PRACTICE OF BREAST SELF EXAMINATION AMONG HEALTH CARE PROFESSIONALS AT ONE SELECTED REFERRAL HOSPITAL IN RWANDA

MUTIGANDA Venant

College of Medicine and Health Sciences

School of Nursing and Midwifery

Master of Sciences in Nursing/ Oncology.

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By

MUTIGANDA Venant

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Supervisor: Dr Madeleine MUKESHIMANA

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DECLARATION

DECLARATION AND AUTHORITY TO SUBMIT THE DISSERTATION

Surname and First Name of the Student: MUTIGANDA Venant

Title of the project: **practice of breast self-examination among health care professionals at one selected referral hospital in Rwanda.**

a. *Declaration by the Student*

I do hereby declare that this***dissertation***submitted inpartial fulfilment of the requirements for the degree of **MASTERS OF SCIENCE** in **NURSING**, at the University of Rwanda/College of Medicine and Health Sciences, is my originalwork and has not previously been submitted elsewhere. Also, I do declare that a complete list ofreferences is provided indicating all the sources of information quoted or cited.

Date and Signature of the Student……..

b. *Authority to Submit the dissertation*

Surname and First Name of the Supervisor: Dr. MUKESHIMANA Madeleine

In my capacity as a Supervisor, I do hereby authorize the student to submit his/her **dissertation**.

Date and Signature of the Supervisor/Co-Supervisor

……

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Last but not least, my appreciation goes to those involved and who assisted me directly or indirectly throughout this research proposal who I may not mentioned here.

DEDICATION

I dedicated this work

To The almighty God,

To my Lovely wife

To my Children

To my friends for their great support and encouragement all the time.

ABSTRACT

Background: In 2012, 1.7 million of females were detected to have breast cancer around the world, and globally the survival from breast cancer for five years numbered 6.3million. Incidence still remains high in many advanced countries; mortality rate is very high in the developing countries due to the absence of early screening mechanisms and the absence of better management of Breast cancers cases.

Aim: This study explored practice of Breast self-Examination among Health care professionals at Rwanda Military Hospital.

Methods: Non experimental research design using quantitative approach has been used to answer the research questions. A random sampling strategy was used to select a sample of 184 healthcare professionals (nurses, midwives and physicians) after their consent to participate. Data were collected using a questionnaire as a tool and analyzed using descriptive and inferential statistics by using SPSS version 21.

Results:A total of 184 respondents participated in the study, the findings of the study show that the practice of healthcare professionals was low accounting for 42.4**%**however most of them had a positive perceptions about BSE. This study revealed that respondents who reported early detection of breast cancer were two times more likely to practice breast self-examination than who did not report it (OR=2.085, CI= 1.033-4.209, P=0.040). Among those who reported fear of breast cancer were more than two times more likely to practice breast self- examination than those who do not fear of cancer. Always postponing have a 53.9% reduction in the odd of practicing breast self- examination relative to those who do not postpone (OR=0.461, CI= 0.229-0. 930, P=0.031).

Conclusion: There is a very urgent need for regular update and professional continuous education for healthcare professionals concerning the importance of breast self-examination and procedures allowing them to perform it regularly.

KEY WORDS

Practice: refers to the examination of their breast by themselves, to identify any changes in the breast.

Breast Self- examination: refers to actual application of BSE in early detection of breast cancer.

Healthcare professionals: A health care professional is a trained person who delivers medical care in a systematic way, following prescribed protocols and procedures. The term "health care professional" covers everything from a doctor, nurse and physical therapist to a pharmacist and nutritionist. Various degrees and specialties cover the work of a health care worker and determine the amount of money they earn

Referral Hospital: refers to a hospitalusuallyalsodesignated as a Centre of excellence,whichofferstertiarycareservices(e.g.,neurosurgery,radiotherapy)andhascomplexdiagnostic(e.g.,imaging,molecularpathology,and genetics)capabilities.

LIST OF SYMBOLS AND ACRONYMS

ACOG: American Congress of Gynaecologists

ACS: American Cancer Society

BC: Breast Cancer

BSE: Breast Self-Examination

CBE: Clinical breast examination

CI: Confidence Interval

HBM: Health Belief Model

HRH: Human Resource for Health

IRB/CMHS: Institutional Review Board/ College of Medicine and Health Sciences

KAP: Knowledge, Attitude, Practice

MRI: Magnetic Resonance Imaging

NCCN: National Comprehensive Cancer Network

OR: Odd Ratio

SPSS: Statistical Package for Social Sciences/ Software Package for Statistical analysis

UR: University of Rwanda

VCT: Voluntary Counselling and Treatment

WHO: World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1. Introduction

Breast self - examination (BSE) is a test that a person does by him/herself at home to check for a change or detect problems affecting the breast tissue. Breast self-examination remains the general method to raise breast health awareness and thus potentially allowing earlyidentification of any deformities: it is free of charge, painless and easy to practice. It is advised by the American Cancer Society that females from 21 years old would have information on how to perform early BSE, especially after their menstrual cycle and consult the hospital if warning signs like new lumps, nipple discharge, and abnormal tissue in the breast(Tafa Segni, Mulu Tadesse, *et al.*, 2016)**.**

This chapter presents background of the study, problem statement, aims of the study, specific objectives, research questions, significance of the study, delimitation of the study, andlimitations of the study.

1.2. Background of the study

According to the World Health Organization (WHO), cancer disease represents one of the top causes of death worldwide. In2012, 8.2 million of people got cancer related death. With BSE 32. 6 million of person were survival of breastcancer in the developing countries. In addition to that, it was reported that 1.7 million of females were detected to have Breast cancer in the same year (WHO, 2013). The high incidence rateand high mortality rate in developed countries is due to the absence of early screening mechanisms and better management of breast cancers cases(Tafa Segni, Mulu Tadesse, *et al.*, 2016). In Africa, a high incidence was reported in Ethiopia, where breast cancer was on the top with an estimation of about 10,000 Ethiopian persons with Breast Cancer (men and women),

without counting unreportedthousand cases living in Rural Areas and treated by Traditional healers(Fregene Alero and Lisa, 2005).

Early identification of breast cancer can significantly improvethe chance of effective management when one knows the early signs and symptoms by performing at least once a month breast self-examination as is recommended in different countries. BSE at home help to detect 90 % of breast cancer whereas only 10% are detected by Clinical breast examination (CBE) and mammography(Abu-Salem OT and Hassan M, 2007).All these bring about reduction in breast cancer morbidity and mortality, but they are expensive and requires to visit the hospital and get specialized health care provider; while BSE is helpful with the advantage of being non-invasive technique, and could be carried out by the person at home (Shrivastava, Shrivastava and Ramasamy, 2013)**.**As a matter of fact, it was confirmed that BSE performed once a month between 7^{th} and 10^{th} day of the menstrual cycle could reduce the risk of metastasis and increase the good prognosis when breast cancer is treated early.Special attention should be paid to enhancethe possibility of early detection of change in breast tissue(Erdem and Toktas, 2016).

In less developed countries where there are limited resources, breast cancer is diagnosed at the late stage (metastasis) compared with the developed countries where there are a lot of methods of screening and early treatment of breast cancer. This shortage even absence of screening methods of breast cancer increase poor results and high mortality rate(Tastan *et al.*, 2011).

TafaSegni (2016) confirmed that performing BSE at home once a month starting from 20years old is an important instrument to identify breast cancer. Early identification of breast cancer plays a big primary role in reducing a number of death and improving the prognosis for the patients.Finally, the high incidence rate of 7% in less developed countries

is due to a lack of early detection methods and access to treatment facilities (World health Organization, 2014).

In Rwanda there have been no studiesdone on breast self – examination. This study was undertaken among healthcare professionals at Rwanda military hospital. The aim was to explore the practice of breast self –examination among health professionals at that hospital.

1.3. Problem Statement

Breast cancer has been known as a public health problem in the world because the incidence and prevalence is very high in both industrialized and non-industrialized countries .The morbidity and mortality rate could be reduced by early screening programs including the use of breast self-examination that could increase the choice of successful treatment, and the chance of survival and minimize the need for aggressive treatment.(Shrivastava, Shrivastava and Ramasamy, 2013**).** .

