred in this study population as most of the respondents only had primary education. The above assumption agrees with the Gender in Development Division (2006), which states that in Zambia marriages occur relatively early with 70% of young women getting married by the age of 20 years. The results also agrees with Central Statistics Office (2006) report which shows that almost 46% of women aged 20 – 49 were married by age 18, and 66% were married by the age of 20 years.

In this study all the respondents were Christians (Table 5). This could be attributed to the fact that Zambia is a Christian nation hence most Zambians are Christians.

Table 5 shows that most 232 (59.6%) of the respondents never had primary education, 157 (40.4%) had attained either secondary or college education. The above finding is higher than that of the 2001-2002 Zambian Demographic and Health survey which shows that only 41.6% of the total population had some primary education and 29.2%

had secondary education (CSO, 2006). The reasons could be due to the fact that people are increasingly becoming aware of the importance of education now than before. The explanation of the findings concerning those who attained either secondary or college education (40.4%) could be that most of the girls got married after completing Primary education. This assumption agrees with the Central Statistics Office (2006) report which shows that almost 46% of women aged 20 – 49 were married by age 18, been the age when they complete Primary education and 66% were married by age 20.

According to the Living Conditions Monitoring Survey (2006), 64% of Zambians were classified as poor. The majority (82.8%) of the respondents in this study were unemployed, only 17.2% were employed (Table 5). This agrees with CSO (2006) that shows that only (27%) of Zambian women are in informal employment. The other assumption to the above findings could be due to early marriages because girls marry as early as 18 years of age, and that most of the girls stop school at primary level hence reducing their chances of going into college.

According to 2009 overview of women's work and employment in Zambia, the findings showed that in 2004-2005, 82% of the population lived under the poverty line of 2 USD per day. The reports further showed that income vary widely between industries, and other social sectors. Most of the respondents (77.4%) had a household income below K1, 500, 000 while the rest (22.6%) had a household income of above K1, 500, 000 (Table 5). The above finding is in line with the International Monetary Fund (IMF) programs and Health Expenditures Background paper which states that Zambia remains a country with widespread poverty and weak health outcomes Goldsbrough and Cheelo (2007). Education may also explain part of the gender pay gap as stated in an overview of women's work and employment in Zambia that in 2005, 33% females had completed secondary education, and only 3.6% had completed tertiary education. These meager financial resources can be linked to the inferior position of women within the household (CSO, 2006). The same report attributes effects of unemployment to an absolute lack of jobs in the country.

### 5.3. CERVICAL CANCER AWARENESS

The study findings show that 52.2% of the respondents interviewed had never heard of cancer of the cervix (Figure 3). Only 47.8% were aware of cancer of the cervix but had no adequate knowledge on the disease as noted in the focus group discussion where respondents said they had heard people talk about cervical cancer but they were ignorant of the full information on the same. The above findings are contrary to Adanu's (2002) findings where 93% of the respondents had heard of cancer of the cervix while only 37% had adequate knowledge of the disease. In this study, the knowledge of young women aged 18-28 and 29-39 was low compared to the study done by Plan (1993) that showed knowledge levels that were higher among younger women and those who had obtained regular smears. Plan's findings further revealed that older women tend to have more concern about their health and cancer of the cervix in particular because in the past cancer of the cervix affected the older women more than the young (Muri, 2006). This finding is similar to this study's findings that showed 66.7% of those aged 40-50, 60% of those aged 51-60 were aware of cervical cancer.

The Source of Information (Figure 4) for the respondents who were aware of cervical cancer was Media (35.4%) and the health personnel (40.9%). This is consistent with the communication behavior change model that says messages delivered from Media, Hospital, Celebrity, Non Governmental Organizations, Friends to mention but a few will have different credibility and relevance to different target audiences. It doesn't matter the source used, what matters is how the message was communicated. The content and form of the message can have great influence on the recipient. The model emphasizes on the length of the message, language and tone of the voice of the source. This finding is similar to Adefuye (2006)'s findings where 31.3% respondents said they got the information concerning cervical cancer from the hospital sources. Though the percentage is low, hospital can be a very good source of knowledge on cervical cancer.

With regards to the signs and symptoms of cervical cancer (Table 6), 36.9% of the respondents mentioned pain as a sign and symptom of cancer, 21.9% said that vaginal

bleeding was a sign and symptom of cervical cancer, and 25.1% said that watery discharge was a sign and symptom of cervical cancer and 16% had no idea. Moreover, most of the Focus Group Discussion participants mentioned vaginal discharge as the main sign and symptom of cervical cancer. This result is similar with Loyva (2006) study that revealed 55% of the respondents visited the Public health care facility only after they had abnormal vaginal bleeding, and most of them (80%) never thought it was a symptom that could be related to cancer of the cervix. Contrary to the findings, Kidanto's (2002) study on knowledge and attitude of women towards cancer of the cervix revealed that 38 – 50% of the cases and controls did not know that irregular vaginal bleeding, post-coital bleeding and abnormal vaginal discharge could be symptoms associated with cancer of the cervix. The majority of the cases and controls had inadequate knowledge of the basic symptoms of cancer of the cervix.

Knowledge on who was at risk of developing cancer of the cervix is important as this can help in behavioral change. When asked as to who was at risk of developing cancer of the cervix (Table 8), 39.1% of the respondents said that all women were at risk of developing cervical cancer, 41.2% said that women who are sexually active were at risk and, 23% said that married women. This is contrary to the Focus Group Discussion where the majority of the respondents said all women irrespective of their condition or situations were at risk of developing cancer of the cervix. The results of the study show that women do not know that all women are at risk. The women have not perceived that they are susceptible to cervical cancer as stipulated in the Health Belief Model.

Knowledge on the predisposing factors to cancer of the cervix (Table 9) was generally good. The results showed that most of the respondents (44.1%) said that women with multiple sexual partners were prone to the disease, 19.4% stated that starting sex at an early age could predispose a woman to cervical cancer. The other responses on predisposing factors for cervical cancer were that smoking could predispose a woman to cervical cancer (13.4%) and that low immunity due to HIV/AIDs could predispose a woman to cervical cancer (13.4%). The focus group discussion findings revealed that traditional herbs women like putting in their tea, powders added to porridge, insertion of

herbal powders in the vagina may be the predisposing factors. The findings are similar to that of Adanu (2002) on the etiological factors of cervical cancer who found that 41% of the respondents mentioned multiple sexual partners as a predisposing factor to cervical cancer and 36% of the respondents thought vaginal douching and insertion of substances in the vagina increases the risk of cancer of the cervix. A study by Plan (1993) on the causes of cervical cancer found that on the whole women appeared to be well informed of the link between the number of sexual partners and cervical cancer as well as recognizing smoking to be a contributing factor. To the contrary, Schiffmann's (1993) findings show that all grades of cervical cancer can be attributed to Human Papilloma virus (HPV). Despite the respondents low knowledge on the predisposing factors, 69.3% of the respondents said that a health looking woman can have cervical cancer.

