KNOWLEDGE, ATTITUDE, AND PRACTICE ABOUT CERVICAL CANCER PREVENTION AMONG WOMEN ATTENDING MATERNITY DEPARTMENT AT RULI HOSPITAL

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by

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Co-Supervisor: Dr.Anita Collins

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DECLARATION

I declare that this Dissertation entitled" knowledge, attitude and practice about cervical prevention among women attending maternity department at Ruli Hospital" contains my own work except where specifically acknowledged" has never been presented anywhere in other universities. But other authors' works have been referred to and have been mentioned accordingly. Apart from these, it is my own work.

Sylvestre NTIRENGANYA **…….** 26/7/2017

(Student) **Signature** **Date**

Mr. Alain Nt. RUMENGE **:……** **:……..**

(Supervisor) **Signature** **Date**

Dr. Anita Collins  **26/7/2017**

(Co-Supervisor) **Signature** **Date**

DEDICATION

I most grateful dedicate this work to the Lord Almighty God stayed alongside us through all my life.

I strongly dedicate this to my beloved wife and my son for their support and guidance.

To my beloved parents, sisters, and brothers

To all our classmates for the best moments pasted together,

To all who think and work for the better future of our nation,

Finally to everybody who contributes to accomplishing this work

May the Almighty richly bless you.

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My colleagues who helped me in one way or another and contributed to the achievement of my objectives.

May all Almighty God bless you all!

ABSTRACT

Cervical cancer is a global challenge with high morbidity and mortality, especially in developing countries. Though every woman is at risk, women of reproductive age living in rural areas within developing countries are most affected. Strategies to prevent and treat cervical cancer promptly include vaccination and screening practices; have not reduced morbidity and mortality, especially in Africa because of many factors that must be explored.

Objective: The main objective of the study was to assess knowledge, attitudes, and practices about cervical cancer prevention among women attending maternity department at Ruli Hospital/Rwanda.

Methodology: Descriptive design was adopted to collect quantitative data using an interview guide with structured test items from 108 women of reproductive age. A convenient sampling strategy was used and SPSS version 20 was used to analyze the data.

Results: Among 108 women respondents, 50.9% women were aged between 20-29 years, of whom 55.6% were married between 20-29 and 60.2% had one to two children.

Majority 80.3% of respondents were aware that the cancer of the cervix is highly prevalent in Rwanda and is the most leading cause of deaths among women, did not know that the uterus is the organ affected by cervical cancer. About 50% had the satisfactory knowledge and 70% had a positive attitude to cervical cancer prevention, however, 86.1% have never screened for cervical cancer, 54.6% have never been advised by anyone to screen, 47.2% have never heard about the screening test for prevention and 82.4% have not been vaccinated.

Conclusion and Recommendation: The study concluded that women were aware of the fatality of cervical cancer, had a fair knowledge of prevention as means of controlling cervical cancer but were not receiving counseling hence were not practicing cervical screening for prevention of cervical cancer. Nurses, as the professional point of reaching

many women in the maternity period, have the opportunity to counsel and support screening for cervical cancer prevention.

KEY WORDS

Cancer: refers to a group of diseases that occur worldwide and which are characterized by uncontrolled growth and spread of abnormal cells which infiltrate surrounding organs and tissue, if the spread is not controlled, it can result in death (American cancer society, 2017:1).

Cervix: An opening of the uterus which its narrow outlet, protrudes into the vagina below (Marieb, 2015:550; OpenStax College, 2013:1241).

Cervical cancer: in this study cervical cancer refers to an abnormal growth of cells out of control of the cervix.

Knowledge: In this study, the knowledge is defined as awareness or familiarity with cervical cancer and its prevention. It was classified into two parts and scored according to the number of questions in each part to assess the respondents' level of knowledge.

After the responses were summed up and a total scored was obtained for each respondent so they were categorized as having good knowledgeable, satisfactory knowledge and poor knowledge.

Attitude: In this study, the attitude is defined as opinion, way of thinking behavior reflecting about cervical cancer prevention and the mean score was calculated to use as a cut point

Practice: In this study, the practice refer to the way that the respondents used to prevent cervical cancer

Prevention: Actions directed to preventing illness and promoting health to reduce the need for secondary health care including immunization, health teaching, treatment early and regular diagnosis or screening (WHO, 2017).

Women: In this study, the knowledge refers to a female human being of reproductive age who was admitted in the maternity department with the gyneco-obstetric needs.

LIST OF ABBREVIATIONS AND ACRONYMS

Acronyms or abbreviations	Meaning
%	Percent
CP	Contraceptive Pills
DNA	Deoxyribose Nucleic Acid
HBM	Health Believes Model
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
ICT	Information, Communication, and Technology
IEC	Information, Education and Communication
IUD	Intrauterine device
KAP	Knowledge, attitude, and practice
NCD	Noncommunicable diseases
OCP	Oral Contraceptive Pills
STD	Sexual Transmitted disease
STI	Sexual Transmitted Infections
UR-CMHS	University of Rwanda College of Medicine and Health Sciences
USA	The United State of America
VIA	Visual Inspection with Acetic acid
WHO	World Health Organization
DES	Diethylstilbestrol

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CHAPTER I: INTRODUCTION TO STUDY

1.1.Background of the study

Cervical cancer is among non-communicable diseases (NCD) with high morbidity, mortality and one of the most common of three cancers that affect the women globally and ranked the second in the countries with the low economy (Goodman, 2015:1-2, American Cancer Society, 2015:10-23).

According to Bruni *et al*. (2016), estimated cervical cancer morbidity in 2012 among women was 527,624 women and documented mortality of 265,672 among women globally. In countries with low resources, approximately 85% cancer in women due to cancer of cervix (Kennedy *et al*., 2016:3; Rasul et al, 2015:47; Al-Naggar, 2014)

In developing countries of South and Central America, sub-Saharan Africa, and Southeast Asia, cervical cancer is a major public health problem for adult women because it is categorized as the most common cancer among them (Ntekim, 2012:55;Mukhtar, 2015:13) According the vast majority or 99% cases of cervical cancer are caused by Human Papilloma Virus (HPV) infection and young women and adolescent in Africa are particularly vulnerable as many become sexually active and thus be infected by HPV. Early exposure of young women to sexual intercourse, in African countries, exposed to the risk of HPV infection (Naik and Kaneda, 2015).

In sub-Sahara Africa, 22.5% of all cancers in women is cervical cancer and East Africa compared to other countries of sub-Saharan, a high incidence rate greater than 30 cases per 100,000 per year (Makuza et al., 2015).

In East Africa, the cervical cancer is ranked as the first cause of females' cancer, the cause of mortality among females and the mortality increased within the women of reproductive age (Bruni et al., 2016). Rwanda has a higher incidence rate compared to other countries of East

Africa and worldwide with an incidence rate of 49/100,000 women for each year, whereas the incidence rate in East Africa is 34.5 cases per 100,000 women and 16 cases per 100,000 for worldwide (Makuza *et al*., 2015:2).

Though cervical cancer is a worldwide burden, strategies to prevent it that includes HPV vaccination and screening practices, but the implementation of these varies by countries. Screening could be through population-based programs and opportunistic screening (Bruni *et al*, 2014:218-228).

The World Health Organization (WHO) has recommended using the Pap smear test for cervical cancer screening because it is high sensitivity (Ardahan, 2016), however other methods used to screen for cancer of cervix include HPV DNA tests and inspection with acetic acid (VIA). The VIA is an alternative of Pap smear, it is recommended, suitable and mostly used in the less developed country as well as in Rwanda health facilities (American Cancer Society, 2015:36; Byamugisha et al., 2010; Binagwaho et al., 2013)

In Rwanda, there is a program in charge of cervical cancer prevention, this program implements screening practice and vaccination of the youngest girls. Compared to others African countries, Rwanda was the first one that developed and implemented a national strategic plan for cervical prevention, treatment, and control. In 2011–2012, an implementation program of HPV immunization began and 227,246 girls have immunized completely with three doses of the HPV vaccine. The first implementation of vaccination against HPV in Rwanda was not achieved at 100% because some girls were absent and sick on the day of vaccination (Binagwaho *et al*, 2013:697-698).

According to McGee (2015), the prevention of cervical cancer should focus on practices that remove or reduce risk factors. These practices include HPV vaccination by using Gardasil vaccine for the youngest girls aged from 11 -14 years old and increasing their awareness through providing health information about factors contributing to the existence of it, but the

vaccine should be administered to the females of 9 up to 26 years old who have never encountered with HPV and regular screening for the women aged from 21 up to 65 years old along with other protective practices including use of condom during sexual intercourse, delayed first sexual intercourse, having one sexual partner, smoking cessation and regular routine gynecologic examination are the strategies to reduce the burden of cervical cancer (Kaseba-sata and Lady, 2013:2; Ardahan, 2016:19; American Cancer Society, 2016; Chidyaonga-Maseko *et al*., 2015:2)

Cervical cancer is a preventable and treatable condition; however for the preventive programs to be successful women must have the knowledge, positive attitude, and engage in preventive practices. For women in the age range of 21 and 65 years in Rwanda who may not have benefited from the vaccination from government it is important to have baseline information about the extent to which they have the knowledge, positive attitude and practice preventive behaviour to reduce and manage their risks to cervical cancer as the quality of life of the women in Rwanda will greatly improve with the reduction in the morbidity and mortality of cervical cancer.

1.2. Problem statement

Non-communicable diseases (NCD) are a prominent and increasing portion of the disease burden in the developing countries like Rwanda that imposes financial loss of productivity and premature deaths. Cervical cancer is a preventable and treatable disease when detection is done early (Naik and Kaneda, 2015:1).

According to the World HPV Information Center (2016), the females at risk for cervical cancer are aged from 15 years old which include Rwandan women. Binagwaho *et al.* (2013) revealed that cervical cancer was the most common of gynecologic cancers among women in Rwanda. Every year 1,366 cases of cervical cancer are diagnosed and 804 women died thus ranking it as the first cause of death among them (Bruni, 2017:6-7)

Although the MoH/Rwanda has established those strategies to prevent and eradicate cervical cancer, the number of women diagnosed and died from cervical cancer is still high (Binagwaho *et al*., 2012). Makuza *et al* (2015) stated that the women are still exposed to several risks factors while little is known about their knowledge, attitude, and practices for cervical cancer prevention. Little is known about Rwandan women's knowledge, attitude, and practices about knowledge, attitude, and practices regarding cervical cancer prevention, as few research have been conducted about cervical cancer prevention among women in many sites in Rwanda. The purpose of this study was to assess knowledge, attitude and practice about cervical cancer prevention among women attending the maternity department at Ruli District Hospital.

1.3.Objectives

1.3.1. Main objective

The aim of the study was to assess knowledge, attitude and practice about cervical cancer prevention among women attending the maternity department at Ruli Hospital.

1.3.2. Specific objectives

The specific objectives of the study included:

To determine levels of knowledge about cervical cancer prevention among women attending maternity department at Ruli Hospital.

To assess attitudes about cervical cancer prevention among women attending maternity department at Ruli Hospital.

To identify practice(s) about cervical cancer prevention among women attending maternity department at Ruli Hospital.

1.4. Research questions

The research questions were:

What are the levels of knowledge about cervical cancer prevention among women attending maternity department at Ruli hospital?

What is the attitude of women to attending maternity department at Ruli District Hospital to cervical cancer prevention?

What are the current practice(s) about cervical cancer prevention among women attending maternity department at Ruli Hospital?

1.5. Significance of the study

Cervical cancer is a preventable disease among NCDs through recognition of risk factors, early detection, and treatment. Recent studies in low-income countries have identified lower knowledge, attitude, and practice about cervical cancer prevention than high-income countries (Ali-Risasi *et al.*, 2014:2, Chidyaonga-Maseko *et al*., 2015:3). Every day women encounter risk factors related to cervical cancer. Health literacy about medical conditions affecting their health is important so that women be made aware of it, encouraged to develop a positive attitude and good practices which are the key to prevention of cancer of the cervix.