Preventive measures including breast self- examination, clinical breast examination, and mammography are the key tools to fight against breast cancer. These preventive measures are the recommended techniques provided to identify the breast cancer earlier, increase the treatment success and improve the survival rate.(Shrivastava, Shrivastava and Ramasamy, 2013**).** Howeverregardless of many advantages of breast self-examination, many researchers reported that there is a gap on how every person could perform breast self-examination, meaning that practice of breast self-examination is still low and different in various countries. Even though healthcare professionals play important roles in preventing different diseases including cancers, they are also responsible for their self-care so the current study intended to assess how health professionals perform BSE.To date in Rwanda, there have been no studies done to assess the practice of breast self-examination among health care professionals. Therefore this study aims to explore the practice of breast-self-examination among healthcare professionals at Rwanda military hospital.

1.3. Objectives of Study

1.3.1 General Objective

To assess the practice of Breast Self-Examination (BSE) among healthcare professionals.

1.3.2. Specific Objectives

1. To identify health care professionals' perceptions about the importance of breast self-examination
2. To determine the percentage of healthcare professionals working at one selected referral hospital who practice breast self-examination.
3. To determine the reasonsinfluencing practice/non practice of breast self-examination among the health care professionals working at Rwanda Military hospital.

1.4. Research Questions

1. How the healthcare professionals understand/or perceive the importance of practice of breast self- examination?
2. What percentage of health care professionals who practice breast self-examination?
3. What are reasons influencing the practice/non practice of breast self-examination among the Healthcare professionals working at Rwanda Military Hospital?

1.5. Significance of the study

In nursing practice,the Findings from this research will help health care professionals in clinical practice to know the importance of Practicing BSE regularly and recognize the reasons influencing non-practice of breast self- examination. It will enable Health care professionals of Rwanda Military Hospital to have enough and provide the information

about how they should perform breast self-examination once a month to detect any abnormality to their breast tissues. It is recommended that healthcare professionals who keep and promote the society's health, would have an advanced level of knowledge, attitudes, and practice (KAP) in the areas of healthy behaviors.

In nursing education; the findings from this study will be used as evidence and will be provided as a learning material for other students starting at University of Rwanda especially college of Medicine and Health Sciences who will enrolled in similar program and other health teaching institutions who will need them wherever in the world, because Health care professionals are the key persons who could have knowledge, skills to practice the Breast self-examination at least once a month and could provide the information to the local communities for early identification /diagnosis of breast cancer disease.

In nursing research; this study willprovide a Foundation for Rwandan research in support of early detection on the diagnosis and treatment to improve the prognosis of breast cancer at the early stage. Effective practice of breast self-examination will bring benefits for the health care professionals and Rwandan population in general.

1.7. Structure of the study

Chapter I: Introduction

Chapter II: Literature Review

Chapter III: Research methodology

Chapter IV: Presentation of Results

Chapter: V: Discussion

Chapter VI: Conclusions and recommendations

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CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

The literature review is defined as “a critical analysis of a segment of a published body of knowledge through summary, classification and prior research study, review of literature, and theoretical articles”. This chapter presented the review of related literature about the study” practice of Breast self - Examination and the reasons that could influence the uptake of breast self-examination” as one of the method of breast cancer screening and Diagnosis gained from published findings, from theses, Journals and books.

2.2. Healthcare professionals’ Perceptions about the importance of breast self- examination

Many health care professionals perceived breast self-examination as an important and beneficial technique for early identification of breast cancer , to promote success of treatment and improve survival rate(Akhtari-zavare *et al.*, 2015). Othersauthors , like (Tafa Segni, Tadesse, *et al.*, 2016)stated that healthcare professionals perform BSE because it is recommend techniques used in preventive measures of breast cancer worldwide. It is a painless, non-invasive procedure, is cost- free and can be done by every person at home. Researchers reported that performing breast self-examination is very important to increase the attention of the persons to his/her breast tissue in encouraging the persons to seek a help when there is any abnormalities to her/his breast tissue(Shrivastava, Shrivastava and Ramasamy, 2013)**.**For the past few decades, different organizations have strongly recommended that every woman aged 20 and above should perform breast self-examination each month. Many of these organizations have spent considerable resources on shower cards, educational programs, and videos that instruct women to use proper BSE

technique; and some companies even produce and sell models of the breast for the purpose of teaching women how to perform BSE. In addition, many physicians and nurses spend time in promoting BSE and teaching the technique to their patients, so that women have to believe that BSE is a life-saving intervention(National Breast Cancer Coalition, 2011).

According to the Health Belief Model scale, a woman who perceives that she is susceptible to breast cancer and that breast cancer is a serious disease would be more likely to perform regular breast examinations. Similarly, a woman who perceives more benefits and fewer barriers to BSE would be more likely to practice it(Holwerda, 2000).

The majority of women (78.5 %) disagreed/strongly disagreed that BC is hopeless disease and that they would not live more than 5 years with BC. Also, the overall score for susceptibility domain is low (44.8 %), with less likelihood to practice BSE. Only less than 10 % of all women who agreed/strongly agreed they are susceptible to have BC in the future (6.7 %) feel susceptible to BC (7.6 %), feel susceptible than anyone (4.8 %), feel the chance of getting BC as big (4.1 %), or feel highly susceptible to BC in the next 10 years(Abolfotouh *et al.*, 2015).

2.3. Percentage of Health care professionals who Practice Breast self-examination

In a study done on Breast Self- examination in Nigeria, 92% of the participants revealed that they had performed breast self –examination, 62% of participants in this study practiced the technique after menstrual cycle, while 14% did not plan when they could examine their breasts (Oladimeji, Tsoka-gwegweni and Igbodekwe, 2015).

In another study carried out in Nigeria among female students about regularly practice of breast self – examination 54, 60% practiced breast self-examination any time they felt like,

33. 67% practiced BSE once a month; and others 11, 73% two times a month and other responses. A high percentage of the participants reported that they perform breast self-examination any time they like. This was inaccurate ; it should be performed at the end of menstrual period , because the breast are least likely to be swollen and tender at this time (Okolie and Virginia, 2012).

2.4. The reasons that influence the non-practice of breast self-examination

Multiple barriers factors have been identified which could influence the practice/non practice : of BSE including awareness about breast cancer ; lack of time; shortage of self-confidence; fear of possible detection of a mass; discomfort about breast handling ; health related assumptions ; anxiety and forgetfulness ; low socioeconomic status; poor access to health care facilities ; negative socio-cultural perception about breast cancer; strong belief in traditional medicine; and lack of motivational support from parents, spouse, or friends (Shrivastava, Shrivastava and Ramasamy, 2013**).** In a research done in Nigeria with a sample size of 207 healthcare professionals, among the reasons of non-practice of breast self-examination, 68, 37% of participants had forgetfulness, 52,04% were postponement or delay to perform BSE, 37,76% were laziness, 36,22% were attributed to lack of time ,16,33% reported to have anxiety to detect new lump to her breasts, 15,82% were lack of confidence in performing BSE, then 8,16% reported to have anxiety when discovering any abnormalities on their breast tissue. But the same study indicated that there is no association however between having been taught breast-self-examination and practice of breast cancer screening. This is rather worrying for ambitious nurses who are expected to teach others in the community. About 15% of Nurse Students said they use the tip of their hands to examine the breast while lying down, this is also incorrect because the ability to detect breast lumps depends on accurate Breast Self - Examination procedure, using the

finger pads, keeping the fingers flat together and using a circular motion; this ensures that no portion of the breast is left out unexamined (Okolie and Virginia, 2012)**.**

Similarly, Oladimeji and colleagues revealedother factors that could hinder the effective practice of breast self-examination including the forgetfulness; laziness, lack of time and anxiety to detect new lump in the breast. . Among those who had not ever tested their breasts, 60% did not know its importance, while 40% had no time to practice breast self-examination(Oladimeji, Tsoka-gwegweni and Igbodekwe, 2015).