Knowledge on ways of avoiding cervical cancer is important as this can help women seek preventive measures and be able to protect themselves from acquiring the disease. It also helps to discover the disease early and treatment instituted promptly. When asked if cancer of the cervix can be avoided (Table 11), 62.6% of the respondents were of the view that cervical cancer could be avoided, and when asked how cancer of the cervix can be avoided, (Figure 5) 53.8% of the respondents stated that cervical cancer can be avoided or prevented by seeking Pap smear services, 16.2% said that it can be avoided by sticking to one sexual partner and 0.9% of the respondents said that it can be avoided by stopping smoking. However, the women in the Focus Group Discussion stated that cervical cancer can be avoided if women stopped inserting powders in their vagina, and that women should go to the hospital early when they discover abnormal vaginal discharges, pain during sexual intercourse. These findings do not agree with Stephen and his colleagues (UNAIDS, 2006) who found that 80% of the women in Ukraine lacked knowledge on how cancer of the cervix could be prevented. These findings were also contrary to the study by Ezem (2004) who found that 52.8% respondents were completely not aware of the Pap smear services that avoid cancer of the cervix.

When asked whether cervical cancer could be treated (Figure 6) 62.6% of the respondents mentioned that cancer of the cervix could be treated while 16.6% had no idea. The respondents were also asked when cancer of the cervix could be treated, of the 117 respondents who said cancer of the cervix could be treated (Table 12) 90.6% respondents said that it can be treated before it spreads to other organs and 9.4% said that cancer of the cervix can only be treated after it has spread to other organs. Knowledge on early treatment of cancer of the cervix is important to women since women who seek medical treatment in early stages of the cancer get treated. This is evidenced by a study conducted by the National cancer institute (2001) on the importance of early treatment of cancer of the cervix that revealed that early treatment with LEEP (Loop Electrosurgical Excision Procedure), Cryotherapy, Laser therapy or Conisation removes the abnormal tissues by various techniques according to the approach used. Without such treatment, cells may turn into cancer and metastases to adjacent organs. This finding in the current study is consistent with those of Plan (1993) where it was found that a substantial proportion of women (91.7%) were of the attitude that cancer can be treated if detected early enough.

The commonest first sign and symptom patients with cancer of the cervix experience are excessive prolonged foul smelling discharge from the vagina. When asked about the causes of excessive prolonged foul smelling discharge (Figure 7), 82.4% of the respondents said cancer of the cervix was the cause, only 17.6% of the respondents said that excessive foul smelling discharge was caused by witchcraft. On the other hand Focus Group Participants stated that prolonged vaginal discharge is caused by cancer of the cervix, contrary to a study by Kidanto (2002) on knowledge and attitude of females towards cancer of the cervix where 78% of the respondents said that the cause of prolonged vaginal discharge was due to excessive coitus, witchcraft, eating eggs and husbands crossing over their wives while lying on supine position.

Knowledge of cultural beliefs which can make women with prolonged vaginal discharge not seek medical attention is very important. Most (80.7%) of the respondents interviewed said that a belief in witchcraft could cause a woman with prolonged vaginal



discharge not seek medical treatment early (Table 13). Similarly the focus group participants held the same view. Some participants in the Focus Group Discussion said that if one's husband has a girl friend who desperately wants to get married, can consult a witch doctor who would perform magic that would cause the wife to have vaginal discharge.

The economic status can have a positive or negative impact on cervical cancer awareness among women. Economic insecurity and poverty make women not to access health services since women need money to reach the hospital where the services are offered (National Gender Policy, 2002). In this study (Table 18) there is significant association between the economic status of the women whose monthly salary was above K1, 500, 000 and cervical cancer awareness (61.4%, P value - 0.004). This finding is opposed to that of a study done in United States in metropolitan areas where it was revealed that those whose salary were high \$50 000 were not fully aware of cervical cancer than those whose salary was \$15 000.

#### **5.4 PAP SMEAR UPTAKE**

This study revealed that the majority (55.8%) of the respondents had heard about Pap smear at the time of the interview (figure 8). Those who had never heard of Pap smear were 44.2%. These results are contrary to the findings by Wong (2008) which showed 73.1% of the respondents in his study were aware of the Pap smear. The study by Wong (2002) on Pap smears on Malaysian women showed lack of knowledge about cervical cancer screening using Pap smear and the need for early detection for cancer of the cervix, those who believed that Pap smear was a diagnostic test for cancer of the cervix, since they had no symptoms they did not go for Pap smear screening, the other reasons given were lack of Pap smear indications and benefits perceived, low susceptibility to cancer of the cervix, embarrassment and fear of pain. This study revealed that (45.9%) of respondents who had attained higher education secondary/college were aware of Pap smear services contrary to a study by Adeline et al (2010) that revealed that 90% of the respondents knew that Pap test screened for precancerous and cancerous lesions of the cervix. In the same study more than half of

the respondents thought that the test also screened for other forms of gynecologic cancers and for a variety of Sexually Transmitted Diseases.

When asked about their sources of information (figure 9), the majority of the respondents (52.3%) said that they heard about Pap smear services from Television, only 24.4% heard from the hospital. These findings are contrary to those by Cheek (2008) where 80% of the respondents said that the family Doctor was the most important source of information about Pap smear services and the majority of the women reported that they would have a smear if recommended by their Doctor not anyone else, friends and family were the second source of information about cervical cancer screening (Cheek, 2008).

Furthermore, Helen (1992) reported that women who use print media as their most useful source of information are significantly more likely to have heard of cancer screening procedures than those who rely on Doctors as the source of information. The same report states that those who rely on electronic media tend to be less knowledgeable of all screening procedures examined. A study by Hubbar et al (2006) revealed that women's sources of information about cervical cancer screening extend beyond health care providers to include friends and family members, and that women preferred obtaining information from other women with the same disease than the hospital. The most trusted source was face to face interaction with the health care provider.

