PREVALENCE AND FACTORS ASSOCIATED WITH BREAST SELF EXAMINATION FOR BREAST CANCER DETECTION AMONG FEMALE STUDENTS OF INTERNATIONAL HEALTH SCIENCES UNIVERSITY.

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AN UNDERGRADUATE RESEARCH REPORT SUBMITTED TO THE INSTITUTE OF HEALTH POLICY AND MANAGEMENT IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE DEGREE IN PUBLIC HEALTH OF INTERNATIONAL HEALTH SCIENCES UNIVERSITY,

DECEMBER, 2014.

DECLARATION

I declare that this research report is my original work unless otherwise acknowledged. It has never been presented to any institution of higher learning for the purposes of academic fulfillment or publication.

Signed…….. Date…….

Chimoyi Anne Kulundu

APPROVAL

This research report was submitted with the approval of the supervisor:

Akugizibwe Pardon.

Signed…….. Date…….

DEDICATION

This book is dedicated to all women who have suffered from breast cancer.

ACKNOWLEDGEMENT

First of all I thank The Almighty God. Without Him I would not have accomplished all that I have.

I also express my sincere gratitude to my husband Dr Batte Anthony and my children Allyson, Alvin and Alexis for their unlimited support throughout my studies and the research.

I acknowledge all the support that has been provided to me by my supervisor Mr Akugizibwe Pardon for whom I am grateful.

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ABBREVIATIONS

ACS: American Cancer Society

BSE: Breast self examination

CBE: Clinical breast examination

CDC: Centers for Disease Control and Prevention

IARC: International Agency for Research on Cancer.

IHSU: International Health Sciences University

MOH: Ministry Of Health

NCI: National Cancer Institute

UBOS: Uganda Bureau of Statistics

ABSTRACT

Background: Breast self examination has been promoted as a screening method for early detection of breast cancer. The promotion is mostly done in resource limited settings like Uganda where there is limited access to radiological imaging and other investigative modalities. Breast cancer incidence in Uganda is on the increase. There is need to strengthen efforts to ensure young women are aware of this screening method, hence better treatment outcomes and reduction of mortality.

Objective: This study aimed to determine the prevalence and factors associated with breast self examination for breast cancer detection among female students of International Health Sciences University Kampala, Uganda.

Methods: This was a cross sectional study that utilized quantitative methods. The study was carried out between May 2014 and September 2014. A standardized pre-coded, semi-structured and self-administered questionnaire was used to obtain information on socio demographic characteristics, individual factors, socio cultural factors and knowledge regarding breast self examination. A 6-point "thoroughness score" was used in assessing the proficiency and knowledge of conducting breast self examination. Data was analyzed using SPSS 13.0

Results: A total of 384 students were studied. The prevalence of breast self examination was found to be 49.5% (190/384). However only 23.2% (44/190) were found to be proficient in performing breast self examination. Only 28.1% (108/384) were able to correctly define breast self examination. The factors that were independently associated with breast self examination included age (O.R: 0.289 C.I: 0.102-0.818 P-value: 0.019), having ever had a breast exam from a health worker (O.R: 2.101 C.I: 1.228-3.595 P-value: 0.007), knowledge of breast self examination (O.R: 5.542C.I: 2.682-11.452 P-value: <0.001), knowledge of at least one screening method for breast cancer (O.R: 0.315 C.I: 0.102-0.977 P-value: 0.046) and receiving support from friends and family (O.R: 2.023 C.I: 1.085-3.772 P-value: 0.027).

Conclusion: This study found that the prevalence of breast self examination among young female university students is low with only a few students being proficient at doing breast self examination. Despite the level of knowledge about breast cancer being high, this does not translate to regular breast self examination by the young women. In the study, five factors were found to be associated with breast self examination practice.

OPERATIONAL DEFINITIONS

Breast self examination (BSE): This will refer to self directed search for any abnormality in the breast

A person who is knowledgeable about breast self examination: This will refer to a respondent who scores at least 4 out of 6 on the 6-point scale for scoring knowledge about breast self examination.

A person who performs BSE regularly: This will mean a respondent who reports that she performs BSE 12 times or more in the last 12 months

A person who performs breast self examination: This will refer to a respondent who answers "yes" to the question, "do you practice breast self examination?"

A person who performs breast self examination correctly: This will refer to a respondent who scores at least 4 out of 6 on the six-point scale for scoring proficiency of conducting breast self examination.

CHAPTER ONE

INTRODUCTION

1.1 Introduction to the study

Breast self examination is a readily available method of breast cancer detection that is not only simple, cost effective and safe, but also does not require expert human resource or specialized equipment (Coe Kathryn et al., 1994). It is aimed at detecting breast cancer in its early stages hence reduce mortality from breast cancer.