A study done Jordan to evaluate the knowledge, attitude and practice of Breast Self-Examination among 276 female graduates at Princess Muna College of Nursing and Royal Medical Services College of Allied Health Professions, found that Eighty percent of the respondents performed Breast Self-Examination in an irregular manner, while only (10.4%) performed it on monthly basis and 9, 6% never perform it. Nearly, half of them preferred to do Breast Self-Examination in the morning and in front of mirrors. About 65% of the participants showed interest to gain more knowledge about breast self-examination(Odwan *et al.*, 2016).

2.5. Effective Breast Self- Examination

According(Foster and Costanza, 1984), Effective Breast self - examination is the best method which guide how every person should perform breast self- examination at least once a month after menstrual period.

Step1: starting by looking at your breast, your shoulders in the mirror and you observe:

- Breast usual size
- The shape of the breast, it is regularly shaped without visible alteration or any abnormalities like swelling.

- Breast that has peau d' orange, inflammation, rash and tenderness.

Step 2: In step two, elevate your arms and check if there are any abnormality like lymph node in the axilla.

Step 3: Observe any signs of discharge from one or two nipples, this discharge could be water, milk, yellow liquid or blood.

Step 4: touch your breast when you are lying position by using your right hand to touch you left breast, then you left hand touch your right breast, remember that you must use a firm, smooth touch with the first few finger pads of your hand, keeping the fingers flats and together. You are advised also to use a round or circular motion, around the size of a quarter.

The whole breast must be covered starting from the top to lowest part of the breast, side your collarbone to the top of your abdomen and from your Armpit to your cleavage. You should follow the shape of the breast to be sure you cover the whole breast starting from the nipple towards in larger circles until you reach outside edge breast.

You can also starting test your breast starting by moving your fingers up and down method, vertically, in rows. The best approach to test the breast is up – down because its looks to work best for the most women. Be sure to touch and feel the whole breast tissue starting to the front to the back of your breast.

Step 5: in the 5^{th} step, touch and examine your breast while you are in sitting position and when the skin is in wet and smooth, it is the best time to test your breast (some individuals like to do this step when they are in the bathroom. Cover the whole breast using the same movement mentioned in step 4.

2.6. Advantages of Breast Self-Examination

Accordingto Allen et al, 2010,it is difficult to determine the sensitivity and specificity values of the breast self-examination, however BSE has many advantages like to have

information, knowledge and skills on how to overcontrol thehealth and to become comfortable and familiar of his/her breast.In addition, the breast self-examination performed once a month after menstrual period is easier, simpler and a non-invasive technique that could be performed by non-medically skilled persons.

According to American cancer society (ACS) 2012, Breast self-examination is the best way that could help the person to know what is normal and what is abnormal to her/his breast tissue. American cancer society advice that all females starting from 20 years old should be informed about advantages and harms associated to breast self-examination. Some of the advantages mentioned are the following: rising awareness of breast modification leading to immediate assessment and response to these modifications (ACS,2012).

National Comprehensive Cancer Network (NCCN) recommend that women should be familiar with their breast tissue and ready to look healthcare giver quickly if any abnormalities is observed.Also, NCCN utilize the term' Breast awareness' to explain a women's familiarity with her breast and recommend that regular practice of Breast self-examination might help this breast awareness. Additionally, they argument that this does not need to be done by the person who attended formalized educational program. BSE has been suggested as part of overall health promotion concept. The practice of BSE can help women to know the structure and composition of their normal breast thereby enhancing their sensitivity to detect any abnormality at the earliest time. BSE once a month contributes to a woman's heightened awareness of what is normal for her. It is recommended that women over the age of 20 years perform a monthly to detect new lumps and other changes in their breast (NCCN, 2014).

2.7. THEORETICAL/CONCEPTUAL FRAMEWORK

Health Belief Model

The researcher has elaborated a framework which reflects the study objectives as shown in the figure below.

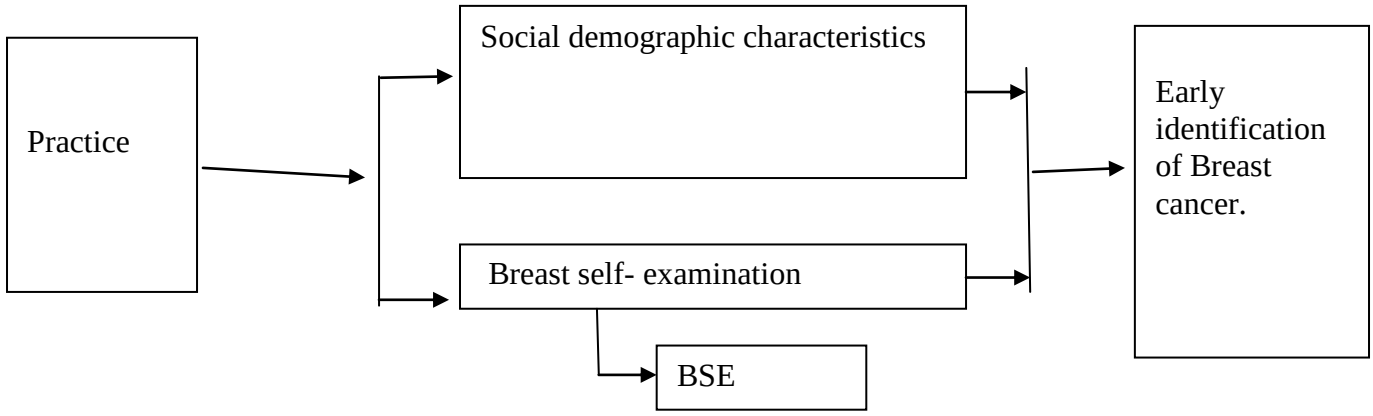

Figure 1: Conceptual framework.

Many researchers (Holwerda, 2000) studying beliefs related to cancer, early detection and screening practices have used the Health Belief Model as a conceptual framework to study Breast cancer screening behavior such as breast self-examination as it is easy to perform, simple to practice once a month after menstrual period.

The Model stated that persons have fear of diseases and that the Health actions of persons are driven by the level of perceived that fear and the expected fear reduction action, as long as that possible reduction outweighs physical and psychological obstacles or barriers to taking actions to assist participation in useful health actions.

The Health Belief Model guided this study which aimed to explore the level of practice of Breast self-examination among Health care professionals. The following Health Belief Model concepts have guided our study as following:

Perceived susceptibility: This corresponded to correspond to the Health Professional's perceptions that they could be at risk of having / developing breast cancer, which would motivate them to take up breast self-examination as screening method. When Health care Professionals perceive that they will be susceptible to develop breast cancer, they will be likely to take up early breast screening by practicing Breast self-examination in the event that they suspect any breast changes.

Perceived severity: This was be the health professional's opinion on the seriousness of developing breast cancer. Health Professionals would change their health behavior and take up breast self-examination as screening method depending on how serious they consider the consequences of developing terminal breast cancer.

Perceived benefits: This was the Health Professional's opinion of the effectiveness of early breast self-examination as a measure of reducing the effects of late breast cancer. Health Professionals would take up breast self-examination as screening technique for cancer when will be guaranteed that early detection would be feasible and beneficial.

Perceived barrier: This was the Health Professional's opinion to the factors influencing breast self- examination of the concrete and psychological cost of undertaking early breast screening by practicing Breast self-examination against not taking it up. These included the physical, psychosocial, economic and demographic variables that would inhibit breast self-examination uptake.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1.Introduction.

Methodology is one of the main parts of the research that has got unique parts including steps, procedures, and strategies for analyzing data gathered in a research (Polit and Beck, 2014). This chapter describe study design,study approach, study setting, study population, sampling criteria , sample size, data collection instrument, validity and Reliability of data collection tools, data analysis, Ethical consideration, challenges.

3.2 Research design.

The study uses a quantitative non-experimental cross-sectional research which it explore the practice of breast self-examination among healthcare professionals. A study design in which data are collected at one point in time; sometimes used to understand change over time when data are collected from different age or developmental groups" (Polit and Beck, 2014).