The nurses are well positioned to access women with risk factors for cervical cancer and they are also well positioned to provide appropriate knowledge and influence the attitude and practices about cervical cancer prevention through community outreaches activities and information, education and communication (IEC) during antenatal care, family planning, and immunization. Findings from this study have provided baseline information to guide information dissemination and targeted interventions to improve knowledge, change attitudes and promote practices about cervical cancer prevention among women attending Ruli Hospital and other clinical settings in Rwanda.

Moreover this research will also help us to know the different categories of women who have the highest and lowest level of knowledge, attitude and practice according to socio-demographic data, however, the aforementioned public health facilities will be advised through this dissertation to provide the health education about cervical cancer prevention to those living in the catchment area with the collaboration of Ruli Higher Institute of Health Sainte-Rose de Lima.

This study was piloted in Gakenke district. Others researchers should use it in women who live in the community to explore relationship exist between socio-demographic data and knowledge, attitude and practices.This study will help me to increase knowledge and for further activities like working, teaching and studying.

CHAPTER II: LITERATURE REVIEW

2.1. Introduction

This chapter provides insights into cervical cancer, risk factors and KAP of women about cervical cancer prevention. The chapter is divided into three parts. The first part describes the knowledge of women about cervical cancer prevention retrieved from different studies. It included the knowledge about risk factors, route of transmission and the way of prevention. The second part has contents on the attitude about cervical cancer prevention and the third part covers the practices by the women for the prevention of cancer of cervix including screening practices, vaccination and others that modify and reduce the prevalence.

Cervical cancer is a malignancy of cervix that happens when the cells of it grow without control. The main cause or risk factor is infection with HPV; the Pap smear is used to detect it during the early stage (Steven, 2016)

The comparison of cervical cancer in terms of standardized rates, incidence per 100,000 populations is 14 % in the world , 9.9% in more developed region and 15.7% in less developed region, whereas the standardized mortality rates per 100,000 is 6.8 in the world and 8.3% in less developed region and 3.3% in more developed regions ((Bruni, 2016: iv)

The approximate morbidity of cervical cancer in the United stated are 12,000 women and 4200 women die from cervical cancer annually. In the United States, the mortality rate for cervical cancer in African American women is twice as high for African American women as it is for white women (Sharon *et al.,* 2015:1292).

The high prevalence of cervical cancer in the developing countries is caused by the limited access to the screening and treatment facilities that promote the risk factors of cancer of cervix to continue to affect negatively the women (Al-Naggar, 2014)

American Cancer Society (2016), identified some risk factors that can be modified by the women include smoking and HPV infection, but others cannot be modified (age and family

history), other risk factors are immunosuppressant, chlamydia infection, low diet in fruit and vegetables, being overweight, long-term use of oral contraceptives (birth control pills), intrauterine devices, having multiple full-term pregnancies, being younger than 17 at your first full-term pregnancy and DES.

American Cancer Society (2016), continues to explain that smoking is a risk factor for cervical cancer because the women who smoke develop cervical cancer twice more than those who do not smoke. The tobacco substances for smoking person get into the blood stream from lung absorption. Different researchers found that the tobacco substances were found in cervical cell mucus and they destroy or damage the nucleic acid of the cervical cell which leads to abnormal growth of those cells finally to cervical cancer. Another thing that we cannot ignore is that smoking reduces the immune system to fight against HPV infection.

HPV is transmitted through skin to skin contact. There are different types of HPV, but two types HPV16 and 18 are very dangerous and infect the genital, anal and oral in the case of there is a contact of bodies one has already infected by HPV.The cervical cancer is developed because HPV damage the normal growth of cervical cells (American Cancer Society, 2016; Al-Naggar, 2014:3).

The early sexual intercourse should lead to early pregnancy and multiparty, if the women do it without application of any family planning method, however, it may be possible that the women may use natural family planning and modern family planning except condom, this expose the cervix to the semen which their components include carcinogen product that it is why early sexual intercourse is a risk factor for cervical cancer.

Obesity also is risk factors for cervical cancer as well as other cancer that affect the reproductive health of the women. Not only to be the risk factor, is it also fatal when the person has exaggerated body mass index. The use of oral contraceptive longer than five years and low socioeconomic status are risk factors, it is due to the women are restricted to seek for

health care service because of limited income. Low incomes prevent the women to increase their level of education resulting to low health literacy and it causes inadequate nutrition to them (Al-Naggar, 2014:4).

2.2. Knowledge of women about cervical prevention

The prevention of any condition can be effective when the risk factors, causes, and treatment of the condition are known well by the health care providers and the clients. The knowledge is required for being aware of medical condition and it should be learned or come from different sources, According to Ali-Risasi et al.(2014) eighty-one point nine (81.9%) women, mostly learned about cervical cancer from conversing with other people and most did not hear the information about cervical cancer from health care providers working at different health facilities (nurses and physician) as well as through the media.

A little knowledge about cervical cancer has been identified in this article similar to the results from a study done by Shrestha et al (2013), this means that if a little is known about any condition there is a high risk for increasing the morbidity and mortality rate.

A study conducted in China on knowledge and attitude of Uyghur women in Xinjiang province in 2015 related to the prevention and early detection of cervical cancer, the report showed that approximately a large number (two third: 73%) of respondents have never heard cervical cancer, they had the low level of knowledge about the risk factors and they were totally ignorant about HPV (Abudukadeer et al., 2015) a little knowledge regarding cervical cancer has been identified which should influences negatively attitude and the practices for cervical cancer prevention.

The occurrence of cervical cancer is influenced by many and different risk factors. Different studies conducted in different areas revealed the knowledge of women about some risk factor of cervical cancer. Early (under 20 years old) sexual intercourse can lead to early full

pregnancy and HPV infection. A study conducted in Maldives has shown that the women who participated in the study had the risk factors for cervical cancer such as early sexual intercourse, multiple sexual partners, multiparity, first pregnancy under 20 and smoking (Basu et al., 2014).

Even though, there are others risk factors such as having genital virus, having STDs, smoking cigarettes and use of oral contraceptive pills more than five years, a study conducted in South Africa revealed that the aforementioned risk factors were known by around a third of the respondents (Ramathuba *et al.*, 2016), if the woman is little aware of the cause or risk factors, she continues to being exposed to the condition and no preventive measures should be taken and implemented as required.

In spite of the knowledge about risk factors for cervical cancer is important, however sometimes the women may have the myth which should prohibit them to take the necessary actions to prevent, Basu *et al* (2014) found a significant number of women who had the false believe stated that the cervical cancer was an infectious illness, this was contrary to the misconception found in the study conducted in India by Bhattacharjya *et al.(*2015) stated that having one single sex partner is a risk factor for cervical cancer. When the person living in the community have the aforementioned misconception and others misconception which has not been mentioned here, they mask the disease because the women cannot go to a health facility to seek for a screening service and they will probably go to look for the health care service later when she is feeling sick and clinically demonstrate clinical features of cervical cancer.

A study was done by Maha (2012) in Yemen 72% agreed that cervical cancer is preventable, so do early and regular screening help the women to prevent the cancer of cervix.it can be done by using Pap smear, biopsy and VIA that is why the knowledge of the women about

screening test is necessary. A study carried out in South Africa by Ramathuba et al.(2016) to assess knowledge, attitudes, and practices regarding cervical cancer prevention at Thulamela Municipality, findings revealed that 82.8% of the women who participated in the study did not know any screening test used for cervical cancer. The above study findings of screening are looking similar to the one conducted in India by (Kokane *et al.*, 2015)cervical cancer is a fatal condition for women most of the reproductive age as stated in the background. For better prevention, they have to get knowledge about it from different sources such as health care providers, mass media, friends, relatives and from school.

Different studies have revealed little or poor knowledge about cervical cancer prevention among women that is why it still being a burden for them. The health care providers especially the nurses do not their role in the community

2.3. Attitude of women about cervical cancer prevention

The attitude should be considered as the belief that an individual has based on her existing knowledge in order to prevent the contributing factors to illness. (M, 2012) in a study carried out in Yemen, at the University of Science and Technology Hospital-Sana' to assess KAP towards cervical cancer among women in reproductive age, 59% of participants believe that the screening every year and vaccination against HPV prevent the condition. The positive attitude in term of the Pap smear and taking vaccine have been identified of participants who were sexually active which was greater than of those who were not at risk. The reason that caused the woman to not undergo for screening was the knowledge deficit (Igwilo et al., 2012).

Even though the poor knowledge and practices have been identified in the study done in Kathmandu, Nepal, to assess knowledge, attitude and practice regarding cervical cancer screening amongst women visiting tertiary centre, the participated women had positive

attitude about cervical cancer screening (Shrestha *et al*., 2015), these findings show that in the demographic characteristics especially on education 20 women were illiterate.

Kokane *et al* (2015) revealed a positive attitude toward cervical cancer among the respondents, but in the case of free cost of screening practices 76.2%, women were willing to be screened. The women who participated in this study did not know the severity of this disease.

A positive attitude for cervical cancer risk factors and prevention was identified among women living in Kinshasa, Democratic Republic of Congo because most of them (89.6%) stated that they were willing to seek medical consultation when they have experienced abnormal inter-menstrual bleeding and regularly cervical cancer screening was done by 56% of respondents, unfortunately, few of them (31.7%) were positive to pay for a pap smear (Ali-Risasi *et al.*, 2014).

2.4. Practice of women about cervical cancer prevention

The practice for cervical cancer prevention usually depends on the knowledge level and attitude that the woman has. These practices include avoid early sexual intercourse, cessation of cigarette smoking, not using the OCP more than five years, having one sexual partner, free from STIs, immunization of HPV, avoid multipart, performing early and regular screening

A research done in India to assess the KAP related to cervical cancer among adult women, the poor practices about cervical cancer screening have been identified because of poor knowledge about cervical cancer as evidenced by 9.5% of the women who participated in this study had ever been screened for cervical cancer, this was related to not being aware of the screening test, cost of the test and free of the symptoms. The findings also revealed that increased education level and age also influenced positively the screening practices. With increased education level the women get the knowledge about the advantage of screening and

as the woman advance in age, she gets opportunity of different screening test due to the reproductive morbidity of them (Kokane *et al*., 2015), Study's results were similar to another study conducted in Perambalur,India by Varadheswari *et al.* (2015) among women attending a tertiary care hospital revealed very low practice about screening of cervical cancer . It means that education level depends on the age and as level of education increase contributes to the increased cervical cancer screening practices that result in reduction of morbidity of it

Ebu *et al.*, (2014) in the study conducted in Elmina, Southern Ghana revealed that sometimes, the woman may go to health facilities for being screened because of referral service received, fear of getting cervical cancer and information they got from radio campaigns.

Basu *et al* (2014) revealed that there was a gap between knowledge and practice of women in the Maldives because they did nothing about the practice to prevent risk factors for cervical cancer that they confronted. Even if they had little knowledge about those risk factors, for example, few of them knew that to have sex at an early age, having more than one sexual partner and multi-party are risk factors, unfortunately, no positive practice they did to prevent cervical cancer. A health advice from nurses addressed to the women is important, it has to be included the severity of cervical cancer and the explanation about that they are susceptible to it.

Shrestha *et al*. (2013) stated that the women living in rural areas have low practice about cervical cancer prevention than those living in the urban area because they lack information about it.

HPV causes cervical cancer at 99%, the HPV is transmitted through sexual intercourse with multiple sexual partners, in the study conducted in Okada community aimed to assess KAP of the prevention of cancer of the cervix revealed that 80.7% participants aged under 20 were sexually active,76.1% have practiced sexual intercourse more than one and 58% did unprotected sexual intercourse. All participants have never gone for screening and vaccinated

for HPV (Igwilo *et al*, 2012).The population of this study was at high risk for infected with HPV resulting a high potential of developing cervical cancer.

2.5. Conceptual framework

In this thesis, the Health Belief Model (HBM) was used because it is used in health promotion, disease prevention, and management giving consideration to variables that contribute to changing an individual's health behavior. To change the behaviors of the individual, the health care providers must understand and influence behaviors that impact individual willingness to engage in specific health behaviors.