This study therefore, will look at the prevalence of breast self examination and its associated factors among the female university students of International Health Sciences University. This chapter will consist of six sections; the background of this study, the problem statement, the justification of the study, the objectives of the study, the research questions and the conceptual framework.

1.2 Background

Breast cancer disease is fatal. Globally, breast cancer incidence is on the increase, up to 5% per year (Wabinga HR, 2000). Cancer of the breast is associated with high morbidity and mortality and therefore an important public health problem (Maurer, 1997). According to reports, cancer of the breast is the commonest malignancy in females and it affects more than a million annually, (Forbes J, 1997) especially as presumably more and more women adopt a western life style (Ruiz-Ramos M, 1997).

An important factor in reducing morbidity and mortality from breast cancer is through early detection (Mary Atanga B, 2012). According to Loerzel et al, it is essential for cancer screening information and services to be made available to women in order to reduce the high rate of cancer deaths. (Loerzel V and Busby A, 2005) (National Cancer Institute (NCI), 2009). When cancer is detected early, it helps by reducing mortality significantly and promoting the overall quality of life of women. (ACS, 2012) (Centers for Disease Control and Prevention (CDC), 2010) (Lee CH et al., 2010). The main and most widely known methods for breast cancer screening are breast self-examination (BSE), clinical breast examination (CBE), and mammography. According to medical literature, an important proportion of breast cancer is discovered by chance. Furthermore, women who perform monthly breast self examination often discover masses in their breasts earlier than women who do not. (Regan P and Durvasula RS, 2009).

Breast self examination was encouraged and practiced in the developed nations during the 1980s and early 1990s (Coe Kathryn et al., 1994). With the introduction of mammography as a screening method for breast cancer detection, breast self examination is still being encouraged as an additional screening procedure especially for women who have known risk factors for breast cancer (Centers for Disease Control and Prevention (CDC), 2010).

In high resource countries, mammography is highly used in detecting abnormal breast lumps and reducing mortality due to breast cancer (David B Thomas et al., 2002, Kiguli-Malwadde E, 2010). However in low resource countries like Uganda where mammography units are very few, this is not possible, yet incidence rates are on the increase (Wabinga HR, 2000). The American Cancer Society (ACS) has therefore recommended breast self examination for low resource countries (ACS, 2012).

A recent study in Uganda found that mammography can only be done in the national referral hospital and also in some private clinics in the capital Kampala (Kiguli-Malwadde E, 2010). With these constraints found with mammography as a screening procedure, there is need for a cost effective and accessible method of screening for breast cancer for women of all ages. Studies that examine the possible benefits of breast self examination (BSE) have indicated that when practiced regularly, it increases the likelihood of early breast cancer detection (Kashfi SM, 2011). Several earlier studies based on retrospective self-reports of breast cancer patients on practices of self breast examination (BSE), have found that there is a positive association between regularly doing breast self examination and detecting breast cancer early (Philip J, 1986). Unfortunately, despite the fact that there are demonstrated benefits of regular breast self examination (BSE), a small number of women actually examine their breasts in fact, a large number do not even know how to perform a breast self exam (Stamler L L et al., 2000).

This study therefore is to assess for the prevalence and factors associated with self breast examination (BSE) among female university students and in this case those of International Health Sciences University (IHSU). Results for this study could be used for strengthening health education on breast self-examination and its continuity. The findings could also assist in finding community acceptable strategies to improve the practice in the society so as to promote the early discovery of breast cancer and thus be able to control the disease.

1.3 Problem statement

Breast cancer is a fatal disease. Successful management of this disease depends on detecting it and treating it early. Breast self examination (BSE) is an uncomplicated and inexpensive practice for the early detection of breast cancer (Mary Atanga B, 2012). This is compared to mammography which is not easily accessible and affordable (Galukande and Kiguli-Malwadde, 2010). Furthermore, women aged below 35 years are not recommended for mammography.

Universities usually have the majority of young women of age below 35 years who join these institutions after secondary education. Studies show that in Uganda, health awareness messages advocating for regular breast self examination (BSE) have been disseminated in the communities especially in secondary schools and institutions of higher learning (Nzarubara, 1999). However there is limited data on the proportion of young women who perform breast self examination and the factors influencing breast self examination especially in a university setting. International Health Sciences University is a private university and most of its courses are health science related. This study sought to find out whether the results obtained would be the same as those found in a previous study done among Makerere University students without a background in health sciences (Obaikol R et al., 2010). Also this study used a "6-point thoroughness score" to assess proficiency of breast self examination among the participants while the previous study done among female students of Makerere university asked the participants to examine their breasts before the investigator to assess their proficiency.