3.3. Research approach

The research approach is the plan that helps the researcher to have important data by using new knowledge or even maintain the existing ones (Rebar *et al.*, 2011). This study used quantitative approach which normally assesses and study the research questions that describe the phenomena, test the relationships, examine variables causes and effects and investigate also the effectiveness of interventions set (LoBiondo-Wood and Haber, 2014). Thus, this study quantified the variables within healthcare professionals' practices towards breast self-examination.

3.4. Study setting

This study was carried out at Rwanda Military Hospital. , This hospital is one of the 5 Referral Hospitals in Rwanda, is localized in Kigali city about 5 kms from Kigali International Airport.It counts Health services including maternity, pediatric, neonatology, neonatal intensive care unit, intensive care unit, accident and emergency, surgical, voluntary counseling and testing, outpatients department, etc. It count health care professionals including 52 Medical doctors; 258 registered nurses, 40 registered midwives.

It is physically and administratively localized in Kigali city, Kicukiro District, Nyarugunga sector, Kamashashi Cell. It was constructed by the Government of Rwanda, and it can accommodate 450 patients/ clients. Rwanda military Hospital was chosen to be the site of my research because it is my work place and it national referral hospital and there are Breast Cancer patients who come to be treated at Rwanda Military Hospital.

3.5. Study Population.

A study population is defined as the persons from which the sample actually is drown and about which conclusion can be made. This comprises all elements (individuals, events ,objects, or substances) that get together inclusion criteria in a study; sometimes is the same as a target population(Grove, Burns and Jennifer, 2013). The study population was the nurses, physicians, midwives working in Rwanda Military Hospital. Accessible population was 350 health care professionals working in Rwanda military hospital. So far all those nurses were not all there for the time of study then accessible population was nurses present during the period of data collection.

3.5.1. Inclusion criteria:

Being female or male, having at least 21 years old and above, being employee for various shifts (day, evening, night), available on the time of the study (not presently on annual leave and not presently on extended sick leave. Every k^{th} consenting health care professional to participate.

3.5.2. Exclusion criteria:

Those who were sick and who were in annual leave during a period of data collection, who were not ready to participate in the research were excluded from this research.

3.6. Sampling Technique

A systematic random sampling technique was used to select participants. The list of them was taken advantage. The starting point was randomly identified then every k^{th} item from the list was selected where "k" refers to the sampling interval. In this case, *k*= (population size/sample size). First of all the researcher got a list of all health care professionals from administration of that hospital, and picked the names of those health care professionals randomly until he got the desired sample size of 184 participants. The 3^{rd} number on the list was chosen. Example 1, 3, 6, 9, etc.

3.6.1 Sample Size

In this study, Health care professionals working in this one selected referral hospital, and who met the selection criteria participated in a study, the sample size was184. This sample size was calculated using online Raosoft Sample size calculator (2004)

Table 1: Sample size calculation

The margin of error	5%
The confidence level	95%
The population size	350
The response distribution	50%
The recommended sample size	184

2004 by Raosoft, Inc

3.7. Data Collection

3.7.1. Data collection instruments

In our study, the data collection instrument was a questionnaire that was constructed based on research objectives and research questions. The questionnaire had 4 sections: Section A identified the socio-demographic information of participants; section B explored the health care professionals' perceptions about the importance of breast self-examination; andsection C determinedthe practice of breast self-examination.

The section D determined the reasons influencing practice/ non-practice of breast self-examination among the Health care professionals working at the selected referral Hospital.

Validity

Validity is the extent to which the tool is able to measure the construct that is being examined (Grove, Burns and Jennifer, 2013). Face validity means the degree to which the instrument looks when measuring the concept (LoBiondo-Wood & Haber, 2014). Therefore, the researcher used the colleagues to assess if the questionnaire is well set in terms of

visibility, clarity and easy to answer.Content validity means the extent to which the items in the instrument are appropriate regarding the concept it is measuring (Polit and Beck, 2010). Thus the content validity has been established and used by indicated how objectives were matching with questions in the questionnaire.

Table 2: Content Validity

Question	**Objective of the study.**	**Related concept of the Health Belief Model**
Section A: Social demographic data		
Section B: a. Health Professionals perceptions about the seriousness and susceptibility of breast Cancer Question 8-13	**Objective 1**: To identify health care Professionals' perceptions about seriousness of breast cancer and susceptibility to this disease	Perceived susceptibility Perceived seriousness
Section B :b: Health care Professionals perception about the importance of BSE Question 14-17 **Section C:** The percentages of Health care professionals	**Objective** 2: To determine the percentage of healthcare professionals working at one selected referral	Perceived benefits Practice

working at one selected referral Hospital who practice Breast self-examination. Question 18-22	hospital who practice breast self-examination.	
Section D: The reasons influencing practice/non practice breast self-examination among the Health professionals working at the selected one referral Hospital. Question 23-24	**Objective 3**: To determine the reasons influencing the practice or non-practice of BSE of health care professionals	Barriers

Reliability

To ensure the reliability of the questionnaire used in this study; the test retest technique was used and the calculation of correlation was done to measure the similarity in answers. I administered the questionnaire to 18 people(10%)from the sample then after one week, I administered again the same questionnaire to the same sample, and then the comparison of similarity of the results was done and the Rvalue of $r>0.8$.

3.7.2. Data collection procedure

After obtaining the ethical clearance from Institutional Review Board/College of Medicine and Health Sciences and the permission to conduct a study was obtained also from RMHresearch committee; the research met participants in their respective working services.

The researcher explained the purpose of the study; requested her/him to participate and asked her/him to sign the consent form. Those who accepted to participate and signed the consent forms were given the questionnaire to complete. The researcher collected the questionnaires after two days. The researcher administered the questionnaires over a period of seven days.

3.8. Data analysis

Data entry was performed using SPSS (software package for statistical analysis) version 23. The analysis of the data was descriptive (frequencies, percentage) and inferential statistics with a statistic assistant help. The results were presented in tables.

3.9. Data management

The collected data hard copy questionnaires were safely kept in a locked cupboard; soft data were kept on computer with strong password, meaning that data were managed in a way that respected honesty and confidentiality in scientific communications.

3.10. Ethical considerations

The research was planned and implemented in a manner that respects honesty in scientific communications, respects promises and agreement to the “International Ethical Guidelines for Biomedical Research Involving Human Subjects”.

The study protocol as well as the data gathering form were tested and approved by the Institutional Review Board (IRB)of the University of Rwanda/ College of Medicine and Health Sciences. The ethical clearance from the IRB was submitted to the hospital research committee that gave the permission to the researcher to start data collection. The collected data were kept with confidentiality and used only for research purpose.The self-determination of participants was respected. Prior to data collection the researcher informed the participants that they had a right to withdraw from research, and no monetary reward was provided to them as an extrinsic motivation to participate. The consent form was signed by the study participants before his/her participation into the study and study objectives, methodology, and benefits were clearly explained to those who agreed to participate in the study. Participants were assured of confidentiality and anonymity by assigning them with initial names instead of names. The participation in this study was on voluntary basis.

3.11. Data Dissemination.

Before publication of the study findings, a summary of the data analysis was made available to the respondents who participated in the study for their comments on a draft version of the analysis to see how objectives are matching with questions in the questionnaire.The report will be submitted to the University of Rwanda for partial fulfillment of masters in Sciences in Nursing, the final report will also be submitted to Rwanda Military Hospital for capacity building and acknowledgement of facilitation in this study.

3.12. Limitations and challenges

Financial resources were not available for the research (for transport and printing issues

Study was done in one hospital with mainly descriptive statistics than inferential so that study results cannot be generalized to all healthcare professionals.

The study population were healthcare professionals who had a lot of work during data collection. Some of them could not respond to all questions or could omit answering some questions. To overcome this challenge, 2 days were allowed to complete the questionnaires.

CHAPTER 4: DATA PRESENTATION

4.0. INTRODUCTION

In this study**,** results are presented in two parts. The first part gives the overall findings of the study (descriptive statistics) while the second part attempts to make the association between independent and dependent variables.One hundred eight Four **N** (184) Healthcare professionals participated in this study.