With the advent of HIV and AIDS, cancer of the cervix is also on the increase due to the human papilloma virus that is transmitted sexually; Pap smear is predominantly promoted as a preventive measure for cancer of the cervix (Bosch et al, 2006). In this study, the finding showed that none of the respondents had a Pap smear done, therefore, there was no relation among the demographic variables age, marital status, educational level, income with Pap smear uptake. These findings do not support those of Williams and Joseph (1990) which showed a relationship between Pap smear uptake and the demographic variables such as marital status, age and educational level. In this study there was no association found between cervical cancer awareness and uptake of

Pap smear since all the respondents did not have Pap smear done (Table 21) thus accepting the hypothesis which states that there is no relationship between cervical cancer awareness and uptake of Pap smear among women above 18 years of age.

This finding is contrary to the results of a study done by WHO (2002) on the effective screening programme for cervical cancer in low and middle income developing countries which revealed that 80% of married women have been screened at least once in Chile, while in Colombia, 60% of women aged 25 to 65years old had done cytology smears. In Cuba more than 80% of the women aged 20 to 60 years have been screened at least once. However despite the high levels of Pap smear utilization, no reduction in cervical cancer incidence and mortality has been observed. Another study done by Plan (1993) on women aged 15 to 78% showed that 80.5% had had at least one smear test done, while 71.5% of these women had regular Pap smears taken at least every after 3 years. Furthermore a study by Ngayen (2009) revealed that 78% of Vietnamese women in Santa Clara had done Pap smear test.

The reasons given by respondents for not doing Pap smear were varied, 56.3% of the respondents said that they did not do Pap smear test because they were not aware of the Pap smear services, 40.4% of the respondents reported fear of the unknown as a reason for not doing a Papsmear and 3.3% said that the procedure was painful (Table 14). This finding is contrary to the study by Loyva (2006) where 32% of the respondents in the study said that being examined by a male provider would discourage them from getting a Pap test. On the other hand, William (1990)'s study where the majority of women said Doctor's opinion would encourage them to do a Pap smear, also the accuracy, seriousness of the Pap smear result, importance of early detection, familiarity with the treatment procedure, time hassles, difficulties involved in getting further treatment and fear of cancer.

When asked to state where Pap smear test is conducted, 90.7% of the respondents said that Pap smear test is done at the hospital; only 3.6 did not know where Pap smear test is done (Table 14). When asked if a Pap smear test done on a woman will always be positive for cervical cancer, 88.4% of the respondents stated that not all Pap smears

will be positive, 7.2% said that all Pap smear will show positive results (Table 17). This finding is similar to that of Suarez (2006) who found that the majority (90%) of the respondents in his study reported that not all Pap smears done will be positive.

## **5.5 LIMITATIONS OF THE STUDY**

The following are the limitations of this study:

- The interview schedule is a self report instrument which could have led to under reporting of sensitive information (pre-disposing factors) thus the findings may not be generalized.
- The sample comprised women aged 18 years and above from one section of a compound in Livingstone town hence the results might not be generalizable to the rest of the women in Zambia

## **5.6 IMPLICATIONS TO NURSING**

The findings of the study have the following implications:

### **5.6.1 Nursing Education**

The study findings show that all the respondents had not had a Pap smear done in their life time, which is a negative aspect to Nursing Education. When asked for reasons for not doing Pap smear about half (56.3%) of the respondents said that they were not aware of the Pap smear services, less than half (40.4%) said that fear of positive results prevented them from seeking Pap smear services and a few respondents (3.3%) said that the procedure was painful. These results are an indicator of inadequate information hence there is need for nurses to educate the women on the importance of Pap smear services if the fight against cancer of the cervix has to be won. The new concepts in cervical cancer should be integrated in the nursing curricular so nurses become effective educators. The nursed educators should have knowledge updates on new concepts. Pap smear services are freely available to women in Livingstone district, except limited pathology services that are done only at one hospital the University teaching hospital.

## **5.6.2 Nursing Administration**

The study revealed that 24.4% of the respondents' source of information on Pap smear services was the hospital. The results show that the health personnel are not doing much to educate the women on the importance of Pap smear. The nurse administrators have to assign nurses who would disseminate the information on Pap smear uptake to women through education campaigns. Nurse administrators should assign nurses (especially those working at maternal and child clinics) to give health education to the women in their irrespective working areas. Nurse administrators should in turn supervise the nurses as well as provision of materials to use when teaching, and they must be updated on the new concepts about cervical cancer e.g. the VIA test, they should also be provided with the resources e.g. transport, finances, materials to refer to when teaching. Nurse administrators to ensure that nurses have updates in the new concepts and provided with resources for teaching.

## **5.6.3 Nursing Research**

The Literature Review in this study showed that research on cervical cancer awareness and uptake of Pap smear have been done in other countries, but there has been little research on this topic in Zambia. Nurse researchers should be encouraged to research more on this topic so as to find ways and means of helping the women in Zambia be empowered with knowledge on cervical cancer and be encouraged to seek Pap smear services early. This will help to prevent many premature deaths from cervical cancer

## **5.7 CONCLUSION AND RECOMENDATIONS**

### **5.7.1 CONCLUSION**

#### **5.7.1.1 Conclusion according to the stated research objectives**

The study was carried out to determine the awareness of cancer of the cervix and Pap smear uptake among the women aged 18 years and above.

Most (57.6%) of the respondents interviewed were within the age group 18-28 and 1.3% were in the age group 51-60. The majority (87.4%) of the respondents were married, this poses a challenge because the findings show that most of the young women marry

at a very younger age denying them education. 59.6% of the respondents had either primary education or had never been to school. Further more 82.8% of the respondents were unemployed.

The study revealed that only half of the respondents had heard of cancer of the cervix and none of the respondents had a Pap smear done. This shows that awareness messages on cervical cancer and its prevention to the public are not adequate. Despite all of them not having had Pap smear (Table 11), 62.6% of the 117 respondents who had said they were aware of cervical cancer still said cancer of the cervix can be avoided and 52.5% of the respondents said cancer of the cervix can be prevented by seeking Pap smear services (Figure 5). The study revealed that age had no influence on the cervical cancer awareness (there of no significant association between age and cervical cancer awareness as P value was 0.601). The study further revealed that 60% of those aged 51 to 60 knew that all women are at risk for developing cancer of the cervix.