1.4 Justification of the study

Identifying the factors affecting breast self examination (BSE) for breast cancer is important in designing strategies to improve the knowledge and practice of breast self examination in the community so that it is used as a primary method for screening breast cancer in Uganda.

This study will assess how these factors influence the practice of breast self examination (BSE) by female students of International Health Sciences University in a bid to promote early detection and in turn, early diagnosis of breast cancer thereby improving treatment outcomes, and reducing morbidity and mortality from the disease.

1.5 Objectives

1.5.1 General objective

1. To study the prevalence and factors associated with breast self examination for breast cancer detection among female students of International Health Sciences University in May 2014.

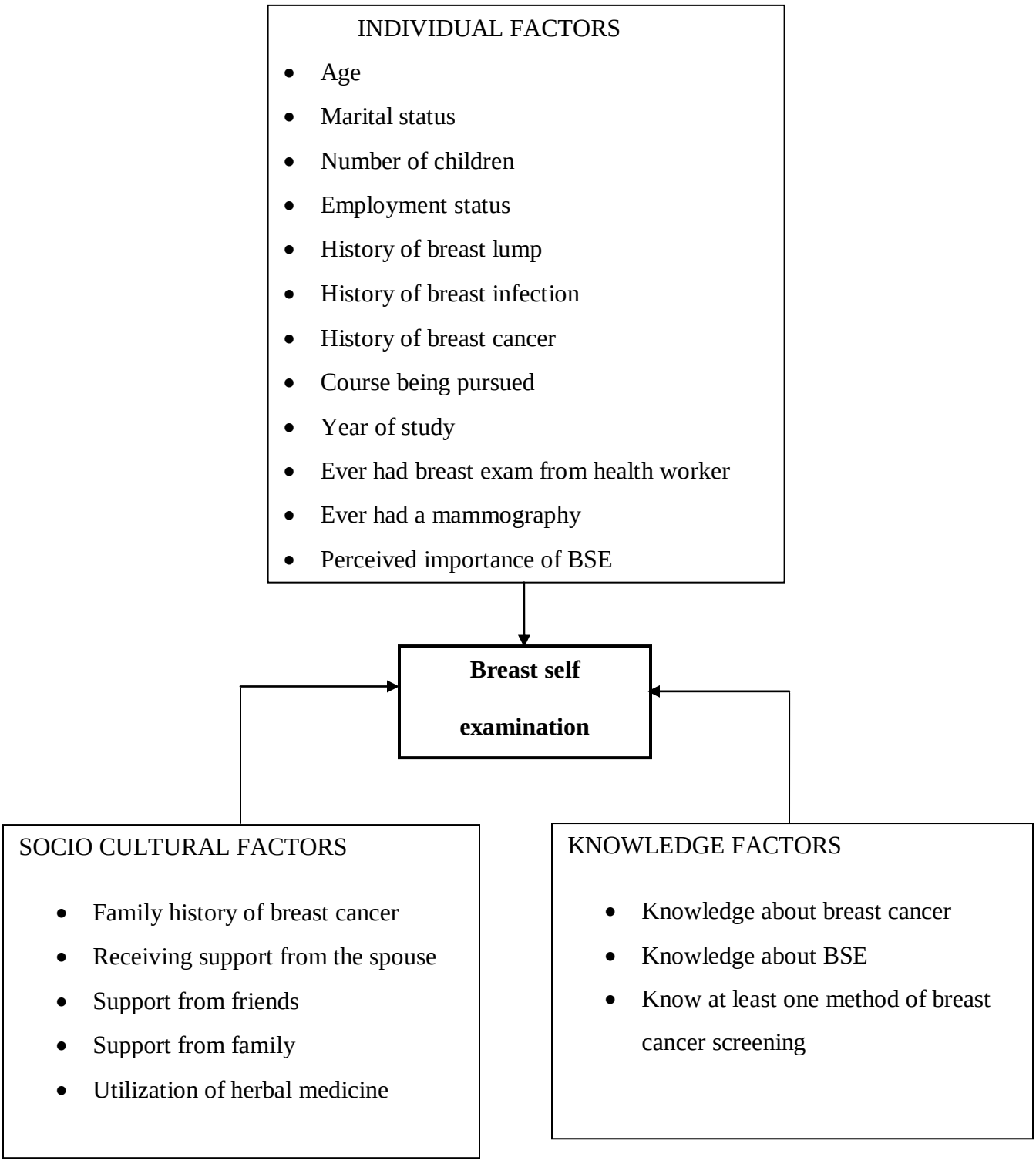
1.5.2 Specific objectives

1. To determine the prevalence of breast self examination for breast cancer detection among female students of International Health Sciences University
2. To assess the level of knowledge of breast cancer and breast self examination for breast cancer detection among the female students of International Health Sciences University
3. To establish the individual factors affecting breast self examination for breast cancer detection among female students of International Health Sciences University
4. To Identify the socio-cultural factors affecting self breast examination for breast cancer detection among female students of International Health Sciences University