In 1950 HBM was developed to explain why people should be selected to participate in disease prevention. It works when people believe that they are susceptible to the condition, the condition has serious consequences, taking action would reduce their susceptibility to the condition or its severity, the costs of taking action are outweighed by the benefits, and are confident in their ability to successfully perform an action (Ibrahim, 2014:1, Rosenstock, 1974).)

The model predicts that individuals should take action to protect or promote health (Becker, 1976). The model applies to cervical cancer in the sense that knowledge on cervical cancer depends on the social demographic factors such as age, education and others factors. The knowledge or medical information about cervical cancer help the women to know and understand that they are vulnerable to cervical cancer (.i.e. perceived susceptibility) because they met with some risk factors of cervical cancer. Knowledge of women about cervical cancer helps them to know its seriousness because it causes early death, disability, pain, loss of work or decreased productivity to them (Perceived seriousness).With positive attitude, they know that that preventive measure such as avoiding multiple sexual patterns, early sexual intercourse and multiple pregnancies, smoking cessation, HPV vaccination, using oral contraceptive pills less than five years ,early and regular screening are available and should

reduce their susceptibility or minimize the consequences of cervical cancer, when they believe that benefits outweigh the costs, they would be motivated to seek preventive services (Becker,1976, Nwobodo and Ba-Break, 2016).

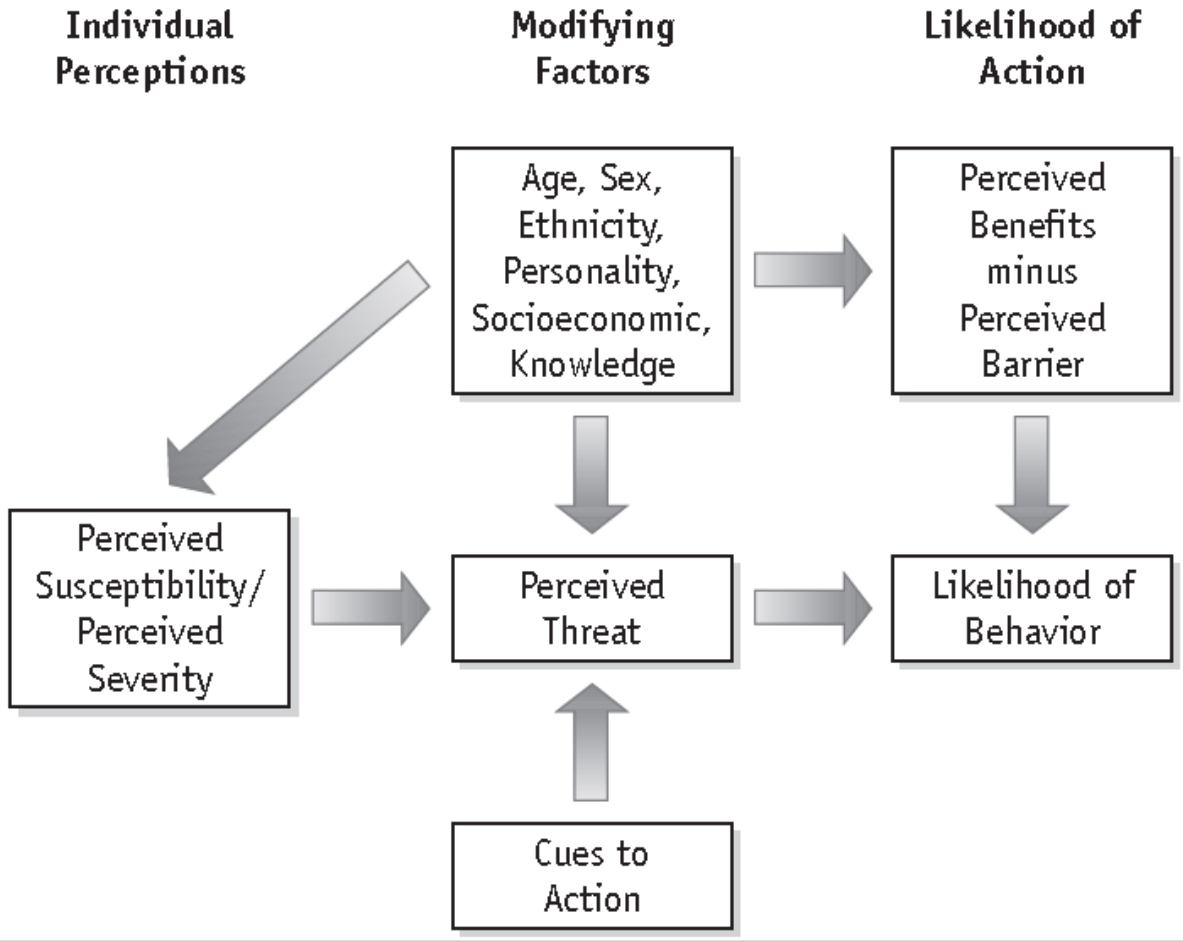

Figure 2.1: Health belief model (Stretcher, V.,& Rosenstock I.M,1997)

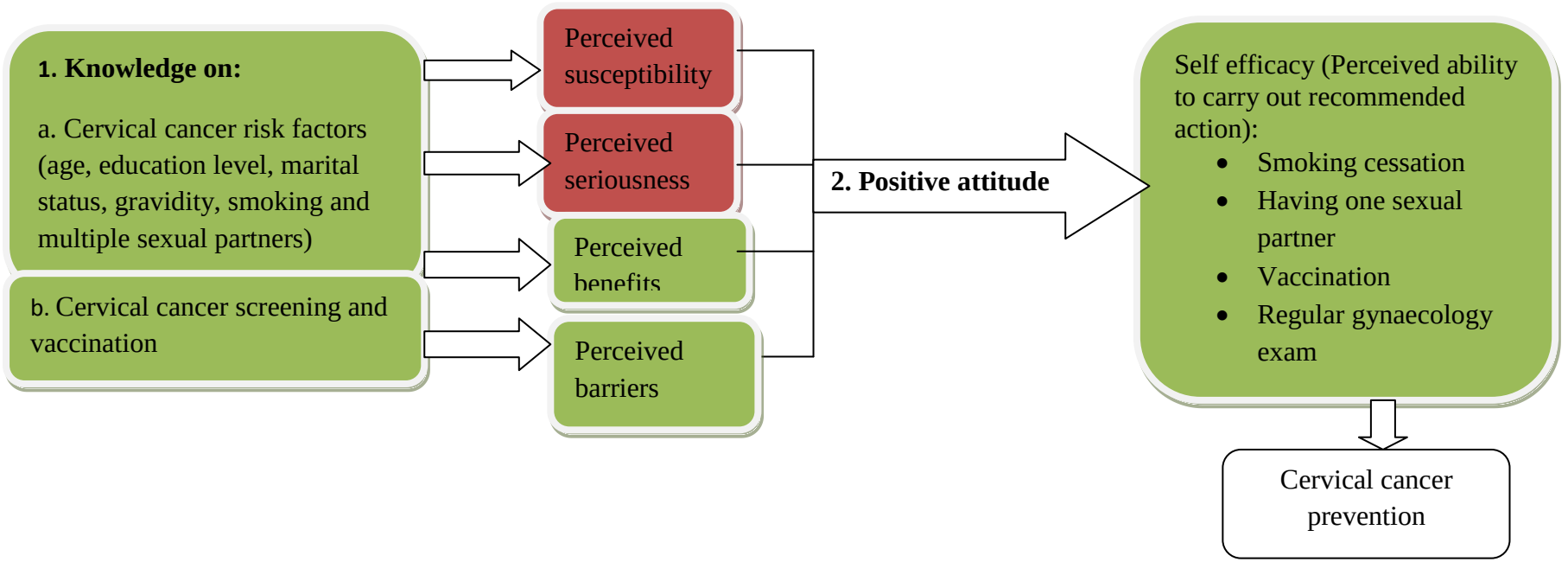

Figure 2:2: Health Believe Model after adaptation: Major components and linkage

CHAPTER III: METHODOLOGY

This chapter describes the study area, study design, the population of the study, sample size, sampling strategy, data collection method, and procedure.

3.1. Study area

This study was conducted in maternity department at Ruli Hospital, district hospital located in Northern Province Gakenke district, a Ruli sector in Ruli Cell. Ruli hospital receives the transferred patients from eight (8) health centers which are Ruli, Rushashi, Rwahi, Rukura, Rwankuba, Coko, Muhondo, and Minazi.

A daily average of five women with suspected obstetric complications transferred from health centers of Ruli district hospital catchment area and admitted to maternity department means that 150 women attend maternity department per month. This department receives also the women with gynecologic problems such as abortion, and the women who need gynecologic care/service like permanent family planning (tubal ligation) and long acting family planning (IUD, implant etc…). The maternity department is divided into two waiting wards, the recovery, the delivery ward, one operating room and three postpartum wards. After delivery, a woman stays at hospital at least 72hours if no complications. In the case of postpartum complications, the woman remains at the hospital till the recovery.

3. 2. Study design

The study design was descriptive cross-sectional study design assessing knowledge, attitude, and practice about cervical cancer prevention among women attending maternity department at Ruli Hospital. The quantitative approach of data collection and analysis was used. The cross-sectional study design has been chosen because it carries out at one point and there is

no hypothesis for testing, however, the findings have been described and there is no follow-up. As an addition, the cross section design is not expensive (Levin, 2006:24)

3. 3. Study Population

All women within reproductive age who received care at the maternity department and consented to participate in the study at Ruli hospital were recruited to the study. The study was conducted from 23rd January to 23 February 2017. The number of women who seek health care service at maternity department at Ruli Hospital is 150 women of reproductive age.

3. 3.1.Inclusion criteria

All women in reproductive age and menopause, women who attended maternity department at the time of data collection and who have been selected conveniently included: patients, relatives, and friends of patients.

3. 3.2. Exclusion criteria

The women who were critically sick, women in labor, a woman who was suffering or had a history of cervical cancer, and mentally disordered women without next of kin and women who excluded themselves by not consenting.

3.4. Sample size

According to Huysamen (1994) sample size is the number of individuals selected from a population for a study, in such way that they represent the larger group from which they were selected. In this study, the sample size have been calculated by taking all the women who attended the maternity department at Ruli Hospital because the women who were expected as few as the mean of 5 women per day was determined based on the data collected in November 2016, therefore the 150 women should attend maternity department within one

month (30 days) .However, during the period of data collection, 108 women only attended. Finally, the sample size was 108 instead of 150 women have been expected.

3.5. Sampling strategy

To obtain a representative sample, a convenience sampling method was used to get study participants from the study population because it is easy and simple during pilot study and research, the data collection can be done in short period of the time and it is not expensive (Etikan, 2016:2). However, all women who fulfill the inclusion criteria and offer informed consent have been recruited and enrolled into the study.

3.6. Data collection methods and procedures used

3.6.1. Data collection tool

A structured questionnaire (annexe1) was developed in the academic language (English) used by the student, and then it was translated into the Kinyarwanda language for easy comprehension for the respondents. It was administered by the enumerator to the respondents.

The questionnaire used for data collection collected data on the relevant socio-demographic characteristics of the respondents on part one from question 1-9, the part two contained the questions 10 and 11 described the knowledge on the cervix, from 12 to 14 question assessed the severity of cervical cancer, the knowledge of women about cervical cancer prevention was assessed from the question 15 to 37, their attitude from the question 38 to 43, and practices from question 44 to 52.

The data collection was done by the researcher with the collaboration of the staff of the maternity department who helped in recruiting the respondents.

Knowledge

The description of knowledge was done; firstly by providing information about the knowledge of the cervix/uterus and severity of cervical cancer from the respondents. This information was gathered by using five questions included to describe well the knowledge of women about cervix and severity of cervical cancer; five questions were used and scored at 5 scores. The knowledge of women about cervical cancer prevention was assessed through scoring the answered questions.

This section had twenty-three questions, each correct answer was given 1 mark and zero to a false answer.The marks were ranged from zero to 23.The Bloom cut off points adopted from the study done in Perambalur, India aimed to estimate the prevalence and to assess knowledge, attitude and practices regarding Cervical Cancer Among Women Attending a Tertiary Care Hospitals used to describe and assess the level of knowledge of respondents, where 80 – 100% (≥18- ≤23 scores), good knowledge, 50- 79% (≥14-<18), satisfactory knowledge, <50% (0-14score), poor Knowledge (Varadheswari et al., 2015).