Table 3: Demographic information

Social demographical data		**Frequencies**	**Percentages**
AGE	21-25 years	1	0.5
	26-30 years	29	15.8
	31-35 years	31	16.8
	36-40 years	53	28.8
	41-45 years	35	19.0
	46-50 years	18	9.8
	51-55 years	9	4.9
	56-60 years	6	3.3
	61-65 years	2	1.1
	Total	184	100
GENDER	Male	68	63.0
	Female	116	37.0
	Total	184	100
Marital status	Single	29	15.8

	Married	148	80.4
	Widowed	2	1.1
	Divorced	5	2.7
	Total	184	100
Education level	Diploma	95	51.6
	Bachelor	74	40.2
	Post graduate	15	8.2
	Total	184	100
Professional status	Nurse	97	52.7
	Midwife	66	35.9
	General practitioner	5	2.7
	Specialist	16	8.7
	Total	184	100
Professional experience	One year	7	3.8
	Three years	2	2.1
	Four years	16	8.7
	Five years	58	31.5
	More than five years	101	54.9
	Total	184	100

The results from socio- demographic information (Table 3), the age range is 36 to 40 years and presented in greater proportion 53(28.8%). In this study, the gender was assessed and

the majority of respondents 116 (63.0%) is female. A large proportion 148(80.4%) of participants in study were married. Majority of the participants in study 95(51.6%) reported having advanced diploma. When asked their professional status, a big number was Nurses 97(52.7%). Professional experience was reported, and the majority reported having an experience of more than five years 101(54.9%).

4.2 Healthcare professionals' perceptions about the importance of breast self-examination.

Table 4: Healthcare professional's perceptions about the seriousness and susceptibility of breast Cancer

Healthcare professionals perceptions about the seriousness and susceptibility of breast cancer		**Frequencies**	**Percentages**
I don't think I may get breast cancer as none in my family has this disease	strongly agree	29	15.8
	Agree	61	33.2
	Neutral	4	2.2
	Disagree	27	14.7
	Strongly disagree	63	34.2
	Total	184	100
I can't get breast cancer as I am a health care professional I know how to take care of myself	Strongly agree	54	29.3
	Agree	35	19.0
	Neutral	0.0	0.0
	Disagree	57	31.0
	Strongly disagree	38	20.7
	Total	184	100

Breast cancer is a disease of people who do not exercise or have other unhealthy behavior , for me I make sure I respect all these to ensure I don't develop it	Strongly agree	12	6.5
	Agree	32	17.4
	Neutral	0.0	0.0
	Disagree	44	23.9
	Strongly disagree	96	52.2
	Total	184	100
Breast cancer is actually a treatable disease and is not serious as other cancers	Strongly agree	10	5.4
	Agree	18	9.8
	Neutral	0.0	0.0
	Disagree	87	47.3
	Strongly disagree	69	37.5
	Total	184	100
I feel like I may develop breast cancer as any other person	Strongly agree	20	10.9
	Agree	38	20.7
	Neutral	4	2.2
	Disagree	58	31.5
	Strongly disagree	64	34.8
	Total	184	100
Breast cancer is a serious disease as other cancers	Strongly agree	49	26.6
	Agree	28	15.2
	Neutral	1	0.5
	Disagree	70	38
	Strongly disagree	36	19.6
	Total	184	100

The results from this study, revealed that 63 (34.2%) strongly disagreed with this statement that they did not think they may get breast cancer as none in their family has this disease, while another number of participants 61(33.2%), agreed with the statement that they did not think they may get breast cancer as none in their family has this disease.

The findings from the respondents of this study show that 57(31.0%) of the respondents disagreed with the statement that "I can't get breast cancer as I am a health care professional I know how to take care of myself", whereas only 54(29.3%) of respondents strongly agreed that they can't get breast cancer as they are a health care professionals so that they know how to take care of themselves.

A considerable number of respondents 96 (52.2) strongly disagreed with the statement that "Breast cancer is a disease of people who do not exercise or have other unhealthy behavior, for me I make sure I respect all these to unsure I don't develop it", however only few people 44 (23.9%) disagreed with the statement saying that "Breast cancer is a disease of people who do not exercise or have other unhealthy behavior, for me I make sure I respect all these to unsure I don't develop it".

The results from the respondents, show that the majority of respondents 87(47.3%) disagreed with the statement saying that"Breast cancer is actually a treatable disease and is not serious as other cancers", while another number of people 69(37.5%) strongly disagreed with the same statement.

A considerable number of respondents 64(34.8%) strongly disagreed with the statement,stating not that "I feel like I may develop breast cancer as any other person" but few of respondents 58 (31.5%) disagreed with the same statement.

A large number of respondents 70(38.0%) disagreed with the statement of Breast cancer is a serious disease as other cancers, however those who strongly agreed with the statement were 49(. 26.6%).

Table 5: Health Professionals beliefs about the importance of BSE

Health Professionals beliefs about the importance of BSE		**Frequencies**	**Percentages**
I strongly believe that BSE is the first weapon to prevent the breast Cancer	Strongly agree	14	7.6
	Agree	20	10.9
	Neutral	8	4.3
	Disagree	58	31.5
	Strongly disagree	84	45.7
	Total	184	100
I feel that BSE will not change the fact that someone may develop the Breast Cancer	Strongly agree	15	8.2
	Agree	15	8.2
	Neutral	2	1.1
	Disagree	71	38.6
	Strongly disagree	81	44.0
	Total	184	100
BSE is one of the methods to prevent breast cancer but not most important	Strongly agree	6	3.3
	Agree	15	8.3
	Neutral	9	4.9
	Disagree	71	38.6

	Strongly disagree	83	45.1
	Total	184	100
I belief it is more important to avoid the risk factors of breast cancer like smoking than to spend time in examining my breasts	Strongly agree	21	11.4
	Agree	25	13.6
	Neutral	10	5.4
	Disagree	72	39.1
	Strongly disagree	56	30.4
	Total	184	100

4.3. HealthcareProfessionals' beliefs about the importance of BSE

The results revealed when assessing healthcare Professionals beliefs about the importance of BSE, a large number of respondents 84 (45.7%) strongly disagreed with the statement that they believe that BSE is the first weapon to prevent the breast cancer, however and 58 (31.5%)disagreed with the statement.

A big number of people 81 (34.2) disagreed with the statement: I feel that BSE will not change the fact that someone may develop the Breast Cancer, However not few respondents 71 (38.6) strongly disagree with the statement.

A large number of respondents, 83 (45.1%) strongly disagreed that they would prefer to avoid the risk factors of breast cancer like smoking than spending time in examining their breasts , and 71 (38.6%) disagreed with the statement.

Table 6: Proportion /percentage of healthcare professionals who practice Breast self-examination.

Proportion /percentages of Health professionals working who practice Breast self-examination.		**Frequencies**	**Percentages**
Which technique of breast cancer detection do you know	Breast Self-Examination	64	34.8
	Clinical Breast-examination	47	25.5
	Mammography	52	28.3
	MRI	21	11.4
	TOTAL	184	100
Have you ever practiced BSE?(184)	Yes	78	42.4
	No	106	57.6
	TOTAL	184	100
How often do you perform BSE?(N=78)	Weekly	5	6.4
	Monthly	32	41.0
	Yearly	41	52.6
	TOTAL	78	100
Which of these methods do you use when you practicing Breast	In front of mirror	29	37.2
	During shower	29	37.2
	Lying down	20	25.6
	Total	78	100

self-examination? (N=78)			
What motion do you use in examination of your breast? (N=78)	Circular	55	70.5
	Wedge	22	28.2
	None	1	1.3
	Total	78	100

4.4. Proportion /percentage of Health professionals who practice Breast self - examination.

The technique of breast cancer detection reported by the participants in study, the majority reported breast Self-Examination were 64(34.8%), mammography 52(28.3), Clinical Breast examination 47(25.5).

Of all Healthcare professionals, only 78 (42.4%) practiced BSE and a large proportion of respondents to practice Breast self-examination reportedyearly 41 (52.6%), monthly were 32 (41.0%), and few portion of respondent 5 (6.4%) reported to practice Breast self-Examination weekly.

The results obtained from the respondents concerning the methods they use when practicing Breast self- examination, of them 29 (37.2%) reported in front of mirror, during shower 29 (37.2%) and 20 (25.5) use the method of lying down when practicing Breast self-Examination.