1.6 Research questions

1. What is the prevalence of breast self examination among female students of International Health Sciences University?
2. What is the level of knowledge of breast self examination for breast cancer detection among the female students of International Health Sciences University?
3. What are the individual factors affecting breast self examination for breast cancer detection among female students of International Health Sciences University?
4. What are the socio-cultural factors affecting self breast examination for breast cancer detection among female students of International Health Sciences University?

Figure 1: Conceptual framework



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will contain relevant literature from previous studies about breast self examination. It is arranged according to the stated objectives. Therefore it contains the following sub titles; the prevalence of breast self examination, the knowledge factors associated with breast self examination, the socio cultural factors associated with breast self examination and finally the individual factors associated with breast self examination.

2.2 Prevalence of breast self examination

In the developed countries where there is widespread use of mammography (Thomas DB, 2002) , prevalence of breast self examination has not been widely studied. A few trials indicated that the change in the cancer mortality of these countries was not significant following the practice of self breast examination (Heidi D et al., 2009). However, the same studies show that breast self examination increased the number of women being screened for breast cancer through mammography. Current prevalence of breast self examination in developed countries has not been published. Furthermore, most breast cancer and breast self examination studies done in developed countries mostly target women of above 40 years (O'Malley M S and Fletcher S W, 1987).

Breast self examination has been promoted to be practiced in low resource settings. Generally, the prevalence of breast self examination in Africa is low. A study done by Gwarzo et al (Gwarzo U et al., 2009) in which he described that among the 221 female students examined, the prevalence of those who practice BSE correctly monthly was only 19.0%. Only 57% of the

women in his study had ever practiced breast self examination and only 32.1% of them currently but irregularly practiced it. Some of the reasons cited for not practicing breast self examination were forgetting to do it, not having the time and believing that there is no problem with their breast. These low prevalences are consistent with other studies done in Africa. In Abuja Nigeria, a study among 287 female secondary students pointed out that while a large percentage knew about BSE as a breast cancer detection method, very few (10%) practiced it (Isara A and Ojedokun C, 2011). Similarly, majority of female undergraduate students in Nigeria had heard about BSE, but very few had ever practiced it (Gwarzo U et al., 2009). A survey done of 300 women in Senegal indicated that only 29% had ever practiced breast self examination (Gueye SMK et al., 2009).

Very few studies have been published in Uganda regarding breast self examination therefore we cannot easily conclude whether the prevalence of breast self examination amongst university students is low or not. However the studies that are available in Uganda also show that the prevalence of breast self examination is still low. A study done among female university students of Makerere University, Uganda showed a prevalence of breast self examination of 14% (Obaikol R et al., 2010). In Uganda there is still paucity of data on the prevalence of breast self examination among university students.

2.3 Knowledge factors associated with breast self examination

Timely diagnosis of symptomatic breast cancer therefore is dependent on awareness of breast health in the population and among primary health care workers, (Olumuyiwa OO and Olufemi O, 2001) therefore increasing the breast health awareness is key in implementing interventions on all resource levels (Robert A. S, 2006). Breast self examination offers a woman the opportunity to be more breast aware (Özgül Karayurt, 2008) (McCready T et al., 2005) therefore

be able to detect any abnormalities in the breast. Correct knowledge and timing on how and when to conduct the examination is therefore very important in achieving this.

Majority of studies in Africa have shown that the knowledge level about breast cancer, its risk factors, treatment and screening options among women is generally low and in particular among young women in higher institutions of learning. (Gwarzo U.M.D et al., 2009).

The primary factors that increase risk of breast cancer in women are, a family or personal history of breast cancer, some inherited genetic mutations and hyperplasia (Chamot E, 2002). Other factors include, nulliparity or having the first child after 30 years, obesity especially after menopause, use of oral contraceptives, , early menarche, ethnicity, exposure to radiation, daily consumption of alcohol and postmenopausal hormone replacement therapy (ACS, 2012) (Lee EO, 2004). Factors that lessen the risks of breast cancer include physical exercises, maintaining a healthy body weight and breastfeeding, (Lee EO, 2004) (Sadler GR, 2001). Unfortunately, very few women have access to such correct information

In a study done in Mulago hospital, Uganda among 100 women, it was found that most women generally had inadequate breast cancer knowledge, risk factors and existing screening procedures (Kiguli-Malwadde E, 2010). The same study also concluded that involving men and increasing their knowledge on breast cancer would greatly improve this current situation.