Attitude

The attitude was assessed by using the six questions that the score ranged from one to thirty (30) marks. Likert's scale was used and the descriptive statistics (especially the mean) was used. The women who got a score from the mean (11.7 points) was considered that she had a positive attitude, whereas the one who got the marks below the mean value was considered as having a negative attitude (Varadheswari et al.,2015).

Practice

The practice of women about cervical cancer prevention was assessed by looking at the questionnaires that contain the practice questions that were answered well by the respondents. A woman was considered that she has good practices when she gives the correct answers of

the practices questions towards the cervical cancer prevention include in real time regular screening, has been vaccinated against cervical cancer, having one sexual partner in her life, does not use of oral contraceptives or use oral contraceptives less than five years and does not smoke .

A question indicated which of the health facility is the most used by them for screening. It was followed by another question that explored who advised the woman to be screened; this demonstrated the role and rate of health professional especially the nurses and community health workers in providing health education about this medical condition. It is to be noted that the nurses meet frequently with the women in different health care service for example during antenatal care, immunization, family planning etc…

This was followed by the questions that describe the barriers that inhibit the woman from screening for cervical cancer A woman may have good knowledge and positive attitude, unfortunately, because of those barriers, she will not screen for cervical cancer as required.

Study Variables

External variables which have been considered in this study included age, education, gravidity, occupation, marital status and religious

3.6.1. A. Validity of Instrument

The instrument used in this research was called knowledge, attitude and practice about cervical cancer among women attending maternity department at Ruli hospital. This tool was adapted from the one that has been developed by Ramathuba and his colleagues in 2016 aimed to assess knowledge, attitude and practice regarding cervical cancer prevention at Thulamela Municipality of Vhembe district in Limpopo Province in, South Africa (Ramathuba*et al*, 2016). The validity of the tool was done by taking contents from literature and revising the questionnaire together with supervisors and expert on the field.

The tool was pre-tested among 11 women at Ruli Health Center in order to check the adequacy of questions in terms of clarity, wording, and ambiguity. As the questionnaire designed to collect the socio-demographic data such as personal incomes, the women were not able to demonstrate daily and weekly incomes. It was preferred to estimate the monthly incomes based on the job of respondents. Most of them were farmers and others were home workers. After viewing the level of incomes per month that they reported,the monthly incomes have been categorized into 4 categories, <15,000Rwf, 15,000-29,000, 30,000-50,000 and above 50,000 RWF. A risk factor called pregnancy before age 20 has been added.

Some of the questions regarding the practices about cervical cancer prevention were challenged such as how do you frequently do cervical cancer screening?, however this question have been removed because the objective of this dissertation is to identify the practices about cervical prevention among women attending maternity department at Ruli hospital and was replaced by the question stated that how long did you do the screening for cervical cancer? it helps us to describe the frequency that the women do for cervical cancer screening in the purpose of the cervical cancer prevention.

The validity of the instrument was maintained by ensuring that all variables covered in the research questions and objectives of the study were covered in the test items that women responded to. The instrument was pretested to determine if the participants or students/researcher of pilot study should identify others desired information. Adjustments were made on the contents and sequencing of questions to avoid ambiguity. Before and after the pilot study began a deep discussion with both supervisors was done through all part of the questionnaire.

3.6.1. B. Reliability of Instrument

To test the reliability of the test instrument, it was tested by using Cronbach's alpha reliability test. The Cronbach's alpha value was determined with the aid of SPSS version 20. The first Cronbach's alpha was 0.58 for 11 participants, however, the results demonstrated that the Cronbach Alpha of 0.5 was not acceptable for the research, but this was due to small participants. A test-retest has been used and deep discussion with expert and statistician and the participant was increased from 11 to 30.

Finally, Cronbach's alpha was increased from 0.5 to 0.8 which is acceptable during research (Tavakol and Dennick, 2011). Pretesting of the instrument was done firstly at Ruli health center which was not be a part of the study area to guard against contamination with the research and to allow the researcher find out whether the research instrument could be used for the study. The questions were simple, concise and brief. During the pre-test, the respondents were asked if there were any difficult questions in order to rephrase it or them in an understandable manner. Addition from the respondents to questionnaire was allowed after a critical analysis by researcher and consultation with the experts.

3.6.2. Data collection procedure

Before data collection begins, a letter requesting permission was addressed to administration, director of nursing and in charge of maternity department. Self-introduction to the women was done, explaining the aim and purpose of research to the women before being asked for consent and to fill the questionnaire. Self-administrated questionnaires were distributed among literate women and a structured interview with privacy was conducted to illiterate women in the postpartum and waiting room. Sufficient time was provided to respondents and researcher ensures their confidentiality and anonymity. The names were not written on the respondent questionnaires but the only code was used to identify the questionnaires of all

participants. The women were approached till the end of data collection period and researcher thanked them for their time and participation.

3.7. Data Analysis

The data entry and analyses were done by using SPSS version 20 software. In the analysis, the descriptive statistics with appropriate frequencies were developed and descriptive results were presented and grouped under socio-demographic characteristics, knowledge, attitude and practices areas. The data was presented by using the tables and figures/histogram

3.8. Data management

The data management started on the first day of pilot study, we prepared a specific place to stock answered questionnaires and the data extracted from the questionnaire were entered into SPSS software program every day. Questionnaires were provided to women who already signed a consent form and I was near them in order to check for completeness until every woman filled it completely. These checks were done on regular basis and soft data from the participants was saved on an external hard disc for safe keeping. At the completion of data entry, the filled questionnaires are still kept until the publication by the researcher.

3.9. Ethical consideration

Ethical clearance letter and Institutional Review Board (IRB) have been obtained from University of Rwanda School of Medicine and Health Sciences. Written permission to conduct the study has been obtained from the medical director of Ruli hospital. A written and signed consent form was obtained from each respondent after providing sufficient information on the purpose of the study. Sufficient information was given about the right to refuse participation. To ensure the anonymous of respondents their names were not written on the questionnaires i.e coded questionnaires were used.

3.10. Dissemination of results

Findings were disseminated to those who should benefit from the study include UR-CMHS and Ruli hospital. The findings also were disseminated to the district level through report and publication.

CHAPTER IV: PRESENTATION OF THE RESULTS

The results of this chapter present a description of socio-demographic characteristics of the respondents, knowledge, attitude, and practices about cervical cancer prevention among women attending maternity department at Ruli Hospital

4.1. Socio-demographic characteristics

Table4. 1: Socio-demographic characteristics of the women attending maternity department at Ruli Hospital

Variable	N. (%)
Age in years	
under 20 years	9(8.3)
20- 29	55(50.9)
30-39	29(26.9)
40-49	15(13.9)
Educational Status	
No formal education	15(13.9)
Primary school completed	69(63.9)
Ordinal level education completed	12(11.1)
Advanced secondary school completed	12(11.1)
Marital Status	
Single	7(6.5)
Married	76(70.4)
Widowed	4(3.7)
Separated	3(2.8)

Single mother	18(16.7)
Religious (Christian)	108(100)
Occupation	
Farmer	96(88.9)
Primary teachers	2(1.9)
Students	2(1,9)
Tailor	4(3.7)
None	4(3.7)
Income by Month	
Under 15,000	97(89.8)
15,000-30,000	6(5.6)
31,000-50,000	2(1.9)
Above 50,000	3(2.8)
Age at first Marriage	
under 20	27(25)
20-29	63(58.3)
30-39	4(3.7)
I have never married	14(13)
Age of first pregnancy	
Under 20	44(40.7)
20-29	60(55.9)
30-39	4(3.7)
Number of birth	
1 or 2	65(60.2)
3 or above	26(24.1)

None	15(13.9)

According to the results, the age of the respondents who participated in the study was between 18 and 50 years. The mean age was 29±6 and the Standard Deviation was 21±8.

A total of 108 respondent's women of sample size completed the questionnaire. About a little more 55(50.9 %) of respondents were in the age category of 20-29 years and the fewest (8.3%) of respondents were under 20 years.

Results on education show that out of total study subject 69(63.9%) of respondents had attended the primary education and none attended university education. A little more (two third) 76 (70.4%) of the women were married and 18(16.7%) were single mothers. Findings from the study demonstrated that the majority 96(88.9%) of the respondents are lived by agriculture/farmer, however, 4(3.7%) stay at home.

Mostly (89.8%) of the women who answered the questionnaire earned under 15,000 RWF monthly may relate to the big number of the respondents who lived on agriculture and low education level among respondents. Additionally, the agriculture may be occasionally affected by the natural disasters resulting in the decreased level of the economy. The majority (75%) were married above 20 years old, but many of them (58.3%) were in the age category of 20-29 years. It was seen that (40.7%) of respondents have got first pregnancy under 20 years, this was contrary to the age of first marriage and it demonstrated that these women under 20 years who fall in pregnancy probably they practiced unsafe sexual intercourse before marriage.

4.2. Knowledge of women about cervix/uterus and severity of cervical cancer

Table4. 2: Knowledge about cervix and the severity of cervical cancer among women attending maternity department at Ruli Hospital

Variables	Answer	N.%
Knowing the womb of the woman	Yes	53(49.1)
	No	55(50.9)
Have ever seen the cervix of the woman womb	Yes	25(23.1)
	No	83(76.9)
Cervical cancer is known that prevalent and leading cause of deaths among women in Rwanda	Yes	90(83.3)
	No	14(12.9)
	I do not know	4(3.7)
Source of Information	Nurse	31(28.7)
	Physician	2(1.9)
	Mass media	49(45.4)
	CHWs	26(24.1)
Content of information about cervical cancer received	Fatal disease for women	49(45.4)
	Transmitted through sexual intercourse	8(7.4)
	Mostly caused by HPV	3(2.8)
	Early detection by VIA and acetic or Lugol's Iodine painting of the cervix	6(5.6)

Vaccination against HPV as preventive measures	11(10.2)
I do not remember	10(9.3)
Unrelated contents to cervical cancer	21(19.4)

A little more than about the half 55 (50, 9%) of respondents did not know the uterus and the majority 83(76.9%) of them have never seen it. Even though around the half of the respondents did not know the womb of a woman, surprisingly,90 (83.3%) were conscious that the cervical cancer is highly prevalent in Rwanda and is the most leading cause of deaths among woman. A number of 49 (45.4%) ranked the mass media at first place to provide the information on cervical cancer. The findings demonstrated that the nurses did not do their roles within the community by providing necessary information to the concerned persons; only 31(28.7 %) of respondents documented that they got information about cervical cancer from the nurses this influence the woman of having poor knowledge about cervical cancer that should result in a negative attitude and decreased their level of the practices regarding cervical cancer prevention.

A no negligible 49(45.4%) of respondents argued that cervical cancer is a fatal disease, however, only 3(2.8%) was informed that HPV is the leading cause and 31(28.7%) did not remember or have never been received any information. It has been identified that the women have never gotten information about cervical cancer so it is possible that they should not take any preventive measures that resulting to a continuous morbidity and mortality.