The study achieve its intended objectives because it revealed the percentage of respondents (47.8%) who were aware of cervical cancer and (52.2%) respondents who were not aware of cervical cancer figure 3. This calls for increased awareness strategies on cervical cancer to women. The study also revealed that the sources of information for the respondents (47.8%) who said they were aware of cervical cancer was media, health personnel, relatives, teacher, friends and from church. This will help policy makers to know the proper medium they can use to reach the women on issues of cervical cancer. The study further revealed that, all the respondents 389 (100%) did not have a Pap smear done even those who had some knowledge about cervical cancer did not have Pap smear test done. The reasons given by 56.3% respondents was that they were not aware that Pap smear test services are offered in the hospitals, 40.4% of the respondents attributed their non utilization of Pap smear test services to fear of positive results.

### 5.7.1.2 Conclusion according to the Health Belief Model's major tenets

**Perceived Susceptibility** - Most of the respondents did not know that all women are at risk of developing cancer of the cervix. When asked if they knew that all women are at risk of developing cervical cancer, only 39.1% of respondents said that all women, 26.1% said only married women, 2.3% said only young women. And 32.1% said only women who are sexually active.

**Perceived Barriers** - Almost half of the respondents (56.3%) were not aware of Pap smear services, and therefore it can be concluded that lack of knowledge as to where these services are offered is a barrier.

**A Cue of Action** - The commonest source of information of the respondents who said they heard about cervical cancer was health personnel. If health personnel could continue disseminating information on cervical cancer through the media, sketches, health education talks, many women would be motivated to take positive action on prevention of cancer of the cervix.

**Self Efficacy** - There is need for more information on cancer of the cervix prevention so that more women would be able to seek the preventive services offered in their respective hospitals or clinics.

### 5.7.1.3: Conclusion according to Communication Behavior Change model

**Source:** The source of information about cervical cancer in the study was media, health personnel, teachers, relatives, friends and the church. The respondents who had said they heard about cervical cancer, mentioned a source where they got the information from. The source can influence the credibility, clarity and relevance of a message. For example, the same message delivered from hospitals, celebrity, non-government organization will have different credibility and relevance to different target audiences.

**Message:** The content and form of a message can influence the audience's response. In order to encourage women in the use of Pap smear services, the message about cervical cancer and Pap smear must be communicated with humor so as to provoke responses from women

**Channel:** The findings of the study show that media was one of the channels the respondents used to get the information on cervical cancer and Pap smear. Women have to be encouraged to listen to televisions, radios, since most women have access to one of the two.

**Receiver:** Recognizing differences in audience segments and their media preferences are important in matching the right message to the right channel from the right source. The language used will help to convey the information to the women. Local languages must be encouraged so that the recipient of the message gets the message exactly the way it is conveyed.

**Destination:** This means the desired outcome to the communication. The desired outcome is to have women be aware of cervical cancer and seek preventive measures against cancer of the cervix, consequently reduce on mortality rates.

## **5.8 RECOMMENDATIONS**

### **5.8.1 Recommendations for improving cancer of the cervix awareness and uptake of Pap smear among the women.**

- 5.8.1.1. There is need for Ministry of Health and other stakeholders like Ministry of Education, Churches and Non Governmental Organizations to strengthen Reproductive Health Services for women where cancer of the cervix and Pap smears issues would be communicated to women.
- 5.8.1.2. Information, Education and Communication (IEC) to women during Maternal and Child health care activities.
- 5.8.1.3. Community Based Agents (CBAs) should be fully equipped with knowledge about cervical cancer and importance of Pap smear services, so that they can in turn sensitize communities on cervical cancer.
- 5.8.1.4. Government should fund cervical cancer programs so that health workers can use door to door campaign strategy, Radio/Television sensitization on the prevention strategies of cervical cancer to the community.



5.8.1.5. The Visual Inspection with Application of Acetic Acid (VIA) preventive strategy done at UTH, all urban clinics in Lusaka and Monze Mission Hospital must be scaled up to other Provinces to enable women access the services, since this is a “see and treat” strategy other than the Pap smear that is still done in the rest of eight provinces where women have to wait for results for a period of time.

## **5.8.2 Recommendation for further research**

5.8.2.1 There is need for the study to be duplicated in other Provinces to enable generalization of the results.

5.8.2.2 Interventions that could be applied to improve women’s focus on preventive measures need to be implemented.

5.8.2.3 A study to identify factors that lead to women not to seek Pap smear services must be undertaken.

## REFERENCES

- Adanu, A. (2002). **Determining the level of knowledge about cancer of the cervix and Pap smear**, Accra.
- Adefuye, P.O. (2006). **Knowledge and practice of cervical screening among professional health workers in a suburban district**, Biomed Central 7(7)
- Adeline, S., Huang, J & Straighan, P.T. (2006). **Effects of social support, regular physician and health related attitudes on cervical cancer screening**, 5th edition, Philadelphia: J.B. Lippincott,.
- Alonso, P, Ponce, L, Castro, R & Najera, P. (2009). **Barriers to early detection of cervical cancer**, Blackwell Scientific Publications, Mexico.
- Bayo, S, Bosch F.X, Sanjose, S, Munoz, N, & Combita, AL. (2002). **Risk factors of invasive cervical cancer**, Pub Med Publisher, Mali.
- Becker, S.A, Affonso, D.D & Blue Horse Beard, M. (2006). **Talking Circles: Northern Plains Tribes American Indian Women's View of Cancer as a Health Issue**, East A Journal of Public Health Nursing, 23, 1, 27-36.
- Becker, M.H. (1976). Health belief model, 2<sup>nd</sup> edition, Mayfield Publishers New York
- Bosch, F.X. (2007). **The epidemiology of human papillomavirus infection and cervical cancer**, Pub Med Publisher, 46-60, Mali.
- Bosch, F.X, Munoz, N, Moreo, P, Ascunce, N & Gongalez, L. C. (2006). **Risk factors for cervical cancer**, Oxford textbook of risk factors of diseases, 2<sup>nd</sup> edition, New York: Oxford University Press.
- Bowa, K. (2008). **Cervical Cancer Screening**. [CIDRZ.Publication](#), Lusaka.
- Bowa, K, Wood, C, Chao, A, Chintu, C, Mudenda, V, & Chikwenya, M. (2008). **The Epidemiology of Cancers**, UTH Publication Lusaka.