The results in this Ugandan study correspond to a study done in Yemen among college students (Ba'amer A, 2010) where it was also found out that there was low level of knowledge about breast cancer. Despite having little knowledge on breast cancer it was also found that majority believe that if breast cancer is detected early, it can be treated. Similar studies done in Nigeria

(Okobia M et al., 2006), Cameroon (Atanga M, 2012), and south Africa (Pillay AL, 2002) also conclude that there is a knowledge gap among women regarding breast cancer.

Previous studies assessing the knowledge levels of breast self examination reveal that whereas women may have some knowledge about breast cancer, very few of them practice BSE. In studies done in Nigeria it was found that the knowledge of BSE among nurses was below average (Olumuyiwa OO and Olufemi O, 2001) (Agboola A et al., 2009). Although the nurses in these studies had knowledge of breast self examination, this is not reflected in their practice and attitude. More studies reveal that there is indeed a huge gap between being knowledgeable and actually practicing breast self examination. Whereas some women may be aware about BSE, among those who have the knowledge very few actually practice it (Budden L, 1995). Also it was found that older women appeared to have more knowledge about breast self examination compared to younger women (Okobia M et al., 2006). This is however not in agreement with other studies done in Britain and Australia which revealed that age, marital status and religion have no relationship with knowledge of breast cancer, its risk factors and self breast examination practices (Paul C et al., 1999,) (Grunfeld EA et al., 2002).

Another study that was done in an Indian dental college reported that the longer a person stays at university the more knowledge she has about breast self examination (Dolar D et al., 2012). Students studying higher courses in the university also were seen to have more knowledge regarding breast self examination than their counterparts.

2.4 Socio-cultural factors associated with breast self examination

In a case-control study done by (Lierman Letha M et al., 1994) results showed that women who received support from friends and relatives including spouses were more motivated to practice

breast self examination (BSE). Those with previous or present breast problem, those who had ever had a discussion with families and friends on the importance of breast self examination (BSE), and those with a history of breast examination by health professional were also seen to regularly practice breast self examination (BSE).

In a study done in Ethiopia among health extension workers, (Muluken A et al., 2013) women who had discussion with families and friends on the importance of breast self examination (BSE) were 5.51 times more likely to practice breast self examination (BSE) than those who had no discussion with someone on the importance of breast self examination (BSE) . Similarly, women who had a clinical breast examination (CBE) were 2.69 times more likely to practice breast self examination (BSE) than those who did not do a clinical breast examination (CBE) (Muluken A et al., 2013)

A study done among Chinese- Americans reported that use of herbal medicines and lack of support from family were cited as barriers to performing breast self examination (BSE) (Tang TS et al., 2000). This would be the equivalent of herbal medicine in the Ugandan context.

2.5 Individual factors associated with breast self examination

Some of the earlier studies done on breast self examination reveal that highly educated women were more likely to practice breast self examination (BSE) as were younger women. A study done in America among 996 women in also reveal that those who are married, have health insurance, those who were premenopausal and those using oral contraceptives (Feldman J et al., 1981) are also more likely to practice self breast examination. According to this retrospective study done in New York, there was however little difference in the practice of breast self examination (BSE) by race. Recent studies done in Ethiopia (390 women) and Nigeria (204

women) also reveal the same findings on education status (Muluken A et al., 2013) (Olumuyiwa OO and Olufemi O, 2001). A woman's employment status was also found to be notably correlated with the practice of self breast examination (Petro-Nustus and Mikhail, 2002) In this study done among 519 Jordanian women, it was found that a woman who is employed is more likely to perform breast self examination that an unemployed woman.

Another study also showed that women with higher education level and those employed in professional jobs were more knowledgeable about breast cancer (Okobia MN et al., 2006) further more participants with higher education level were about 3 times more likely to practice BSE. A study done in Nigeria revealed that Students who have spent more years in the university were more likely to practice breast self examination (Gwarzo U.M.D et al., 2009). Studies done in India also reported that the longer a person stays at university the more knowledge she has about breast self examination and therefore the more likely she is to perform a self breast exam (Dolar D et al., 2012). This is however in contrast with a study done which found no relationship between a woman's age and breast self examination (Agboola A et al., 2009).

Students studying higher courses in the university were also seen to be more likely to perform breast self examination than their counterparts. Similarly the practice of BSE was found to be higher among those with a family history of breast cancer (Gwarzo U.M.D et al., 2009).