4.3. Knowledge of women about cervical cancer prevention

Table4. 3: Knowledge about cervical cancer prevention among women attending maternity department at Ruli Hospital

Items of Knowledge	**N. (%)**		
	Yes	**No**	**I do not know**
Hearing about cervical cancer	75(69.4)	33(30.6)	0
Hearing about screening test for cancer of the cervix	37(34.3)	71(65.7)	0
Risk factors			
Multiple sex partners	61(56.5)	25(23.1)	22(20.4)
Having genital warts	64(59.3)	20(18.5)	24(22.2)
Sexual intercourse before age 20,	72(66.7)	20(18.5)	16(14.8)
Gestation age less than 20,	41(45.6)	49(45.4)	18(16.7)
STIs,	65(60.2)	25(23.1)	18(16.7)
Smoking	59(54.6)	27(25)	22(20.4)
use of contraceptive	54(50)	27(34.3)	22(15.7)
Knowledge about diagnosis:			
Pap smear	55(50.9)	46(32.4)	18(16.7)
Biopsy	44(40.7)	46(42.6)	18(16.7)
Knowledge about prevention measures			
Is cervical cancer preventable	88(64.2)	14(13.2)	26(24.5)
Use of condom	63(58.3)	19(17.6)	26(24.1)
Keeping genital part clean	79(73.1)	9(8.3)	20(18.5)
Early cervical cancer screening	82(75.9)	8(7.4)	18(16.7)

Vaccination	71(65.7)	17(15.7)	20(18.5)
Not smoking	59(58.4)	22(21.8)	27(25)
Exercise	54(50)	28(25.9)	26(24.1)
Avoid early sexual intercourse	82(75.9)	8(7.4)	18(16.7)
Knowledge of women about the route of HPV transmission			
Germs can cause cervical cancer	68(63)	18(16.7)	22(20.7)
HPV is transmitted through sexual intercourse	59(56.5)	29(23.1)	20(20.4)
HPV is transmitted through kissing	33(30.6)	45(41.7)	30(27.8)
HPV is transmitted through not using a condom during sexual intercourse	51(47.2)	34(31.5)	23(21.3)

It was found that the majority (69.4%) of the respondents have heard the cancer of the cervix, however, the majority (67.5%) of sample size did not hear the screening test.

A half (50%) reported that the under mentioned risk factors contribute to existing of cervical cancer, except the gestation age under 20 was scored by 45.6% of respondents that is a risk factor. Early sexual intercourse and having the STIs came in the first place at 66.7% and 60.2%, respectively.

The number of respondents (50.9%) who knew that Pap smear is used to screen cervical cancer was greater than the rate of them (31.7%) who knew the biopsy can be used to diagnose cervical cancer.

The cancer of the cervix is prevented by vaccination, early and regular screening practices; however, the women require the knowledge about the practices of prevention of the risk factors. Sixty-four point two (64.2%) reported that the cervical cancer is preventable and 22.6% they did not know if it can be prevented or not.

The information's related to keeping genital parts clean, and use of condom and early cancer screening scored the highest (75.9%) in the knowledge of the women in prevention of cervical cancer, however they scored half (50%) in the knowledge related to exercise as a preventive measure of developing cancer as obesity is one of the risk factors for cervical cancer(Lee *et al.*, 2013). The women scored poorly on the information related to the routes of HPV transmission as 68% to 43.5% were ignorant of them.

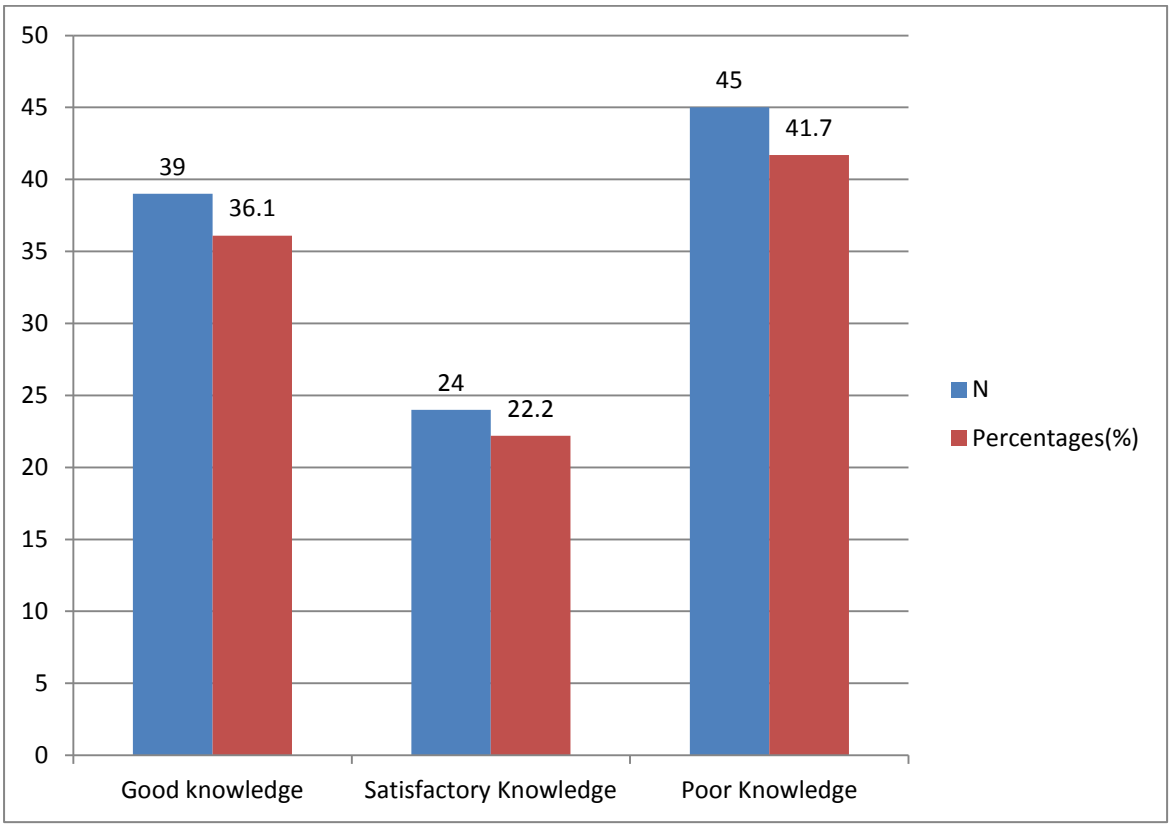

Figure 4. 1: Level of knowledge about cervical cancer prevention among women attending maternity department at Ruli hospital by using modified Bloom's cut off points

The level of knowledge of respondents about cervical cancer prevention was categorized by using the modified Bloom's cut off points. By applying the modified Bloom's cut off points to this study it is obtained that 39(36.1%) had good knowledge, about 24(22.2%) of the study

had satisfactory knowledge while 45(41.7%) of the respondents had poor knowledge level about cervical cancer prevention

4.4. Attitude of respondents about cervical cancer prevention

Table4. 4: Attitude about cervical cancer prevention among women attending maternity department at Ruli hospital(5 Points Likert scale)

Women attitude items	Answers	N.%
Getting cervical cancer	Strongly agree	48(44.4)
	Agree	39(36.1)
	Neutral	15(13.9)
	Disagree	4(3.7)
	Strongly disagree	2(1.9)
Bear her first child by age of 20	Strongly agree	38(35.2)
	Agree	44(40.7)
	Neutral	19(17.6)
	Disagree	4(3.7)
	Strongly disagree	3(2.8)
Screening for cervical cancer prevention at	Strongly agree	36(33.3)
	Agree	38(35.2)
	Neutral	23(21.3)
	Disagree	9(8.3)
	Strongly Disagree	2(1.9)
Perform regularly screening to prevent cervical cancer	Strongly agree	37(34.3)
	Agree	49(45.4)

	Neutral	15(13.9)
	Disagree	5(4.6)
	Strongly Disagree	2(1.9)
Human Papilloma Virus is the most cause of cervical cancer	Strongly agree	32(29.6)
	Agree	39(36.1)
	Neutral	27(25)
	Disagree	5(4.6)
	Strongly Disagree	5(4.6)
Doing HPV vaccine,	Strongly agree	36(33.3)
	Agree	33(30.6)
	Neutral	24(22.2)
	Disagree	12(11.1)
	Strongly disagree	3(2.8)

The attitude has been analyzed by using the frequency table, a Likert scale was used to describe six questions. It was composed of strongly agree (5), agree (4), neutral /neither agree nor disagree (3), disagree (2) and strongly disagree (1). The table 4 presents the results of attitude with 5 points Likert scale, however because of a small number of responses from respondents of strongly agree and strongly disagree that were below the half of the sample size, strongly agree and agree were combined together to form agree, whereas strongly disagree was combined with disagreeing to form disagree. Finally, the Likert scale was changed to agree (3), neutral (2) and disagree (1). Table 4.5 presents the 3 points Likert scale.

Similar to scoring well in the knowledge related to early cervical cancer screening, the women 86 (79.7%) scored very well related in their attitude toward performing regularly screening to prevent cervical cancer. Similar to the awareness scored by the respondents that the cervical cancer is highly prevalent in Rwanda, the majority 87 (80.5%) of respondents perceived that any woman should acquire cervical cancer.

Different to the scoring of the respondents well in the awareness related to the vaccination against HPV prevents cervical cancer; however, 71 (65.7%) of women agreed that the HPV is the most cause of cervical cancer.

Table4. 5: Attitude about cervical cancer prevention among women attending maternity department at Ruli hospital (3Points Likert scale)

Attitude items	**Answers**	**N.%**
Any woman including you can get cervical cancer:	Agree	87(80.5)
	Neutral	15(13.9)
	Disagree	6(5.6)
A woman should bear her first age by age 20:	Agree	82(75.9)
	Neutral	19(17.6)
	Disagree	7(6.5)
Every woman should make effort for the screening for cervical cancer at 21	Agree	74(68.5)
	Neutral	23(21.3)
	Disagree	11(10.2
HPV is the most cause of cervical cancer	Agree	71(65.7)
	Neutral	27(25)
	Disagree	10(9.2)

The woman has to perform regularly screening to prevent cervical cancer	Agree	86(79.7)
	Neutral	15(13.9)
	Disagree	7(6.5)
If you were given a pamphlet about HPV, would do you the test	Agree	69(63.3)
	Neutral	24(22.2)
	Disagree	15(13.9)

Based on the respondent's score on the attitude part questions, the responses were summed up and a total score was obtained from each respondent, then the mean was calculated (11.7) and those who got score above the mean value (11.7) had positive attitude and ones who scored less than the mean value (11.7) had negative attitude towards cervical cancer prevention. The minimum and maximum score on the attitude questions by the respondents were 6 and 30 respectively.

After applying Likert's scale among the study population, 55.6% of respondents were found to have a positive attitude while 44.4 % of the sample size had a negative attitude toward cervical cancer prevention. The findings on the attitude it was nearly similar to the combination of good knowledge and satisfactory knowledge.

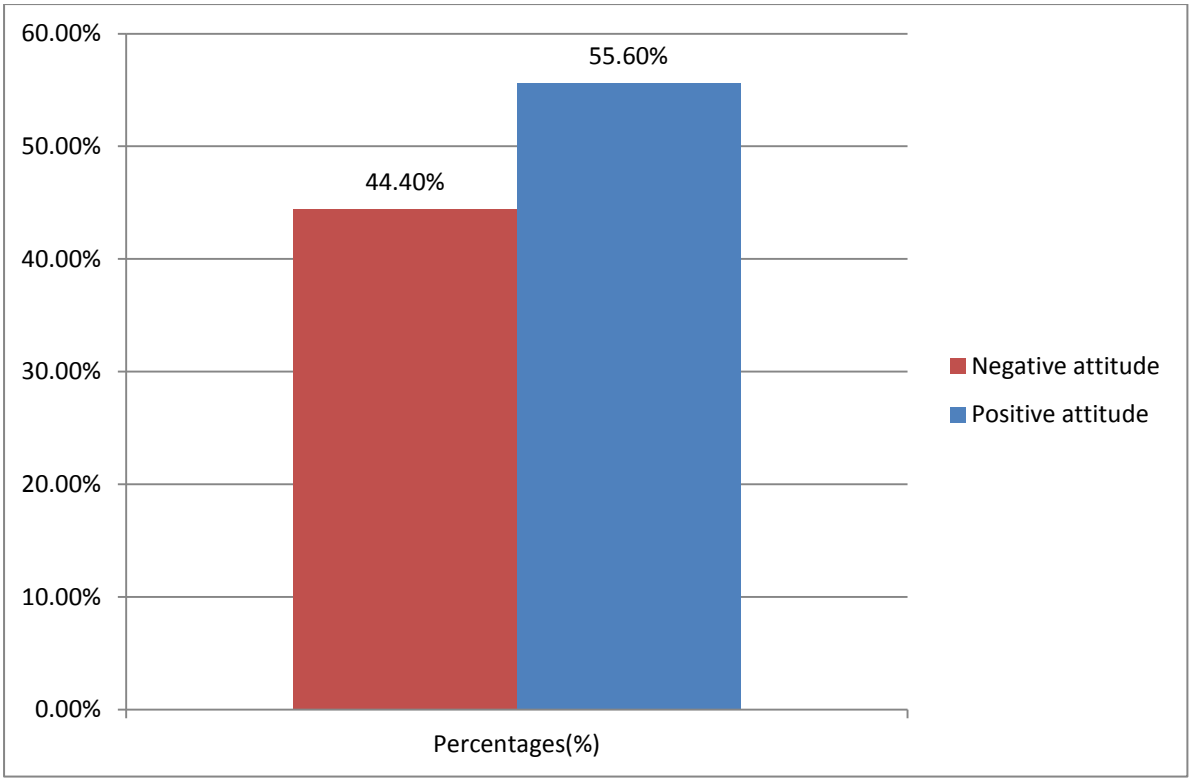

Figure4. 2: Attitude about cervical cancer prevention among women attending maternity department at Ruli Hospital

4.5. The practice of women about the prevention of cervical cancer

Table4. 6: Practices about cervical cancer prevention among women attending maternity department at Ruli Hospital.