Burns, N, & Grove,S. K. (2009). **The Practice of Nursing Research, appraisal, synthesis, and generation of evidence**, 6<sup>th</sup> edition, Saunders, Arlington, Texas.

Calle, E.E, Flanders, W.D, Thun, M.J, & Martin, L.M. (1993). **Demographic predictor of Pap smear screening**. EBM, London, Churchill Livingstone.

Centers for Disease Control and Prevention. (1993). **Revised classification system for HIV-1 infection and expanded surveillance case definition for AIDS among adolescents and adults**. JAMA 1993, 269:729-730. PubMed

Central Statistics Office. (2007). **Zambia Census of Population and Housing**, Zambia Analytical Report Volume 10, Zambia.

Central Statistics Office. (2007). **Zambia Living conditions monitoring survey**. Analytical Report Volume 14, Zambia, Lusaka.

Central Statistics Office, Ministry of Health & Measure DHS (2008). **Zambia Demographic and Health Survey 2007: Preliminary Report working internal draft**, Macro International Calverton, Maryland, USA.

Calle, E.E, Flanders, W.D, Thun, M.J. (1993) **Demographic predictor of Pap smear Screening**. International Journal of Nursing Studies, 58, 557-566.

Cheek, J. Joseph, C.D & Korn, A. (2008). **Women and Pap smear: Issues in Promotion**. Journal of Pain and Symptom Management, 18, 77-80,

Cheek, J. (2008). **Women and Pap smear**. British Medical Journal, 7(1):2-14.

Chirenje, Z.M, Rusakaniko,S, Kirumbi, L, Ngwalle, E.W, Makuta-Tlebere, P, Kaggwa, S, Mpanju Shumbusho, W & Makoe L. (2001). **Situation analysis for cervical cancer diagnosis and treatment in east, central and southern African countries**. Bull World Health Organ 2001, 79(2):127 – 132. PubMed

Clarke, H.F, Joseph, R, Deschamps, M, Hislop, G, Band, P.R & Atleo, R.. (1998). **“Reducing cervical cancer among first nations women”** McGraw-Hill, New York

Coursaget, G. Marten, V. (1997) **Knowledge on cancer of the cervix**, Medical Publishers (P) Ltd, New Delhi.

Dhamija, S, Sehgal, A, Luthra, K.U, & Sehagal, K. (1993). **Knowledge, attitude, and practice of cervical cancer**, NewDelhi. India.

Elizabeth, M & Martin, A. (2005). **Quality of health care**, Macro International Calverton, Maryland, USA

Ezem, B.U. (2004). **Awareness and uptake of cervical cancer screening**, Oweri, Southern-Eastern, international Journal of Nursing studies, Nigeria.

Ferlay, J, Bray, F, Pisani, P & Parkin, D.M. (2004). GLOBOCAN 2002 cancer incidence. **Mortality and prevalence worldwide**. No. 5 version 2.0. Lyon, France International Agency for Research on Cancer Press (IARC), 2004.

Fram, K, Lam, B. S & Stephen, J. (2003). **Cancer screening**, Macro International Calverton, Maryland, USA

Gender in development Division (2006). **Empowering Women: Women's Participation in decision making**. Gender Newsletter, July-September, 2006: Issue 001, Volume 001:22.

GLOBOCAN: **Cancer incidence and mortality worldwide database**. Lyon. France: International Agency for Research on Cancer (IARC). <http://www.dep.iarc.fr>. Accessed on [14<sup>th</sup> May, 2009]

Goldsbrough, E. & Cheelo, C. (2007). **Overview of Women's work and Employment in Preliminary Report working internal draft**, Macro International Calverton, Maryland, USA. **Zambia**, Lusaka.

Gustafsson, S. Tram, F.K. & Lam, B.S. (1997) **Cancer Screening**: London Sage Publications

Hellen, I. Biswas, L. & Chang, D.Y.(1992). **How Sources of Health Information relate to knowledge and use of Cancer Screening examinations**, Blackwell Scientific Publications Washington DC, USA.

Hubbar, D, Muffin, F.G & Poltan, J. (2006). **sources of information about abnormal Pap tests and HPV in women**, Mosby Elsevier Publishers, USA.

James, F. (2009). **The viral origin on Cervical Cancer in Rabat**, International Journal of Nursing Studies, 45: 23-25, Morocco.

Kasule, J, Coulson, R, & Akino, V. (2001). **Cancer of the cervix in Zimbabwe: a prospective clinic-epidemiological study of 211 patients.** *Obstetrics and Gynaecology of East and Central Africa*, 2001, 8: 61-64.

Kidanto, H.L, Kantha, K.T. & Hurry, J,A. (2002). **Knowledge and attitude of females towards cancer of the cervix**, Denzin NK,Lincoln YS, editors:California.

Livingstone General Hospital's. (2008). **Health Information Management systems records**, Analytical Report Volume 11 Lusaka

Lim, G.C.C. (2002). **Overview of cancer in Malaysia**, Jpn J Clin Oncol 2002; International Journal of Nursing studies 32 (Suppl 1):S37-42.

Loyva, M.U & Keith, N.Y. (2006). **Attitude towards cancer of the cervix screening**, volume 4, Denzin NK, Lincoln YS, editors California.

Macha, S. (2008). **Cervical Cancer Screening**. Published by CIDRZ, Lusaka....

McGuire, B, (1988). Theories of communication, Blackwell Publishers, London.

Michielutte, R, Blinson, K., Dignan, M. & Wells, H.B. (2004). The cost of conducting face-to-face household interviews in a Rural, native American population, **The North Carolina Native American Cervical Cancer Prevention Project**, International Journal of Nursing studies, American Cancer Society, 1587-159.1.

Muri, R, Franceschi, S, Ravizza,M, Flore, S, Bini, T, Mussini, C, Fasolo, M, Liuzzi, G, Ippolito, G, D'Arminio Monforte A. (2006). **Access to gynaecological services and Papanicolaou tests**. International Journal of Nursing studies 2006; 18 (4): 376 – 378. PubMed

Mwanahamuntu, M. (2008). **Cervical Cancer Screening**. [File://C:\Documents and settings\james\My Documents\CIDRZ...](file:///C:/Documents%20and%20settings/james/My%20Documents/CIDRZ...) accessed on [4th August, 2009

National Cancer Institute. (2001). **importance of early treatment of cancer of the cervix**, International Journal of Nursing studies,USA.