Despite an increasing incidence of breast cancer, most women are still unaware of breast self examination as a preventive screening measure. This knowledge gap has resulted in a high incidence of breast cancer mortality especially in resource limited settings like Uganda where mammography is not easily accessible. Studies have shown that breast self examination allows women to be more familiar with their breasts therefore are able to detect any abnormal changes

that warrant early medical intervention. Studies have also found that health education can improve their knowledge and awareness of breast cancer resulting in improvement of the skills in performing breast self examination.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter will cover the following fourteen sections; the study area, study design, sources of data, study population, sample size calculation, sampling procedures, study variables, data collection techniques, data collection tools, plan for data analysis, quality control issues, plan for dissemination, ethical issues and limitations of the study.

3.2 Study area

International Health Sciences University (IHSU) is a privately owned university. IHSU has its main campus at Namuwongo, a southeastern section of Kampala, the capital of Uganda. Namuwongo is approximately 6 kilometers (3.7 miles) from the central business district of Kampala.

3.3 Study design

The study was cross- sectional utilizing quantitative data collection methods. This study design was chosen because it is the appropriate study design for obtaining appropriate data to fulfill the stated objectives concerning prevalence and factors associated with breast self examination. The study took a snap shot of the stated population and measured the prevalence of breast self examination and the factors associated with it at a point in time. The duration of the study was two weeks.

3.4 Sources of data

Data was collected from sampled female students of International Health Sciences University who fulfilled the eligibility criteria.

3.4.1 Inclusion and Exclusion criteria

Inclusion criteria

1. All female students of International Health Sciences University
2. Female students of IHSU who provide written consent

Exclusion criteria

1. Female students who have had mastectomy of both breasts

3.5 Study population

According to records available in the university registry department, International Health Sciences University has a population of 1,434 students. Female students are 760 in total. The students come from various religious and ethnic backgrounds.

3.6 Sample size calculation

The number of participants was generated using the Kish and Leslie formula (Kirsh., 1965)

$$\mathbf{n= (Z_{1-a})^2 (P (1-P)/D^2)}$$

Where Z = standard normal variate corresponding to the 96% confidence interval and is 1.96

P = the expected prevalence: Assumed prevalence of BSE at 50%.

d = the required precision of the estimate (0.05).

Prevalence of BSE was assumed to be 50% due to the very low prevalence that has been recorded in previous studies so far in Africa.

Assuming that the BSE prevalence in the university is similar to that of the general population, the estimated sample size was 384 students.

3.7 Sampling procedure

Systematic random sampling was utilized to obtain the study participants. The principal investigator and research assistant stood at the university entrance at a given day and every second female student who entered the university was approached and asked to participate in the study. This interval was arrived at by dividing the total number of female students in the university (760) by the sample size (384)

If an eligible student who was approached declined to participate in the study, the next second eligible student was approached until the sample size was achieved. Before participating in the study, the students were asked if they had already participated in the interview or not, if not then they would be given the questionnaire. This was done to avoid duplication of results.

3.8 Data Collection tools

A standardized pre-coded, semi-structured and self-administered questionnaire was used. This tool was used to obtain information on socio demographic characteristics, individual factors, socio cultural factors and knowledge regarding BSE.

The proficiency of a participant in conducting BSE was assessed using the National Cancer Institute (NCI) 6-point "thoroughness score".(NCI, 1980). This instrument was developed by the National Survey on breast Cancer. This tool therefore is a modification of the original tool (Coe Kathryn et al., 1994) .(Appendix I)

3.9 Data management

Pre tested Questionnaires with closed and open ended questions were administered to female students on campus. This was done by the principle investigator and trained research assistants. Coding for open ended questions was done before data entry.

Data entry: Data entry was done by the principle investigator assisted by hired data entry clerks. A computer file that resembled the layout of the questionnaire was created in order to minimize errors. Data audits using frequency distributions and cross tabulation was performed to detect missing, out-of- range and illogical values.

Data cleaning: Range and consistency checks were run for each variable to identify inadmissible values. In cases where it may not be possible to correct errors in the data, a missing value code was assigned.

3.10 Quality Control

All research assistants received training to guide them in data collection. To ensure accuracy and completeness, all completed questionnaires were checked on a daily basis. Daily meetings with research assistants were held to discuss daily field progress and make adjustments where necessary.

3.11 Plan for data analysis

Quantitative data was entered using Epi data version 3.1 and then exported to SPSS 13.0 for analysis. Analysis was as per objectives.

Objective 1

Descriptive statistics were generated as frequencies and distributions. The categorical variables were summarized as proportions while continuous variables were presented using means, modes and medians with their respective measures of dispersion. Data was presented as text, tables and charts.