Items	Expected answer	N	%
Screening for cervical cancer	Never	93	86.1
	Within three years	15	13.9
Sexual partners in your life	None of my life	27	25
	One of my life	49	45.4

	More than one	32	29.6
Vaccinated HPV	Yes	18	16.7
	No	89	82.4
smoking	Tobacco	3	2.8
	Cannabis	1	0.9
	I don’t smoke	104	96.3
Family members smoke	Tobacco	15	13.9
	Cannabis	2	1.9
	I don’t smoke	3	2.8
Contraceptive	Oral contraceptive pills	28	13.9
	Others methods	40	37
	None	40	37
Period use of oral contraceptive pills	Less than five years	8	28.5
	More than five years	20	71.4
Who did advise you for screening test	Nurse	22	20.4
	Doctor	11	10.2
	Your husband	2	1.9
	Relatives	1	0..9
	Community health workers	12	11.1

	Teachers	1	0.9
	None	59	54.6
Reason for not screened	I do not have time	11	10.2
	Not have money	10	9.3
	Not sick	27	25
	Not important	7	6.5
	I have never heard about it	51	47.2

HPV is known to 99% to cause cancer of the cervix, mostly transmitted through sexual intercourse. Cervical cancer has certain risk factors related to sexual practices such as having early sexual intercourse, having more than one sexual partner as well as the male with multiple partners, first pregnancy under 20 years old and multiple pregnancies. Others practices include being either passive or active smoker and use of contraceptives more than five years, however even if the women do not do early and regular screening practices and being not vaccinated contribute also to have cervical cancer(El-Moselhy EA, 2016)

In spite of the good knowledge and positive attitude about cervical cancer prevention (screening and vaccination), it was not translated into practice as 93 (86.1%) has never been screened and 89 (82.4%) were never vaccinated.

However a very high percentage of women 104 (96.3%) followed the good practice of not smoking and 80 (74%) did not use any methods of contraceptive which was documented to be high risk for cervical cancer, however among 13.9% who used these contraceptives, the majority 20 (71.4%) of them have used more than five years these contraceptives.

The findings demonstrated that the respondents had poor practices for cervical cancer prevention; the most factors that caused the poor practices documented by them were, of whom 65.7% they mentioned that they have never heard screening test. Others factors reported by them were a lack of time (10.2%), lack of money (9.3%), being in good health (25.5%) and 6.6% reported it was not important. 54.6% have never been advised by anyone and only 20% of respondents were advised by the nurses for screening practices which are similar to the source of information about cervical cancer documented by them.

CHAPTER V: DISCUSSION OF THE RESULTS

5.1. Discussion of the results

This study provides baseline information for cervical cancer prevention among women attending maternity department at Ruli hospital. It is well known that good knowledge, positive attitude and good practices about particular medical condition are essential and interconnected to reduce the morbidity and mortality that should be caused by that disease (Shu et al., 2012:724).

In this study knowledge, attitude and practices about cervical cancer prevention were examined. Results of the study show that 69.4% of the participants have heard cervical cancer and only 19.4% provided the irrelevant information about cervical cancer. This study is highly similar to the one conducted in Nepal, amongst women visiting tertiary centre in Kathmandu where 65.7% had heard cervical cancer (Shrestha, 2013) , However the findings from the study conducted in China, South Africa and Ghana revealed that the majority (73%, 62.0%, and 68.4%) respectively of respondents had never heard cervical cancer and few (15.8%) of the sample reported the relevant information to cervical cancer (Ramathuba, 2016, Nancy, 2015, Abudukadeer et al., 2015). This difference may be due to in Rwanda, there is a good improvement in ministry of health, for example, a sensitization about the NCD through campaign and mass media (Ministry of Health Rwanda, 2015), secondary is due to the campaign or the vaccination of HPV because Rwanda is one among the first countries in Africa to initiate this vaccination aimed to eradicate it in 2020 (Binagwaho *et al.*, 2012).

The mass media was ranked firstly to be the source of information and followed by the nurse, this is in accordance with a study conducted in China aimed to assess knowledge and attitude of Uyghur women in Xinjiang province of China related to the prevention and early detection of cervical cancer in which the mass media was reported firstly to provide information about

cervical cancer (Abudukadeer et al., 2015). This is contrary to the study done in India among women attending a tertiary care center of Tripura, where the mass media came at first, but at a low level and followed by health professionals (Bhattacharjya H et al, 2015). In this study, the mass media came at the first to provide the health information because the mass media and information, communication, and technology (ICT) in Rwanda is in advanced fast as well the health care service. The respondents reported that the nurses came at second place, this may due to the fact that in Rwanda the university and high learning institutions that trained the nurses have increased their number as well as the health care facilities and now the nurse-patients ratio is one nurse per 1,227 inhabitants (MoH/Rwanda Health sector policy, 2015) comparatively with the 20 previous years.

Over fifty (50%) of respondents auto-reported that the following risk factors such as multiple sex partners, having genital warts, sexual intercourse before age 20, gestation age less than 20, STIs, smoking, and use of oral contraceptive pills contribute to existing of cervical cancer. These findings are higher than findings in China in which the poor knowledge about the risk factors of cervical cancer was reported (Abudukadeer et al., 2015). The less knowledge about cervical cancer risk factors was revealed in India and Ghana (Kokane et al., 2015; Ebu and Mupepi, 2015), the big difference may be due to the level of knowledge about hearing cervical cancer in the study conducted in China was less than the findings from this study (Abudukadeer et al., 2015).

Having sexual intercourse before age 20 and having contracted STIs were scored high, which is contrary to the findings from South Africa that the respondents scored those at low level of 34 % and 36% respectively, this may due to the education level and age range of the participants in this study were less than of the respondents of the study carried out at South Africa (Ramathuba et al, 2016).The education level and age category are factors that influence the knowledge of the prevention of illness, an increased education level affect

positively the health status of the individual leading to decreased level of premature death, however, the knowledge about health status decrease as the age increased(Mamo and Worku, 2017)

Concerning the diagnosis of cervical cancer, the study found that a little more a half (50.9%) of respondents affirmatively reported that the Pap smear is one of the screening tests, contrary to biopsy where the respondents who agreed to it were less. This is due to the fact that the Pap smear is the most or the unique test used in Rwanda (Binagwaho et al., 2013), however the findings were very much higher than the study findings in Nigeria which reported that 91.1% of respondents did not know whatsoever about this condition including the diagnostic test (Igwilo, 2012) as well the study carried out in India by Bhattacharjya et al (2015) and in South Africa by Ramathuba et al (2016) where the percentages of the women who knew that either Pap smear or biopsy are screening test for cervical cancer were between 1% and 12% respectively of respondents. Even though, the women are not encountering the risk factors for cervical cancer, but they neither know nor do the screening practices as recommended they will be affected by the cancer of the cervix because these are not enough, knowledge on diagnostic procedure or screening tests is important, this should be achieved when the nurses enhance the sensitization about the screening practices of cervical cancer to the women and influence them to go to health facilities for cervical cancer screening.

This study showed that the knowledge about the preventive measures of cervical cancer prevention was satisfactory because 64.2% of respondents asked if cervical cancer can be prevented and they responded affirmatively that it is a preventable disease through using well the condom for each sexual intercourse, keep genital part clean, early cervical cancer screening, vaccination, not smoking and avoid early sexual intercourse. This was about similar to the study done in Yemen, 72 % reported that cervical cancer can be prevented, however the knowledge reduced when asked about each preventive measure that should be

used in prevention, 18% vaccination against HPV, 9% smoking cessations, 7.4% avoid early marriage 16.4%, not using CP for long time and 2% avoid multiple sexual partners, however, 59% of whom reported that performing the Pap smear annually is a preventive measures (Abdul-Aziz, 2012). This disparity may be due to that in Rwanda the program of cervical cancer is functioning and there is decentralization of screening, around each health facility from the health center to a referral hospital, there is at least one nurse who has been trained about the prevention of cervical cancer. And also, as seen before, the mass media play a big role in the disease prevention.

Among the preventive measures reported by the respondents in this study, early sexual intercourse, keeping genital part clean, early and regular cervical cancer screening were reported at good level of knowledge when compared to the study which was done in eastern Uganda, only 46% of respondents documented early cervical cancer screening as preventive measure (Mukama *et al.*, 2017).

This study also looked at the attitude of women about cervical cancer prevention. Over 55 % of the respondents had a positive attitude about the prevention of cervical cancer which was less than the findings of the study done in Perambalur, Tamil Nadu, India and another one in Kinsha, DRC, more than 80% of respondents showed positive attitude toward cervical cancer prevention (Varadheswariet al.,2015 Ali-Risasi et al. 2014). The aforementioned studies that describing attitude also was supported by another study done in Nepal, 85% of respondents showed the positive attitude toward cervical screening (Shrestha, 2013). Kokane et al (2013) revealed positive attitude, 77% women reported that the woman should bear her first child at age 20. The findings of the present study are contrary to the findings from the study done in Oyam district, Uganda, in which the negative attitude was revealed due to the different misconception that they have reported (Waiswa et al., 2017).

Although 55.5 % of the respondents of this study reported the positive attitude toward cervical cancer prevention, however, they had the misconception that prevents them to undergoing screening practices resulting to 13.9% who went for screening within last three years.

The practices also were assessed. In this study, the majority of respondents 86.1% have never screened and 82.4% have never vaccinated. This finding is highly worse than that reported in Oyam district, Uganda, 65% have not screened due to the long distance between them and the health facilities that offer the screening service of the cancer of the cervix, it requires money to pay, fear and it is not important (Waiswa, 2017).

This is a big problem in some countries such as India where 10.38% have been screened with Pap smear test and 0.3% were vaccinated against HPV, the motif mentioned by the respondents that prohibited them to underwent the screening included 4.5% reported that they were not having any health problem, 3.46% did not know the location of the health facilities providing the service, 2.42% did not feel necessary, 89.62 % were not aware of the test.

Additionally, according to the national community health strategic plan (MoH, 2013- 2018) the community health workers with collaboration of nurses play a big role in health promotion through diseases prevention such NCD and behavior change activities, but this study has revealed that few number (11.1%& 20.4 %) of respondents who have been advised by the community health workers and nurses respectively for the practices regarding cervical cancer prevention. Here there is some barriers that prevent the women of Nigeria to perform regular screening including modesty concerns, gender of health care providers, fear of status disclosure, fear of contracting other illnesses in the hospitals, discomfort during the screening process, lack of awareness of screening programmes, denial of disease condition, discrimination, and requiring husband's permission before screening (IModibbo *et al.*, 2016),

however the main reason mentioned in the study conducted in India was the lack of advice from health care providers (Bhattacharjya, Sarkar and Luwang, 2015).