National gender policy. (2000). **cervical cancer screening**, Published by CSO, Lusaka.

National gender policy. (2002). **cervical cancer screening**, Published by CSO Lusaka.

Neuwirth, G & Maurice, M. K. (1982). **Predictors of cancer of the cervix and Pap smear screening**, International Journal of Nursing studies Scotland.

Nieswiadomy, R.M. (2001). Foundations of Nursing Research, Upper Saddle River, New Jersey, U.S.A.

Okonofua, F. (2007). National Department of Health Systems Research Coordination and Epidemiology Vo5: 4, 2003. Viewed in <http://www.doh.gov.29.docs/research/vol5-4cancers.html>.

Parham, G. P, Sahasrabuddhe V. V, & Mwanahamuntu, M. H. (2004). **Prevalence and predictors of squamous intraepithelial lesions of the cervix in HIV-infected women**,\_Published by CIDRZ. Lusaka.

Parkin, D.M, Pisani, P & Ferlay, J. (1985). **Estimates of the worldwide incidence of eighteen major cancers**, *International Journal of Cancer*, 1993, 54: 594–606.

Plan, J.F. (1993). **Women’s attitudes and awareness of smear and cervical cancer**, McGraw Hill Publishing Co Ltd, London.

Polit, D.F, & Hungler, B.P. (2001). Nursing Research: Principles and Methods, 7<sup>th</sup> edition, Lippincott Williams & Wilkins, Phildelphia.

Polit, D.F, & Beck, C.T, (2003). Nursing Research: Principles and Methods, Lippincott Williams & Wilkins, Phildelphia.

Priscillar, D, Zanra, A, Anita, K & Korn, C. (2007). **Multi-ethnic women with abnormal Pap smears**, Jaypee Brothers Medical Publishers Ltd. New Delhi,

Roberts, A.A, Anyakogbe, O.O, & Osisanyo, T.F. (2004). **Knowledge of cervical risk factors among refugee women in Oru camp**, *International Journal of Cancer*, Nigeria.

Rogo, K.O, Astra C. Pristina M.R. (1990). **Carcinoma of the cervix in an African setting**. *International Journal of Obstetrics and Gynaecology*, 1990, 33; 249-255

Romiro, P, Martin, L.M. (1999) **Knowledge on Pap Smear Services**. Churhill Livingston, Edingburgh.

Schiffmann, M.H. (1993). **Knowledge on HPV**, *International Journal of Cancer* Bethesda, USA.

Smeltzer, D & Bare, L. (2004). **Evaluation of screening programmes for gynaecological cancer**. 6<sup>th</sup> Edition, Churchill Livingston, Edinburg.

Stjernsward, J, Serraino, D, Vacchia, C. (1995). **Cancer care**, Journal of Cancer, Vol 1, No. 1, page: 4 - 11 WHO, Geneva.

Suarez, L & Austin, I. M. (2006). **Knowledge, behavior, fears concerning cancer of the cervix among older women in low income Mexicans**, International Journal of Cancer, USA

UNAIDS. (2006). Expanding **the global response to HIV/AIDS through focused action**: Reducing risks and vulnerability: definitions, rationale and pathways. International Journal of Cancer, Geneva.

UNAIDS. (1997). **AIDS epidemic update: Emerging issues and challenges for women, young people**, 2<sup>nd</sup> Edition, Geneva, UNAIDS.

UTH. (2008). Registry records. University Teaching Hospital. Lusaka.

Vermund, S, Sahasrahuddhe, V.V & Mwanahamuntu, M.H. (2007). Article on **Prevalence and distribution of HPV genotypes among HIV infected women in Zambia**. 2007: 96:1480-1484.

Wabinga, H.R, Parkin, D.M, & Wabwire-Mangen, G. (2000). Article on **Trends in cancer incidence**. Kyadonda County, Uganda.

Waller, J, Kirstein, M & Wadle, J. (2004). **Belief about the risk factors for cervical cancer in a British Population sample**. International Journal of Cancer, London.

World Health Organization. (2006). **Risk of cervical cancer among women of reproductive age**. International Journal of Cancer Geneva.

World Health Organization. (2002). **Control of cancer of the cervix uteri**. International Journal of Cancer, Geneva.

World Health Organization. (2001). **Effective screening programme for cancer of the cervix in low and middle income developing countries**. International Journal of Cancer, Geneva.

WHO. (2004). **HPV and cancer of the cervix in Zambia summary report** WHO, Geneva, Switzerland.

William, B. C & Joseph, C. D. (1990). **Compliance behavior in women with abnormal Pap smears**. International Journal of Cancer, Washington.

Wong, L. P. (2008) **Knowledge on cancer of the cervix and Pap smear**. International Journal of Cancer Singapore.

Yang, B. H, Bray, F. I & Parkin, D. M. (2004). **Cervical cancer as a priority for prevention in different world regions: an evaluation using years of life lost**. International Journal of Cancer , London, 2004:109:418-424.

Young et al (2001). Mc Phee, M.D, Lam, B.S. **Awareness of cancer of the cervix**. London Sage Publications.



Zvavahera, M, Chirenje, Z.M, & Simbarashe, R. (2001). **Situation analysis for cervical cancer diagnosis and treatment**. East, Central and South-African countries. WHO vol. 78 no. 2. Geneva

Centre for Infectious Disease Research in Zambia (CIDRZ). (2004). **Opportunistic infections, cancers and co-infections**. Published by CIDRZ... accessed on [1st June, 2009]

Cervical Cancer Prevention Program of Zambia (CCPPZ). (2004). [File://C:\Documents and settings\james\My Documents\WHO Integrating cervical cancer...](#) accessed on [10<sup>th</sup> June, 2009]

WHO/ICO Information Centre on HPV and Cervical Cancer. [www.who.int/hpvcentre](http://www.who.int/hpvcentre). accessed on [16th January, 2010]

## **APPENDICES**

### **APPENDIX 1**

#### **INFORMED CONSENT**

#### **CANCER OF THE CERVIX AWARENESS AND UPTAKE OF PAP SMEAR AMONG WOMEN ABOVE 18 YEARS OF AGE IN LIVINSTONE DISTRICT**

##### **INTRODUCTION**

I Harriet Mulonda Simaubi; a student of Masters of Science in Nursing at the University of Zambia is kindly requesting for your participation in the research study mentioned above, because it is important to assess cervical cancer awareness and Pap smear uptake. Before you decide whether or not to participate in this study, I would like to explain to you the purpose of the study, any risks or benefits and what is expected of you. Your participation in this study is entirely voluntary. You are under no obligation to participate; you may choose to participate or not to. If you decline to participate, no privileges will be taken away from you. If you agree to participate, you will be asked to sign this consent in front of someone. Agreement to participate will not result in any immediate benefits.