Objectives 2-4

Descriptive statistics of independent variables (factors associated) were presented as frequencies and distributions. Associations were derived between the independent and the outcome variable (breast self examination). A bivariate analysis was conducted, factors were entered in the final logistic regression model and analysed using the backward likelihood ratio approach. P-values less than 0.05 were considered to be significant.

3.12 Ethical considerations

Approval was sought from the International Health Sciences University. The rationale of the survey was explained to the respondents and informed consent of each respondent was sought before data was collected from them.

Respondents were informed of their rights not to take part or drop out of the interview at any stage. Confidentiality was upheld. The respondents were not required to write their names on the questionnaire, the data was stored under lock and key by the principal investigator and access to the study data was only to the principal investigator and research team.

3.13 Plan for dissemination

Copies of the research report are to be disseminated to the IHSU library. Results obtained are also to be disseminated through seminars, local and international conferences.

CHAPTER FOUR

STUDY FINDINGS.

4.1 Introduction

This chapter contains the findings of this study. The aim of this study was to find out the factors that are associated with breast self examination for the detection of breast cancer. The results are presented below.

4.2 Demographic characteristics of the study participants

Between May 2014 and June 2014, a total of 384 students participated in this study. The age range was from 18 to 48 years and the median age was 22. Majority of the students, 324/384 (84.4%) had never been married while 347(90.4%) of the respondents were Christians the rest 35 (9.1%) were non Christians. Majority 329 (85.7%) were pursuing a bachelors degree.

Most of the participants 285(74.2%) were unemployed while only 99(25.8%) were employed. Majority 93.8% were Ugandans while in terms of tribe, the Ganda and Ankole contributed to 37.8% of the total respondents.

The demographic characteristics of the study population are shown in table 1 below.

Table 1: Demographic characteristics of the study participants

	Characteristics	Frequency (n)	Percentage (%)
Age	18 to 29 years	331	86.2
	30 to 48 years	53	13.8
Marital status	Married	52	13.5
	Never married	324	84.4
	Divorced/separated	8	2.1
Religion	Christian	347	90.4
	Non Christian	35	9.1
Number of children	None	321	83.6
	1 to 6	63	16.4
Course	Masters degree	11	2.9
	Bachelors degree	329	85.7
	Diploma	42	11.4
Year of study	One	88	22.9
	Two	145	37.8
	Three	133	34.6
	Four	18	4.7
Employment status	Employed	99	25.8
	Not employed	285	74.2

4.2 Prevalence of breast self examination

Of the participants, 190/384 (49%) students reported that they had ever performed breast self examination while 194 (51%) students reported that they had never performed breast self examination. Among those who performed breast self examination within the last 12 months, majority 116/190 (61.1%) performed less than 6 times while 40 (21.1%) performed it 6 to 11 times. Only 30 (15.8%) students practiced breast self examination 12 times or more within the last 12 months. The results are shown in figure 1 and table 2 below.