Participants reported the motion used by the respondents in examination of their breasts and of them circular was reported by 55(70.5%), wedge 22(28.2%) and only one respondent reported none 1(1.3 %).

Table 7: Reasons influencing practice of breast self- examination.

The reasons influencing practice breast self-examination.			**Frequencies**	**Percentages**	**% of each factors**
For those who practice the BSE; what are the reasons of your practice of this method? you may choose more than one reason	**1.** Early detection of breast cancer				
		YES	138	75.0	12.5
		NO	46	25.0	4.6
		TOTAL	184	100	
	2. Fear of breast cancer				
		YES	117	63.6	10.6
		NO	67	36.4	6.06
		TOTAL	184	100	
	3. Breast cancer in my family/friends				
		YES	8	4.3	0.71
		NO	176	95.7	15.5
		TOTAL	184	100	
	4. Previous breast problems				
		YES	13	7.1	1.18
		NO	171	92.9	15.48
		TOTAL	184	100	
	5. Encouraged by a friend				

		YES	66	35.9	5.98
		NO	118	64.1	10.68
		TOTAL	184	100	
	6. Encouraged by a medi				
		YES	98	53.3	8.88
		NO	86	46.7	7.78
		TOTAL	184	100	

4.4. Reasons influencing practice of breast self- examination among the Health Professionals.

The respondents reported 7 reasons influencing the practice of breast self – examination: early detection of breast cancer was reported by 138(75%), fear of breast cancer 117(63.6%), encouraged by a media 98(53. 3%), encouraged by a friend 66(35.9%), previous breast problems 13(7.1%), breast cancer in my family/friends 8(4.3%)

Table 8: Reasons influencing non practice of breast self- examination.

Reasons influencing non practice of breast self- examination.			**Frequencies**	**Percentages**
For those who do not practice the BSE; what are the reasons? You may	**1.**It is not comfortable			
		YES	68	37.0
		NO	116	63.0
		TOTAL	184	100

choose more than one reason:	2.I don’t know the technique			
		YES	50	27.2
		NO	134	72.8
		TOTAL	184	100
	3. Carelessness			
		YES	59	32.1
		NO	125	67.9
		TOTAL	184	100
	4.I don’t believe its importance			
		YES	3	1.6
		NO	181	98.4
		TOTAL	184	100
	5. I don’t have time			
		YES	4	2.2
		NO	180	97.8
		TOTAL	184	100
	6. I forget			
		YES	30	16.3
		NO	154	83.7
		TOTAL	184	100
	7. I fear to discover that I am sick			
		YES	2	1.1
		NO	182	98.9

		TOTAL	184	100
	8. I always postpone			
		YES	47	25.5
		NO	137	75.5
		TOTAL	184	100
	9. I feel I am not able to perform Brest Self – Examination			
		YES	3	1.6
		NO	181	98.4
		TOTAL	184	100

The respondents mentioned also the reasons to do not practice the BSE; they reported: It is not comfortable 68(37.0%), carelessness 59(32.1%) I don't know the technique 50(27.2%), postponed 47(25.5%), forgetness 30(16.35), I don't have time 4 (2.2%), don't believe its importance, 3(1.6%), feeling to be not able to perform Breast self-examination were 3(1.6%), fear to discover the sickness were 2(1.1%).

4.5. Bivariate analysis of independent variables associated withthe practiceof breast self- examination.

The results of bivariate analysis showed a significant association between early detection of breast cancer (P=0.025), fear of breast cancer, (P=0.003), postponement (P=0.038).

Table 9: Bivariate analysis of independent variables associated with the practice of breast self- examination.

Reasons of breast self-examination among the Health professionals	**Ever practiced BSE**			**P-value**
	Yes	**No**	**Total**	
Early detection of breast cancer				**0.025**
Yes	52	86	138	
No	26	20	46	
Fear of breast cancer				**0.003**
Yes	40	77	117	
No	38	29	67	
Breast cancer in my family/friends				**0.073**
Yes	6	2	8	
No	62	104	166	
Previous breast problems				**0.766**
Yes	5	8	13	
No	73	98	171	
Encouraged by a friend				**0.354**
Yes	25	41	66	
No	53	65	118	
Encouraged by a media				**0.891**
Yes	42	56	98	
No	36	50	86	

The reasons for not practice the BSE.	**Ever practiced BSE**			**P-value**
	Yes	**No**	**Total**	
It is not comfortable				**0.133**
Yes	35	36	71	
No	43	70	113	
I don’t know the technique				**0.679**
Yes	6	10	16	
No	72	96	168	
Carelessness				**0.997**
Yes	25	34	59	
No	53	72	125	
I don’t believe its importance				**0.575**
Yes	2	1	3	
No	76	105	181	
I don’t have time				
Yes	0	4	4	**0.138**
No	78	102	180	
I forget				**0.909**
Yes	13	17	30	
No	65	89	154	
I fear to discover I am sick				**1.000**
Yes	0	1	1	
No	78	105	183	
I always postpone				**0.038**

Yes	26	21	47	
No	52	85	137	
I feel I am not able to perform Brest Self – Examination				**0.391**
Yes	2	1	3	
No	76	105	181	

4.8. Logistic regression of factors influencing practice breast self- examination.

Multiple logistic regression was carried out to identify the effect of independent variables that showed a significant association with practice breast self- examination among the Health professionals working at the selected one referral Hospital, and the result showed that respondents who reported early detection of breast cancer were two times more likely to practice breast self- examination than who did not report it (OR=2.085, CI= 1.033-4.209, P=0.040). Among those who reported fear of breast cancer were more than two times more likely to practicebreast self- examination than those who do not fear of cancer. Always postponing have a 53.9% reduction in the odd of practicing breast self- examination relative to those who do not postpone (OR=0.461, CI= 0.229-0. 930, P=0.031).

Table 10: Logistic regression of factors influencing practice breast self- examination.

Variables	Sig.	OR	95% C.I for OR)	
			Lower	Upper
Early detection of breast cancer	.040	2.085	1.033	4.209
Fear of breast cancer	.002	2.697	1.426	5.102
I always postpone	.031	.461	.229	.930

The result from this study showed that respondents who reported early detection of breast cancer were two times more likely to practice breast self- examination than who did not report it (OR=2.085, CI= 1.033-4.209, P=0.040). Among those who reported fear of breast cancer were more than two times more likely to practice breast self- examination than those who do not fear of cancer. Always postponing have a 53.9% reduction in the odd of practicing breast self- examination relative to those who do not postpone (OR=0.461, CI= 0.229-0. 930, P=0.031).

CHAPTER 5: DISCUSSION

5.1. Introduction.

Breast self-examination (BSE) is an important and inexpensive method for early detection of breast cancer. Breast canceris leading cause of death among women in less developed countries. The only way to control this disease is early detection(Torre *et al.*, 2015). The best way for early detection of breast cancer is screening, and the best accessible way of screening is breast self-examination (BSE). Considering this fact, health care workers are responsible for self-care, in addition they can encourage the clients and help them to improve healthy behaviors regarding BSE. Therefore, this study aim is to explore the level of practice of Breast Self-Examination among Healthcare Professionals at one Selected Referral Hospital**.**

5.2. Perception about the importance of Breast Self- Examination among Health care Professionals

This study showed that Healthcare Professionals perceptions about breast Cancer was positive as above a half of respondents 52.25% strongly disagreed that breast cancer is a disease of people who do not exercise or have other unhealthy behavior and that for them they are sure they respect all these to ensure that they do not develop it. This is contrary with a study done in Jordanwhich showed that more than one-third of the sample 37% did not believe they were susceptible to breast cancer (Wasileh and Mikhail, 2001).Based on the HBM as a conceptual framework used in this study, a healthcare provider who perceives that she/he is susceptible to breast cancer and who know that breast canceris a serious disease would be more likely to perform regular breast examinations.