##### **PURPOSE OF THE STUDY**

The study will determine cervical cancer awareness and uptake of Pap smear. This is important as the information obtained will help the district health office in Livingstone and the Ministry of Health to take measures in controlling cervical cancer scourge.

##### **PROCEDURE**

The study involves a face-to-face interview with the staff that will ask you a set of questions using a structured questionnaire. After signing the consent form, the staff will proceed to ask you the relevant questions and your responses will be recorded on the questionnaire. The interview will take about 40 minutes.

## **RISKS AND DISCOMFORTS**

There is no risk involved in this research though part of your time will be utilized to answer some questions. Some questions may seem to be sensitive and personal. Care will be taken not to embarrass you.

## **BENEFITS**

There is no direct benefit to you by participating in this study, but the information which will be obtained will help the policy makers to take measures to curb the scourge of cervical cancer. No monetary favors will be given in exchange for information obtained, but education will be given on the preventive measures.

## **CONFIDENTIALITY**

Your research records and any information you will give will be confidential to the extent permitted by law. You will be identified by a number, and personal information will not be released without your written permission except when required by law. The Ministry of Health, the University of Zambia Bio-Medical Research Ethics Committee or the School of Medicine may review your records again but this will be done with confidentiality.

**INFORMED CONSENT FORM**

The Purpose of this study has been explained to me and I understand the purpose, the benefits, risks and discomforts and confidentiality of the study. I further understand that:

If I agree to take part in this study, I can withdraw at any time without having to give an explanation and that taking part in this study is purely voluntary.

I \_\_\_\_\_ (Names)

Agree to take part in this study.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_ (Participant)

Participant's signature or thumb print

Signed: \_\_\_\_\_ Date: \_\_\_\_\_ (Witness)

Signed: \_\_\_\_\_ Date: \_\_\_\_\_ (Researcher)

**PERSONS TO CONTACT FOR PROBLEMS OR QUESTIONS**

1. Harriet Mulonda Simaubi, University of Zambia, Department of Nursing Sciences, P.O Box 50110, Lusaka. Cell: 0977793890
2. Head of Department of Nursing Sciences, University of Zambia, Department of Nursing Sciences, P.O. Box 50110, Lusaka. Phone no. 0211252453.
3. The chairman, Bio-Medical Research Ethics Committee, University of Zambia. P.O Box 50110, Lusaka.



## **JUSTIFICATION FOR THE BUDGET**

### **STATIONARY**

The 10 reams of bond paper will be used for the research proposal development and the final report. Paper will also be required to make extra copies of the proposal for submission to the Research Ethics committee and the board of graduate studies. In addition the interview schedule will consist of 10 pages that will need photocopying.

The bag for interview schedules is for the researcher to ensure that the interview schedules are kept safe. The flash disc is for copying, storage and safe keeping of research data. Other accessories such as pens, pencils rubbers, stapler and staple and note books are required for the routine collection of research data.

### **PERSONNEL**

Data collection will be conducted through out the day as such the researcher will need transport and lunch allowance. The research has been allocated 60 days to allow adequate time for administration of interview schedules and for observations.

### **SECRETARIAL SERVICES**

The researcher will do the typing but funds for tonner to use for printing the proposal, the final report and binding of the proposal and report will be needed. The researcher will need five copies of the proposal to submit to Post Graduate Research Committee for dissertation and dissemination.

### **CONTIGENCY**

Contingency fund which is 10% of the budget is required for any extra costs due to inflation and for any eventualities.

**APPENDIX III: GANTT CHART**

NO	TASK TO BE PERFORMED	RESPONSIBLE PERSON	2009										2010			
			APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	Literature review	researcher	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	Proposal development	researcher		■	■	■										
3	Presentation to Graduate studies	researcher				■										
4	Approval by REC	researcher					■	■								
5	Data collection	researcher							■	■						
6	Data analysis	researcher									■					
7	Report writing	researcher										■	■			
8	Submission of draft report	researcher												■		
9	Submission of final report	researcher													■	
10	Dissemination of results	researcher														■

**APPENDIX IV**

**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF NURSING SCIENCES**

**STRUCTURED INTERVIEW SCHEDULE**

**TOPIC: CERVICAL CANCER AWARENESS AND UPTAKE OF PAP  
SMEAR AMONG WOMEN ABOVE 18 YEARS  
LIVINGSTONE DISTRICT**

**DATE OF INTERVIEW** : \_\_\_\_\_  
**PLACE OF INTERVIEW** : \_\_\_\_\_  
**NAME OF INTERVIEWER** : \_\_\_\_\_  
**SERIAL NUMBER** : \_\_\_\_\_

**INSTRUCTIONS FOR THE INTERVIEWER**

1. Introduce yourself to the respondent.
2. Explain the reason for the interview.
3. Do not write the name of the respondent on the interview schedule
4. Circle the most appropriate response to the question or fill in the answer on the space provided.
5. Assure the respondent of confidentiality and anonymity.
6. Provide time for the respondent to ask questions at the end of the interview.
7. Thank the respondent at the end of each interview.



**SECTION A: DEMOGRAPHIC DATA**

1. Age at last birthday

- 1. 18 – 28 years
- 2. 29 – 39 years
- 3. 40 – 50 years
- 4. 51 – 60 years
- 5. 62 and above

2. Marital status

- 1. Single
- 2. Married

3. Religion

- 1. Christian
- 2. Muslem
- 3. Hindu
- 4. Buddhist

Others (specify) \_\_\_\_\_

4. Education Level

- 1. None
- 2. Primary
- 3. Secondary
- 4. College
- 5. University

5. What is your Occupation?

- 1. Employed
- 2. Not employed

6. What is your income?

- 1. Above K1, 500,000
- 2. Below K1,500,000

**SECTION B: CERVICAL CANCER AWARENESS**

7. Have you heard of cancer of the cervix?
- 1. Yes
  - 2. No
8. If yes, what is the source of information
- 1. Media
  - 2. Health personnel
  - 3. Teachers
  - 4. Relatives
  - 5. Friends
  - 6. Church
9. What are the signs and symptoms of cancer of the cervix?
- 1. Bleeding
  - 2. Pain
  - 3. Water discharge
  - 4. No idea
10. At what stage can cancer of the cervix be treatable?
- 1. At early stage
  - 2. In late stage
  - 3. Don't know
11. Who is at risk of developing cancer of the cervix?
- 1. All women
  - 2. Married women
  - 3. Young women
  - 4. Women sexually active
- 
- 
- 
- 
-