In Africa, a study conducted in South Africa revealed the high number (96.8%) of women who did not take a Pap smear because they responded that it was not necessary to take a Pap smear, and they did not have time (Ramathuba *et al.*, 2016). The findings revealed low practices about cervical cancer prevention, this was due to different misconceptions about cervical cancer reported by them and it should lead to early death of them because they did not consider the severity of it as evidenced by the low number of them who have been screened.

The healthcare providers or other relevant health personnel have to be sensitive to the seriousness and fatality of the cervical cancer and take appropriate actions in order to reduce and eliminate it through prevention and eradication of the myths documented by the women and increase the awareness about cervical cancer and provide the health education aimed to prevent the risk factors or change the behaviors that contributing to the cervical cancer.

5.2. Strengths, problem, and limitations of the study

Although this study had problems and limitations, however, it had also the strengths such as the validity and reliability of the tool has been determined before the data collection to enhance the consistency of the data by test and re-test.

Self-administered coded questionnaires were used to ensure the privacy and avoid the bias of information that could be generated by the respondents.

HBM the use of the framework which has proved a long time ago to be robust in the determination or to predict the behavior change.

During the period of conducting this study, the limitations and problems of the study included quantitative method was used, however the qualitative method was required to get deep information about cervical cancer, a convenience sampling strategy has been used only

because social desirability of all studies regarding some intimate questions people tend to provide wrong information or those who are acceptable .A descriptive research has been done and no association between socio-demographic characteristics and the variables (knowledge, attitude, and practices) has been researched on. The findings from this study cannot be generalized to the Gakenke district because the sample size was very few according to the women living in Gakenke district. And also, a shortage of funds was a big challenge.

CHAPTER VI: CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

The study concluded that the majority of the women were aware of the fatality of cervical cancer, had a fair knowledge and positive attitude of prevention as means of controlling cervical cancer but were not receiving counseling hence were not performing the important practices for cervical cancer prevention highlighted documented by them including immunization, early and regular screening practices. It was due to some factors that have been reported by the respondents including they were asymptomatic, it was not necessary, fear and anxiety. They were exposed to some risk factors such as low incomes level where most of them earned less than 15,000 RWF per month and around the half of them were under 20 years of age and pregnant for the first time and had the misconception regarding screening.

6.2. Recommendations

Based on the findings and discussion of this study, more should be done to in order to reduce the morbidity and mortality caused by the cancer of cervix among women.

The health professionals especially the nurses have to work closely with the community to provide the health education about cervical cancer prevention to increase the level of the practices of the women toward the prevention of cancer of the cervix because they are the health professional point of reaching many women in the maternity period, have the opportunity to counsel and support screening for cervical cancer prevention.

Although the mass media came at the first place to providing information about cervical cancer, the level of it was not sufficient. It would be better the Ruli District Hospital with the

collaboration of gakenke district have to make effort and to establish the possible strategies of increasing the number of women screened for cervical cancer

The ministry of health has to make effort to integrate the cervical cancer screening in the routine curative and antenatal care consultation at all health facilities. It should make free screening in order to allow the women to attend or to look for that health care service.

Further study should be conducted in the community and at district level aimed to explore the barriers that prevent the women from performing practices for cervical cancer prevention, the correlation between socio-demographic and practices should be assessed

Others researchers should conduct a study about it in this community of gakenke district in the manner that the findings may be generalized.Additionally, another research about the barriers or misconception that leading to low screening practices should be conducted.

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ANNEXE

Annexe1: The toll in English

KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT CERVICAL PREVENTION CANCER OF WOMEN ATTENDING MATERNITY DEPARTMENT AT RULI HOSPITAL/RWANDA

Questionnaire Number: _____

INTRODUCTION

I am sylvestre NTIRENGANYA, a registered nurse and a master's student of sciences in nursing ,medical surgical track at university of Rwanda College of medecine and health sciences,school of nursing and midwife ,Nyarugenge Campus. I am currently conducting a research entitle Knowledge ,attitude and practice about cervical cancer prevention among women attending maternity departementata Ruli Hospital/RWANDA under my supervisors from UR-CMHS in order to get the requirement of master's degree.

The purpose of the study is to assess knowledge,attitude and practice about cervical cancer prevention among women attending maternity departement at Ruli Hospital /Rwanda . Your contribution in this study is completely you're willing. If you refuse to participate, no privileges will be taken away from you. Could you please grant me a few minutes of your time to complete the questionnaire? For any information regarding this study don't hesitate to call on 0783136457

Instructions

The questionnaire is handed personally to respondents and in the presence of the researcher. The questionnaire is in Kinyarwanda. The questionnaire will take 30-50 minutes to complete.

Questions 1.1-1.8 are demographic questions

2.1: questions related to awareness

2.2.: questions intend to describe the knowledge

2.3: questions about attitude

2.4:questions about practices

PART I: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

1. Age :.....

2.Level of Education (please Circle)

a. No formal education
b. Primary school completed
c. Ordinal level education completed
d. Advanced secondary school completed
e. Universty study completed

3. Marital status(please, Circle)

a. Single
b. Married
c. Widowed
d. Divorced
e. separated
f. single mother.

4.Religion(please Circle)

a. Christianity
b. Islam
c. Traditional

5. What do you do for a living ?.....

6. Personal incomes per month:

a. ≤ 15,000RWF
b. 15,000-30,000RWF
c. ≥30,000- 50,000RWF
d. ≥ 50,000RWF

7. Age of Marriage .....

8. Age of first pregnancy .....

9.Number of Birth.....

PART II: AWARENESS, KNOWLEDGE,ATTITUDE AND PRACTICE ABOUT CERVICAL CANCER

Awareness about cervical cancer

10.Do you know the womb of woman

a. Yes
b. No

11. Have you ever seen the cervix of the woman womb?

a. Yes
b. b.No

12. Cervical cancer is highly prevalent in our country(Rwanda) and is the most leading cause of deaths among women.

a. Yes
b. No

13. If you have heard cervical cancer, what/who was the source of information

a. Nurse
b. Doctor
c. Mass media
d. I have never heard about cervical cancer from anywhere

14. What was the content of information about cervical Cancer you received.....?

Knowledge about cervical cancer prevention

The table below contains the statements that seek to explore what you know about cervical cancer prevention. If you agree or not for those statements, please tick (√) the option that best suit you in the column provided .You can only pick one.

Characteristics	S/N	Particular	a.Yes	b.No
	15	Have you ever heard about cancer of the cervix?		
	16	Have you ever heard about screening tests for cervical cancer		
Risk factors of cervical cancer	17	Multiple sex partners		
	18	Having genital warts /small abnormal skin grow in the vagina		
	19	Sexual intercourse before 20 years old		
	20	Pregnancy before 20 years old		
	21	Having contracted STIs		
	22	Smoking cigarettes		

	23	Long use of oral contraceptive pills		
Diagnosis of cervical cancer	24	Pap smear /taking small amount of secretions from genital area		
	25	Biopsy /taking a small piece of cervix to detect abnormal change		
	26	Is the cervical cancer preventable		
The cervical cancer can be prevented by	27	Using condoms		
	28	Keeping genital part clean		
	29	Early cervical cancer Screening		
	30	Human papilloma virus (HPV) vaccine /vaccination		
	31	Not smoking		
	32	Exercise		
	33	Avoid early sexual intercourse		
	34	Germs can cause cervical cancer		
The virus associated with cervical cancer is transmitted through:	35	Sexual intercourse		
	36	Kissing		
	37	Not using a condom during sexual intercourse		

2.3. Attitude about cervical cancer prevention

The below table contain the statements that seek to explore the attitude about cervical cancer, Please indicate how much you agree or disagree with each of the following statements:

S/N	STATEMENTS	Response				
		Strongly agree	**Agree**	**Neither Agree nor disagree**	**disagree**	**Strongly disagree**
38.	Any woman including you can get cervical cancer					
39.	A woman should bear her first child by age of 20 years					
40	Every woman should make effort to get screening for cervical cancer prevention at 21					
41	The women have to perform regularly screening to prevent cervical cancer					
42	Human papilloma virus is the most cause of cervical cancer					
43	If you were given a pamphlet about HPV vaccine, i will do the test					

2.4. Practice about cervical cancer prevention

44. How long did you do the screening for cervical cancer?(if your answer is a jump the 45&46 questions ,then answer the question number 48 ,if your answer is either b or c do not answer 47)

a. Never
b. Within three years ago
c. Above three year ago

45. Who did advise you this?
    a. Nurse
    b. Doctor
    c. Husband
    d. Friends
    e. Relatives
    f. none
46. If Not frequently screened regularly, what was the reason?
    a. I don't have time
    b. I don't have money
    c. I am not sick
    d. I don't consider that it is important
    e. I have never hear cervical cancer screening test
47. How many sexual partners have you had in your life?

    a. none of my life
    b. One of my life
    c. More than one

48.Have you ever vaccinated HPV?

    a. Yes
    b. No

49.What do you smoke among the followings?

    a. Tobacco
    b. Canabus
    c. I don't smoke

50.What does your family members smoke among the following?

    a. Tabbacco
    b. Cannabis
    c. I don't smoke

51.What kind of contraceptives do you use ?

    a. oral contraceptive pills
    b. injectable
    c. implant
    d. Intra uterine device
    e. natural methods
    f. none

52.If you are using or have used oral contraceptive pills, How long have you use it contraceptives ?

Annexe2: Tool in Kinyarwanda

UBUMENYI, IMYITWARIRE N'IBIKORWA BYO KURWANYA KANSERI Y'IKONDO Y'UMURA MUBAGORE BAZA KUBYARIRA KUBITARO BY'I RULI

Numeroy'urupapuro: _____

Twe, **NTIRENGANYA Sylvestre**, umuforomow'umwugauzwin'urugagarw'abaforomon'ababyaza mu Rwanda , ndiumunyeshurimuriuniverisitey'Urwandakoreji y' ubuvuzin'ubuzimanay'I Kigali mu ishamiry'ubuforomo,icyicirocyagatatucyakaminuza .nkabandigukoraubushakashatsi**k'ubumenyi,imyitwariren'ibikorwabyokurwanyakanserii fatainkondoy'umuramubagorebazakubyarirakubitaroby'I Ruli** .ububushakashatinkabandimokubufashwan'abarimubanyigishaariboDogiteri Anita Collins and Rumenge Alain kugirangomboneimpamyabumenyiyomucyicirocyagatatucyakaminuza .

Ni muriurworwegotwabasabagauruharerwanyukugirangomugireuruharimuriububushakashatsi. Kwemeragukorerwahoubushakashatsiniubushakebw'umuntukugiticyentagahatokandiiyowemeyekudakomezagukorerwahoubushakashatsintabusobanurotugusaba. Ibyobizakorwahasubizwaibibazobyabajijwekurupapurorukurikira.

Amabwiriza

Umushakashatsiazatangaurupapurorw'ibibazok'umuntuuzasubizaibibazo . urupapurorw'ibibazoruzabaruri mu Kinyarwanda . gusubizaibibazobyosebizatwarahagatiy'iminota 30-50

Ibibazo:

2.1: bijyanyen'ingamimererery'usubiza

2.2.:ibibazobijyanye no gusobanuraubumenyikukurwanyakanseriy'inkondoy'umura

2.3:ibibazobijyanyen'imyitwariremukurwanyakanseriy'inkondoy'umura

2.4.ibibazobijyanen'ibikorwabyokurwanyakanseriy'inkondoy'umura

IGICE I: UMWIRONDORO W'USUBIZA

1.Imyaka:.....

2.Amashuriw'ize (hitamo)

A.Sinigezeniga B. Abanza C. AtatuyisumbuyeD.Ayisumbuyenarayarangije e.Kaminuza

3.Irangamimerere

a. Ingaragu
b. Narashatse
c. umupfakazi
d. Naratandukanyebyemewen'amategeko
e. natandukanyen'umugabok'uburyobutemewen'amategeko
f. Nabyaranyen'umugabotutarshakana/nabyariyeiwacu

4.Idini (hitamo)

a. Umukiristu
b. Umuyisiramu
c. Idinigakondo

5. Ukoraiki mu buzimabusanzwe?.....

6. Amafarangawinjizaburikwezi;

a. ≤ 15,000RWF
b. 15,000-30,000RWF
c. ≥30,000- 50,000RWF
d. ≥ 50,000RWF

7. Washatseufiteimyakaingahe ?.....

8. Watwiseindayambereufiteimyakaingahe ?.....

9.Wabyayeabanabangahe ?.....