5.3. Percentage of Healthcare professionals who Practice Breast self-examination

In this study, 42.4% of healthcare professionals practiced BSE showing that their practice is low compared to a study conducted in Nigeria which showed that the majority 92.35% of their respondents had examined their breast using BSE technique(Okolie and Virginia, 2012). Also this study noticed that 41% of respondents practice BSE monthly and 52.6% yearly. Different to a study carried out in Malaysia which reported that 14.4% practice BSE every month and 5.4% do it every 12 months(Azage, Abeje and Mekonnen, 2013).

This study also revealed that the majority of respondents 70.5% use circular motion in practicing BSE. Similarly to another study done in Rwanda among students which showed that the majority 45.5% use circular motion during breast palpation (Ndikubwimana *et al.*, 2016)

5.4. The reasons that influence the practice/non-practice of breast self-examination

The study found that the respondents reported 2 reasons influencing the practice of breast self – examination among others: early detection of breast cancer (P=0.025) and fear of breast cancer (P=0.003) contrary to a study done by (Al-Naggar *et al.*, 2011) which showed that factors influencing BSE were age (p = 0.045) and exercise (P=0.002)

Also in this study, forgetfulness 16.3% and lack of time 2.2% as reasons of non-practice. However, a study done by(Okolie and Virginia, 2012) showed that forgetfulness 68.37% and time 16.33% are considered as non-practice reasons. Then, this study reported that the respondents who perform BSE have reasons such as encouragement from friends (35.9%) and from media (53.3%). This is contrary to(H. A. Amasha, 2013) who revealed that reasons for BSE practice were encouragement from friends (21%) and media (32.3%).

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS.

6.1. CONCLUSION

Breast Self-Examination (BSE) is a technique in which a woman examines her own breasts by seeing and feeing with fingers to detect breast lump. The purpose of breast self-examination is to increase familiarity with breast, to detect presence of lump in the breast at an early stage and to look for any abnormal changes in the breast

The most health professionals at Rwanda Military Hospital who are expected to act as role models and educate the public had poor practice of breast self-examination. There is very urgent need for regular update continuous education for healthcare professionals concerning breast self-examination importance and procedures.

6.2. RECOMMANDATION.

Based on the research conducted, it is recommended that there is a need to create awareness about the importance of BSE amongst health professionals at Rwanda Military Hospital so as to improve its practice. Furthermore, public awareness on the importance of BSE should be intensified using mass media and the health service personnel should promote BSE during their contact with other health care professionals. The following recommendations were forwarded to concerned bodies:

Develop practical strategies to reduce the risk of developing breast cancer, by promoting BSE and other screening methods, considering and promoting source of information access to health care professionals about BSE, provide effective trainings and continuous professional development for health professionals to enhance more practice of BSE and Integration of education campaign and screening services into already existing programs

like Family planning and reproductive health services, VCT (voluntary counseling and treatment).

Develop information access about breast cancer and BSE in the facility by distributing different printed materials like Magazines, leaflets and facilitate Internet access, enhance healthcare professionals' knowledge about breast cancer seriousness and BSE and its importance in early detection of breast cancer. Further researches should be doneon :

Exploring the risk factors contributing the development of breast cancer among Rwandan, breast self-Examination practice and Breast cancer survival among Breast cancer patients.

Replication of the same study using a qualitative approach, assessing knowledge, attitude and practice of healthcare professionals towards Breast Self-Examination.

REFERENCES

Abolfotouh, M. A., Banimustafa, A., Mahfouz, A. A., Al-assiri, M. H., Al-Juhani, A. F. and Alaskar, A. S. (2015) 'Using the health belief model to predict breast self examination among Saudi women', *BMC Public Health*. BMC Public Health, 15(1163), pp. 1–12. doi: 10.1186/s12889-015-2510-y.

Abu-Salem OT, A. and Hassan M, A. (2007) 'Breast Self-Examination among Female Nurses in Jordan.', *Shiraz E-Medical Journal*, 8(2), pp. 51–57.

Akhtari-zavare, M., Latiff, L. A., Juni, M. H., Said, S. M. and Ismail, I. Z. (2015) 'Knowledge of Female Undergraduate Students on Breast Cancer and Breast Self-examination in Klang Valley , Malaysia', *Asian Pacific Journal of Cancer Prevention*, 16(15), pp. 6231–6235. doi: http://dx.doi.org/10.7314/APJCP.2015.16.15.6231.

Al-Naggar, R. A., Al-Naggar, D. H., Bobryshev, Y. V., Chen, R. and Assabri, A. (2011) 'Practice and barriers toward breast self-examination among young Malaysian women', *Asian Pacific Journal of Cancer Prevention*, 12(5), pp. 1173–1178.

Amasha, H. A. (2013) 'Awareness of Breast Cancer Risk Factors and Practice of Breast Self-Examination among Nurses in Jordan', *Med. J. Cairo Univ*, 81(2), pp. 177–183. Available at: www.medicaljournalofcairouniversity.net.

Amasha, H. A.-R. (2013) 'Breast self-examination and risk factors of breast cancer: Awareness of Jordanian nurses', *Health Science Journal*, 7(3), pp. 303–314.

Azage, M., Abeje, G. and Mekonnen, A. (2013) 'Assessment of Factors Associated with Breast Self-Examination among Health Extension Workers in West Gojjam Zone , Northwest Ethiopia', *International Journal of Breast Cancer*, 2013, p. 6. doi: http://dx.doi.org/10.1155/2013/814395.

Erdem, Ö. and Toktas, I. (2016) 'Knowledge , Attitudes , and Behaviors about Breast Self-Examination and Mammography among Female Primary Healthcare Workers in Diyarbak J

r , Turkey', *BioMed Research International*, p. 6. doi: http://dx.doi.org/10.1155/2016/6490156.

Foster, R. S. and Costanza, M. C. (1984) 'Breast Self-Examination Practices and Breast Cancer Survival', *BSE and Survival*, 53(4), pp. 999–1005.

Fregene Alero, N. and Lisa, A. (2005) 'Breast cancer in sub-Saharan Africa: How does it relate to breast cancer in African-American women?', *American cancer society*, 103(8), pp. 1540–1548. doi: 10.1002/cncr.20978.

Grove, K. S., Burns, N. and Jennifer, G. (2013) *The practice of nursing research: Appraisal, Synthesis, and Generation of Evidence*. 7th ed. St. Louis, Missouri.

Holwerda, V. L. (2000) *The Health Belief Model and Self Breast Examination in Nurses*. Grand Valley State University. Available at: http://scholarworks.gvsu.edu/theses.

LoBiondo-Wood, G. and Haber, J. (2014) *Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice*. Mosby.

National Breast Cancer Coalition (2011) *Breast Self-Exam : Position Statement*.

Ndikubwimana, J., Nyandwi, J. B., Mukanyangezi, M. F. and Kadima, J. N. (2016) 'Breast Cancer and Breast Self-examination : Awareness and Practice among Secondary School Girls in Nyarugenge District , Rwanda', *International Journal of Tropical disease and Health*, 12(2), pp. 1–9. doi: 10.9734/IJTDH/2016/22601.

Odwan, M. I. AL, Khreisat, I. F., Khreisat, A. F., Khasawneh, A. AL and Sqour, R. AL (2016) 'Knowledge Attitude and Practice of Breast Self Examination among Female Graduates in Princess Muna College of Nursing and Royal Medical Services College of Allied Health Professions', *Journal of the Royal Medical Services*, 23(4), pp. 41–53. doi: 10.12816/0032200.

Okolie and Virginia, U. (2012) 'Breast self examination among female undergraduates in Enugu , Southeast , Nigeria', *International Journal of Nursing and Midwifery*, 4(1), pp. 1–7.

doi: 10.5897/IJNM11.038.

Oladimeji, K. E., Tsoka-gwegweni, J. M. and Igbodekwe, F. C. (2015) 'Knowledge and Beliefs of Breast Self- Examination and Breast Cancer among Market Women in Ibadan , South West ', 339, pp. 1–11. doi: 10.1371/journal.pone.0140904.

Polit, D. F. and Beck, C. T. (2014) *Essentials of Nursing Research: Appraising Evidence for Nursing Practice*. 8th ed. Wolters Kluwer Health | Lippincott Williams & Wilkins. All.

Polit, F. D. and Beck, T. C. (2010) *Essentials of Nursing Research: Appraising Evidence fo Nursing Research*.