12. What are the predisposing factors to cancer of the cervix?
1. Multiple Sexual partners
  2. Low immunity due to HIV/AIDS
  3. Smoking
  4. Starting sex early
  5. Those with sexually transmitted diseases
13. Can a healthy looking person have cancer of the cervix?
1. Yes
  2. No
  3. Don't know
14. Can cancer of the cervix be avoided?
1. Yes
  2. No
  3. Don't know
15. If YES to question 14, how can cancer of the cervix be avoided?
1. Seek Pap smear services
  2. Have Sexually transmitted infections treated early
  3. Sticking to one Sexual partner
  4. To stop Smoking
16. Can cancer of the cervix be treated?
1. Yes
  2. No
  3. Don't know
17. If YES to question 16, when can it be treated?
1. Before it spreads to other organs
  2. After it has spread to other organs

18. What do you think is the cause of excessive prolonged foul smelling discharge from the vagina?

1. Witch craft
2. Cancer of the cervix

Others specify \_\_\_\_\_

19. What cultural beliefs that make women with prolonged vagina discharge and prolonged vaginal bleeding not seek medical attention early?

1. Witch craft
2. Don't know

**SECTION C: PAP SMEAR AWARENESS**

20. Have you heard of Pap smear before?

1. Yes
2. No

21. If your answer is YES to question 20, where did you hear from?

1. Hospital
2. Television
3. Radio
4. Friend
5. Relative

Others specify \_\_\_\_\_

22. Have you done Pap smear

1. Yes
2. No

23. If NO to question 22, why

1. Hospital far
2. Not aware of Pap smear
3. Procedure painful
4. Fear of Positive results

24. Where is Pap smear done?

1. Hospital
2. Clinic
3. Don't know

25. Will a Pap smear always reveal that the woman has cervical cancer?

1. Yes
2. No
3. Don't know

**HAVE COME TO THE END OF THE INTERVIEW AND I THANK YOU FOR  
YOUR PARTICIPATION**

## **APPENDIX V: FOCUS GROUP DISCUSSION GUIDE**

**Number of informants** \_\_\_\_\_

**Composition of informants** \_\_\_\_\_

**Language used during interview** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Duration:** \_\_\_\_\_

**Place:** \_\_\_\_\_

### **INSTRUCTIONS**

1. Welcome the participants
2. Introduce yourself and the recorder to the group. Ask the participants to introduce themselves.
3. Get verbal consent from the group to continue with the discussion
4. Explain the purpose of the discussion
5. Assure the group of confidentiality
6. Give warm up questions to set the climate

### **QUESTIONS**

#### **a) Cervical cancer knowledge**

1. What is cancer of the cervix?
2. What causes cancer of the cervix?
3. What are the complaints a patient with cervical cancer will complain about?
4. When exactly can cancer of the cervix be treated?
5. Can cancer of the cervix be prevented?
6. Are there any cultural beliefs that can affect women seek Pap smear services? If so explain how these influence Pap smear uptake.
7. Do you think women in your age group can suffer from cancer of the cervix.

#### **b) Pap smear Uptake**

1. Have you ever had Pap smear done?
2. When did you last have one?
3. How often do you go for Pap smear services?

4. Where are Pap smear services offered?
5. What happens if Pap smear test is positive?

**c) Suggestions for improvement**

1. What are some of the ways in which uptake of Pap smear can be encouraged among women?
2. Who in the community should be involved in the fight against cervical cancer?

**WE HAVE COME TO THE END OF THE DISCUSSION AND I THANK YOU FOR  
YOUR PARTICIPATION.**

## APPENDIX VI

### MARKING KEY FOR THE STUDY VARIABLES

<b>SECTION B CERVICAL CANCER AWARENESS</b>			
Question number	Question	Correct answers	Maximum
7	Have you heard of cancer of the cervix?	Yes	1
8	If yes, what is the source of your information	Media, Health personnel, Teachers, Relatives, Friends, Church	7
9	What are the signs and symptoms of cancer of the cervix?	Bleeding, Pain, Water discharge	3
10	At what stage can cancer of the cervix be treatable?	At early stage	1
11	Who is at risk of developing cancer of the cervix?	All women	1
12	What are the predisposing factors to cancer of the cervix?	Multiple sexual partners, low immunity due to HIV/AIDs, smoking, starting sex early, those with sexually transmitted diseases	5
13	Can a healthy looking person have cancer of the cervix?	Yes	1
14	Can cancer of the cervix be avoided?	Yes	1
15	If yes to question 14, how can cancer of the cervix be avoided?	Seek Pap smear services, have sexually transmitted infections treated early, sticking to one sexual partner, stop smoking.	4
16	Can cancer of the cervix be treated?	Yes	1
17	If yes to question 16, when can it be treated?	Before it spreads to other organs	1
18	What do you think is the cause of excessive prolonged foul smelling discharge from the vagina?	Cancer of the	1
19	What cultural beliefs make women with prolonged vagina discharge not seek medical attention early?	Witchcraft	1
20	Have you heard of Pap smear before	Yes	1
21	If your answer is yes to question 20, where did you hear from?	Hospital, Television, Radio, Friend, Relative	5
22	Have you done Pap smear?	Yes	1
23	If no to question 22 why?	Hospital far, not aware of Pap smear services, procedure painful, fear of positive results	3
24	Where is Pap smear done?	Hospital, clinic,	2
25	Will a Pap smear always reveal that the woman has cervical cancer?	No	1

The instrument is measuring cervical cancer awareness and uptake of Pap smear only, the other variables were asked in order to measure awareness and uptake.



Question 21 was classified as a correct answer because it was a follow up question from question 20. it was necessary to know the sources of information of those who said they had heard of Pap smear.

**KEY**

1. Section B: Awareness of Cervical Cancer

- Aware 1-28
- Not Aware 0

2. Section C: Pap smear uptake

- Uptake/awareness 1-14
- No uptake/Not aware 0