II.UBUMENYI,IMYITWARIRE N'IBIKORWA BYO KURWANYA KANSERI IFATA INKONDO Y'UMURA

A.UBUMENYI KU KURWANYA KANSERI IFATA INKONDO Y'UMURA

10. Uzi indaibyara

a. Yego

b. Oya

11. Wigezeubonainkondoy'umura?

a. Yego

b. Oya

12. Kanseriifatainkondoy'umuraisigayeigaragaracyane mu Rwanda kandiizakuisonga muindwarazicaabagore

a. Yego
b. Oya

13. Nibawarigezekumvakanseriy'inkondoy'umuranindewaguhayeamakuru?

a. umuforomo

b. Dogiteri

c. Itangazamakuru

d. sinigezenumvakanseriifatainkondoy'umura

14. niayahemakuruwumvisekurikanseriy'inkondoy'umura harimo:.....
.....
.....

B. **UBUMENYI MUKURWANYA KANSERI IFATA INKONDO Y'UMURA**

Imbonerahamweikurikiraharimoamagamboashakaibisobanurokubyouzimukurwanyakanseriy' inkondoy'umura. Nibaubyemerashira**akamenyetso (**√**)**mukazukamwegateganyen'amagambowemera .

Ibirangaubumenyi	**S/N**	**Ibisubizo**	**Yego**	**Oya**
	15.	Wigezewumvakanseriy'inkondoy'umura		
	16.	Wigezewumvauburyobakoreshabayisuzumisha		
Ibitumaumugoreashoborakurwakanseriy'inkondoy'umuraharimo	17.	Gukoranaimibonanompuzabitsinan'abantubenshibatandukanye		
	18.	Kugirautubyimbadutotugendadukurakumyangandangatsina (igituba) y'umugore		
	19.	GukoraImibonanompuzabitsinamberey'imyaka 20		

	20	Gutwitamberey'imyaka 20		
	21.	Kubaurwaye cg wararwayeindwarazanduririramumibonanompuzabitsina		
	22.	Kunywaitabi		
	23.	Gukoreshaigihekirekireibininibyokubonezaurubyaro		
Usuzumakanseriy'inkondoy'umuraashobora	24.	Gufataamatembabuziarimugitubayaturutsekuinkondoy'umura		
	25.	Gufataagace(akanyama) gatoyacyanekokunkondoy'umurahanyumabakarebakoarinzima		
	26.	Kanseriy,inkondoy'umurairirindwa ?		
Kanseriy'inkondoy'umuraishoborakwirindwahakoreshejwe:	27.	GukoreshaAgakingirizo (prudence)		
	28.	Kugiraisukuihorarhomumyanyandangagitsina(igituba) cy'umugore		
	29.	Kwisuzumishainkondoy'umurahakirikare		
	30.	Urukingorwa virus yumani papilloma(HPV)		
	31.	Kutanywaitabi		
	32.	Gukoraimyitozongororamubiri		
	33.	Kwirindagukoraimibonanompuzabitsinahakirikare		
	34.	Udukokodushoboraguterakanseriy'inkondoy'umura		
Virus iterakanseriifatainkondoy'umurayandurira:	35.	Mu gukoraimibonanompuzabitsina		
	36.	Gusomana		
	37.	Kudakoreshaagakingirizomugihecy'imibonanaompuzabitsina		

C. IMYITWARIRE KUKURWANYA KANSERI IFATA INKONDO Y'UMURA

Imbonerahamweikurikirairagaragazaimyitwarirekukurwanyakanseriifatainkondoy'umura .Garagazaukoubyumvaugendeyekumagamboaarimumbonerahamweikurikira .

S/N		IBISUBIZO				
		Ndabyemera cyane	**Ndabyemera**	**Ndifashe**	**Ndabihakanye**	**Ndabikanyecyane**
38.	Wowen'abandibagoremushoborakurwarakanseriifatainkondoy'umura					
39.	Umugoreashoborakubyaraumwanawambereafiteimyaka 20					
40.	Umugoreyakagombyegukoraukoashoboyekoseakisuzumishabwamberekanseriifatainkondoy'umuraafiteimyaka 21					
41.	Umugoreagombakwisuzumishabihorahokandikugihekugirangoyirindekanseriifatainkondoy'umura					
42.	Virusiyitwayumani papilloma virus izakwisonga mu geterakanseriifatainkondoy'umura					
43.	Iyo umenyeamakuruyokwikingizaagakokogaterakanseriy'inkondoy'umuraujyakwisuzumisha					

D. IBIKORWA KUKURWANYA KANSERI Y'INKONDO Y'UMURA

44.HashizeigihekinganagutewisuzumishijeKanseriifatainkondoy'umura ?

a. Sinigezenisuzumisha
b. Imyakaitatu
c. Hejuruy'imyakaitatu

45.
NindewakugiriyeinamayokwisuzumishaKanseriifatainkondoy'umura(hitamoigisubizokimwe)

g. umuforomo
h. Umuganga
i. Umugabowanjye
j. Ishuti
k. Abo tuvukana
l. ntawe

46. Nikicyatumautisuzumishakanseriifatainkondoy'umurak'uburyobutegnijwecyangwa mu gihegiteganijwe (hitamoigisubizokimwe)?

f. Ntamwanyambamfite
g. Ntamafarangambamfite
h. Numvandimuzima
i. Numvaatariingenzi
j. ntamakuru/ntabumenyimbamfitebijyanye no kuyisuzumisha

47. Mubuzimabwawewakoranyeimibonanompuzabitsinan'abagabobangahe?

d. Ntanumwe
e. Umwe (1)
f. Urenzeumwe(1)

48.Wigezewikingiza virus yitwaYumaniPapiloma (HPV) iterakanseriifatainkondoy'umura?

c. Yes
d. No

49.Unywaikimuriibibikurikira?

d. Itabi
e. Urumogi
f. ntanakimwe

50. Abo mubanabobanywaiki?

a. Itabi
b. Urumogi
c. ntanakimwe

51.Ukoreshaubuheburyomukubonezaurubyaro(hitamoigisubizokimwe)?

a. Ibinini
b. Urushingerw'ameziatatu
c. Agapirak'imyakaitatu cg itanubashyirakukaboko
d. Agapirabashyiramugitsina
e. Uburyobwakamere
f. Simbonezaurubyaro

52.Nibawarakoreshejecyangwaukoreshaibininihashizeigihekinganaguteubikoresha?

Annexe3: Informed consent

Informed consent

Dear Participant,

I Sylvestre NTIRENGANYA; a student of Masters of Science in Nursing Medical Surgical track at the University of Rwanda college of medicine and health sciences Under the supervision of Dr Anita Collins and MrRumenge Alain, lecturers at CMHS, I am conducting a thesis on "**Knowledge, attitude and practice about cervical cancer prevention among women attending maternity department at Ruli HOSPITAL "**

I kindly request for your participation in the research study the aforementioned, because it is important to assess knowledge, attitude and practice about cervical cancer prevention among population who are at risk. Before your agreement to be involved or not involved 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, however no risks and discomfort. Your contribution in this study is completely your willing. You are not obligated to contribute; you may choose to participate or not to. If you refuse to participate, no privileges will be taken away from you. If you agree to participate, you will be requested to sign the consent in front of someone. Agreement to participate will not result in any immediate benefits.

PURPOSE OF THE STUDY

The study will assess **Knowledge, attitude and practice about cervical cancer among women attending maternity department at Ruli Hospital**.

Information obtained from this study will be disseminated to Ruli hospital nurses; however they will encourage the women to increase or to maintain the level of knowledge, attitude and practice about cervical cancer prevention that will reduce morbidity and mortality due to cervical cancer either in community or hospital they should be referred.

This research will help us to know the different categories of women who have the highest and lowest level of knowledge, attitude and practice according to socio demographic data Health education about cervical cancer prevention will be given to those living in catchment area in collaboration with Ruli District Hospital and Ruli Higher Institute of Health Sainte Rose de Lima.

PROCEDURE

The women aged from21 years old will participate

The study involves the coded questionnaire and face to face interview for some of you who are illiterate.

After signing the consent form, the staff will proceed to give you the relevant questionnaire or face to face interview depends on education level of participants

To fill the questionnaire will take about 40 minutes

INFORMED CONSENT FORM

The Purpose of this study has been explained to me and I understand the purpose, the benefits, risks and discomforts and confidentially 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 ,……..Agree to take part in this study.

Participant's signature or thumb print

Annexe 4 :Work plan

This plan demonstrates the main activities the research will encompass and the time in which every activity will be completed as well the number of persons assigned to do the activity within the specified time.

S/N	Task to performed	Dates	Days	Persons assigned	Person's days required
	Research proposal preparation	18th May-30th Sept,2016 2days/week	2 months	3: investigator and supervisors	60
	Research proposal presentation and submission(researchers)		2days	1:Investigator	2 days
	Ethical clearance and permission to conduct the study(researchers)	2 weeks: 22rd to 30th of December/2016	6 days	IRB Board/committee	6 days
	Contacting administration of the hospital	2-8/2017	6 days	1:investigator	1 day
Data collection(field work)		15/01-15/02/2017	30 days	1:investigator	30 days
Data coding and entry into the computer researchers		15/02-15/03/2017	30 days	1:investigator	30 days
Data analysis		15/3-30/3/2017	15days	3:investigator and supervisors	15days
Report writing(first draft)		1-15april,2017	15days	3:investigator and supervisors	15 days

Report presentation(	20th april,2016	1day	3:researchers and supervisors	1 day
Finalizing report	21/4-30/4/2017	10	3: researchers and supervisors	10day
Submission of final report	5thMay,2017	1	1:researcher	1

Annexe 5 :Gantt Chart

This charts lists the main activities shown in the work plan and displays diagrammatically the period during which each task begins and ends. It does not show the number of person's days involved

Tasks to be performed	**Responsible person**	**Period 2016**								**2017**				
		5	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**
Literature review	Researcher	■	■	■	■	■	■	■	■	■	■	■	■	■
Research proposal preparation submission (researchers)	Researcher	■	■	■	■	■								
Presentation to the department	Researcher						■							
Ethical clearance and permission	Researcher							■						
Data Collection	Researcher								■					
Data coding, entry into the computer and analysis	Researcher									■				
Report writing	Researcher										■	■		
Report Presentation	Researcher												■	
Submission of final report	Researcher													■

Annexe 6 :Budget

6.1. Preparation for the study

Number	Tasks to be performed	Number of persons	Number of days	Subtotal of days/person	Unity/Cost	Total
1	Project preparation	1	20	20	10,000	200,000
2	Ethical clearance	1	2	2	20,000	40,000
3	Pilot study	1	2	2	25,000	50,000
4	Contact to Ruli Hospital administration	1	2	2	5,000	10,000
	Sub-total	-	-	-	-	300,000

6.2. The survey

N°	Tasks to be performed	N° of persons/ Materials	N° of days	N° of persons/ days	Unit costs Frw	Total Frw
1	Transport	1	30	1	0	0
2	Communication (air time)	1	30	1	1,000	30,000
3	Restaurant	1	30	1	5,000	150,000
Sub-total 2						**180,000**

6.3. Study supplies

Number	Items	Quality	Unity price	Total
1	Papers	2 reams of paper	3,000	6,000
2	Pencils	10	100	1,000
3	Rubbers eraser	10	100	1,000
4	Printing	110 questionnaires	100	11,000
	Sub-total	-	-	**19,000**

6.4. Budget summary

No	Description	Total
1	Preparation of the study	300,000**Rwf**
2	The survey(data collection)	180,000**Rwf**
3	Study supplies	19,000**Rwf**
	General total	**499,000RWF**

6.5. Budget Justification

This money will be used in buying stationary and the materials preparation of the study, I will be self sponsored.

Annexe7:IRB certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **sylvestre Ntirenganya** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 10/01/2016.

Certification Number: 2186514.