Rebar, R. C., Gersch, J. C., Manacnee, L. C. and McCabe, S. (2011) *Understanding Nursing Research: Using Research in Evidence-Based Practice*. Third Edit. Wolters Kluwer/Lippincott Williams & Wilkins.

Shrivastava, S. R., Shrivastava, P. S. and Ramasamy, J. (2013) 'Self Breast Examination : A Tool for Early Diagnosis of Breast Cancer', 1(6), pp. 135–139. doi: 10.12691/ajphr-1-6-2.

Tafa Segni, M., Mulu Tadesse, D., Amdemichae, R. and Fekadu Demissie, H. (2016) 'Breast Self-examination : Knowledge , Attitude , and Practice among Female Health Science Students at Adama Science and Technology University ', *Gynecology & Obstetrics*, 6(4), pp. 3–6. doi: 10.4172/2161-0932.1000368.

Tastan, S., Iyigün, E., Ayse, K. and Unver, V. (2011) 'Health Beliefs Concerning Breast Self-examination of Nurses in Turkey', *Asian Nursing Research*, 5, pp. 151–156. doi: 10.1016/j.anr.2011.09.001.

Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J. and Jemal, A. (2015) 'Global Cancer Statistics , 2012', *CA CANCER J CLIN*, 65(2), pp. 87–108. doi: 10.3322/caac.21262.

Wasileh, P. and Mikhail, B. I. (2001) 'Factors Associated with Breast Self-Examination Among Jordanian Women', *Public Health Nursing*, 19(4), pp. 263–271.

WHO (2013) *Latest world cancer statistics Global cancer burden rises to 14 . 1 million new cases in 2012 : Marked increase in breast cancers must be addressed.*, *International Agency for Research on Cancer, World Health Organization*. doi: 223.

World health Organization (2014) 'Germany - Country profiles 2014', p. 156.

http://www.breastcancer.org/symptoms/testing/types/self_exam/bse_stepsRetrieved from on 4th June 2016

APPENDICES

APPENDIX A: Questionnaire

SECTION A: DEMOGRAPHIC INFORMATION

1. Initials of your name……
2. How old are you? ……years
3. Gender. M F
4. Marital status

- Married
- Single
- Widowed
- Divorced

Please tick (✓) the correct response

5. What is your educational level?

- Diploma
- Bachelor
- Post Graduate

6. Professional status

- Nurse
- Midwife
- General Practitioner
- Specialist

7. Professional Experience

a) One year

b) Two years

c) Three years

d) Four years

e) Five years

f) Others

SECTION B: Health professionals' perceptions about the importance of Breast Self-Examination.

a. Health Professionals perceptions about the seriousness and susceptibility of breast Cancer

	Strongly agree	**Agree**	**Strongly disagree**	**Disagree**	**Neutral**
8. I don't think I may get breast cancer as none in my family has this disease					
9. I can't get breast cancer as I am a health care professional I know how to take					

care of myself					
10. Breast cancer is a disease of people who do not exercise or have other unhealthy behavior , for me I make sure I respect all these to unsure I don't develop it					
11. Breast cancer is actually a treatable disease and is not serious as other cancers					
12. I feel like I may develop breast cancer as any other person					
13. Breast cancer is a serious disease as other cancers					

b. Health Professionals about the importance of BSE

	Strongly agree	Agree	Strongly Disagree	Disagree	Neutral
14. I strongly believe that BSE is the first weapon to prevent the breast Cancer					
15. I feel that BSE will not change the fact that someone may develop the Breast Cancer					
16. BSE is one of the methods to prevent breast cancer but not most important					
17. I would prefer to avoid the risk factors of breast cancer like smoking than spending time in examining my breasts					

Section C: The proportion /percentages of health professionals whopractice breast self-examination.

18. Which technique of breast cancer detection do you know?

a) Breast Self-Examination

b) Clinical Breast- examination

c) Mammography

d) MRI

19. Have you ever practiced BSE?

Yes

No

20. When do you practice BSE?

a) Weekly

b) Monthly

c) Yearly

d) Never practice

21. Which of these methods do you use when you practicing Breast self- examination?

- In front of mirror?
- During shower?
- Lying down?
- None of them?

22. What motion do you use in examination of your breast?

- Circular
- Wedge
- None

Section D: Reasons influencing practice/non practice breast self- examination among the Health professionals.

23. For those who practice the BSE; what are the reasons of your practice of this BSE? You may choose more than one reason:

a) Early detection of breast cancer

b) Fear of breast cancer

c) Breast cancer in my family/friends

d) Previous breast problems

e) Encouraged by a friend

f) Encouraged by a media

24. For those who do not practice the BSE; what are the reasons? You may choose more than one reason:

a) It is not comfortable

b) I don't know the technique

c) Carelessness

d) I don't believe its importance

e) I don't have time

f) I forget

g) I fear to discover I am sick

h) I always postpone

i) I feel I am not ability to perform Brest Self – Examination

APPENDIX 2: INFORMATION SHEET & INFORMED CONSENT FORM

A. INFORMATION SHEET

Investigator address:

MUTIGANDA Venant

University of Rwanda

College of Medicine and Health Sciences

Phone: 0788463266

E-mail: mutivena@yahoo.fr

Introduction:

I am MUTIGANDA Venant, a Nurse student at University of Rwanda, College of Medicine and Health Sciences (UR/CMHS) NYARUGENGE Campus, in Maters Program ONCOLOGY TRACK. I am conducting a research study whose the title is "**PRACTICE OF BREAST SELF EXAMINATION AMONG HEALTHCARE PROFESSIONALS AT ONE SELECTED REFERRAL HOSPITAL IN RWANDA**".

The purpose of the studyis to assess the practice of Breast Self-Examination (BSE) among healthcare professionals.

What we will ask you to do: If you agree to participate in this study, questionnaires will be distributed to each participant.The questions will only cover the content related demographic Information,Health professionals' perceptions about the importance of Breast Self-Examination, The proportion /percentages of Health professionals working at one

selected referral Hospital who practice regularly Breast self-examination, the factors influencing practice/non-practice breast self- examination among the Health professionals working at the selected one referral Hospital.

Answering questions will take about 45 minutes to complete.

Taking part is voluntary: I would like to inform you that your participation is entirely voluntary, and that if you wish to withdraw from the study, you may do so at any time. You will not be requested to give reasons for withdrawing from the study, and it will have no effect on you or on any relative in your family.

Your answer will be confidential: .Research findings/data will be kept in a Laptop; and it will be kept confidential to the extent permitted by law. Only the researchers will have access to the data using Password.

Risks and benefits: If you agree to participate, in this research does not expect any incentive There will be no direct benefits from participating in this study, but your participation will help the Healthcare professionals to increase the skills in practice of Breast Self- and to conduct other study in the future. The information you give. You are allowed to read enough and understand this information before you agree to take part in this study and be made to sign this consent.

If you have questions or hesitations, feel free to contact the researcher on +250788463266 or mutivena@yahoo.fr

B. **CONSENT FORM FOR PARTICIPATION IN RESEARCH**

PRACTICE OF BREAST SELF EXAMINATION AMONG HEALTHCARE PROFESSIONALS AT ONE SELECTED REFERRAL HOSPITAL IN RWANDA.

I ….....**..**

Being over the age of 21 years old hereby consent to participate as requested in the …… for the research on …….

1. I have understood the information provided.
2. Details of research and Questionnaire have been explained to my satisfaction.
3. I agree to be questioned to give information.
4. I am aware that I should retain any copy of the Information Sheet and Consent Form.
5. I understand that:
    - ✓ I may not directly benefit from taking part in this research.
    - ✓ I am free to withdraw to be participant at any time and am free to decline to answer particular questions.
    - ✓ While the information gained in this study will be published as explained, I will not be identified, and my information will remain confidential.
    - ✓ Whether I participate or not, or withdraw from the participants in this research.

- ✓ Whether I participate or not, or withdraw from the research, will have no effect on my progress in the study, or results gained.

6. I have had the opportunity to discuss taking part in this research with the friends.

Participant's signature……Date……...

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name…….…….....

Researcher's signature……..Date…….