Figure 2: Proportion of participants who have ever done breast self examination

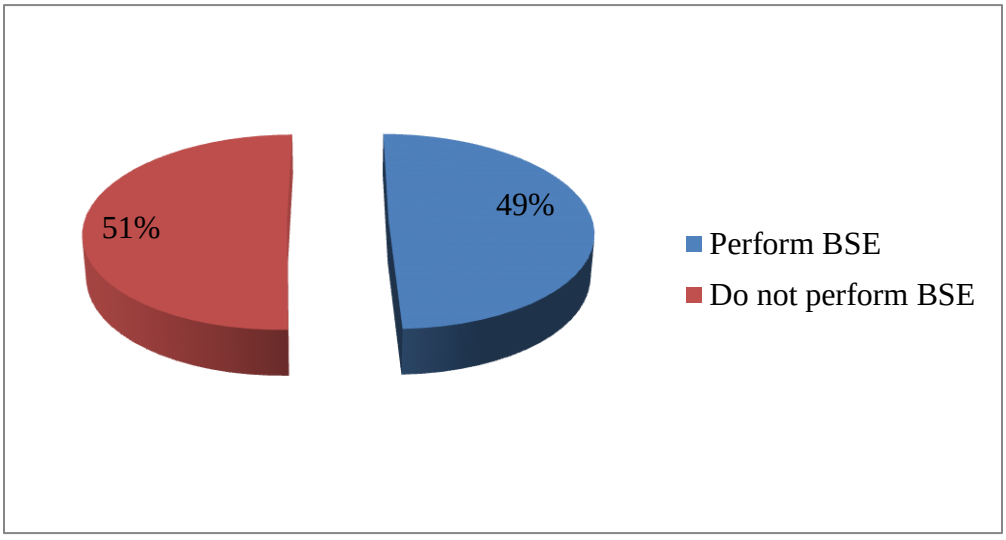


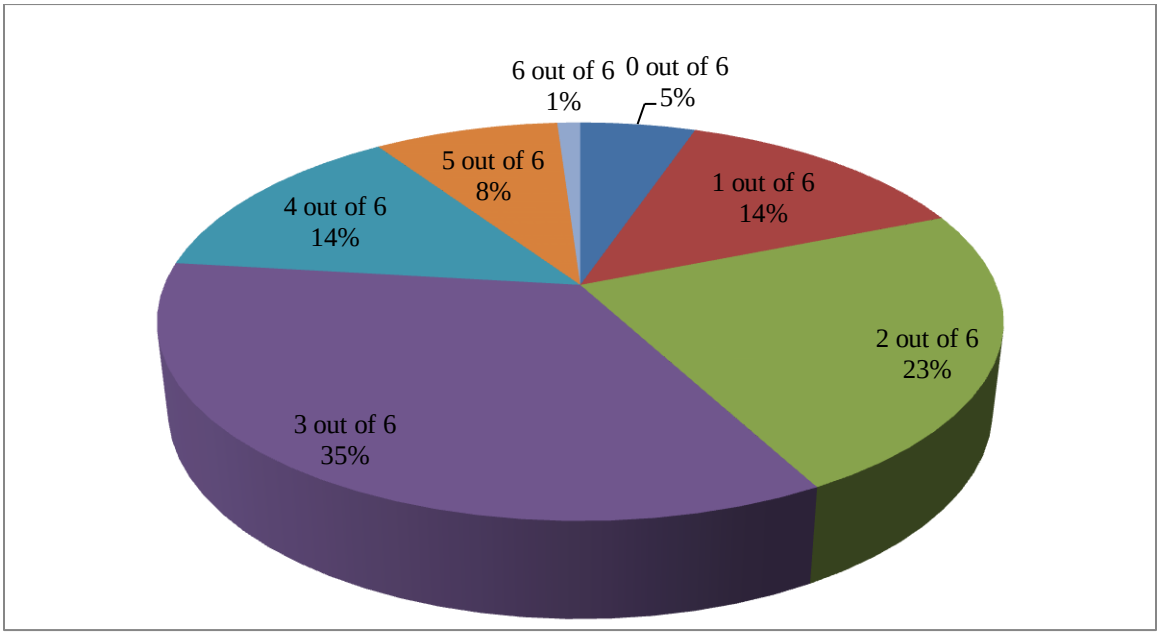
Table 2: Number of times breast self examination was done in the previous 12 months

Number of times BSE was done	Frequency (n)	Percentage (%)
Less than 6 times	116	61.1
6-11 times	40	21.1
12 times or more	30	15.8

4.3 The level of proficiency of conducting breast self examination

The level of proficiency of the study participants in conducting breast self examination was scored using the proficiency National Cancer Institute (NCI) 6-point "thoroughness score". According to the national cancer institute, a score of 4 out of 6 and above indicates that the participant is proficient in performing breast self examination. In this study, only 44/190 (23.2%) were found to be proficient during the last time they performed breast self examination while the majority, 146/190 (76.8%) were found not to be proficient during the last time they performed breast self examination as shown in figure 4 below.

Figure 3: Chart showing BSE proficiency scores



4.4 Knowledge of breast self examination

During this study, 285/384 (74.2%) students reported that they knew what breast self examination was. While 99 (25.8%) reported that they did not know what breast self examination was. However, only 108 (28.1%) students were able to correctly define breast self examination

and 81 (21.1%) could not correctly define what breast self examination is. Only 2 (0.5%) reported that they did not know while 193 (50.3%) did not attempt to define breast self examination.

Among those who reported that they knew what breast self examination is, majority 145 (37.8%) heard it from a health worker, while only 37 (9.6%) heard it from school. The rest heard it from either the media (internet, radio, television and newspapers/magazines) or from friend. Their knowledge was scored and the study found that 128/384 (33.3%) scored 50% and above implying they had adequate knowledge of breast self examination while 256/384 (66.7%) scored below 50% implying that they were not knowledgeable on breast self examination. The results are shown on the table 3 below

Table 3: Scores on knowledge about breast self examination

Score	**Frequency (n)**	**Percentage (%)**
Below 50% score	256	66.7
50% and above score	128	33.3

4.5 Knowledge of breast cancer

Majority of the students, 349/384 (90.9%) reported that they knew what breast cancer was and 35/384 (9.1%) participants reported that they did not know what breast cancer was. The results are shown in table 4 below.

Table 4: Knowledge of breast cancer

Knowledge level	Frequency(n)	Percentage (%)
Knew what breast cancer was	349	90.9
Did not know what breast cancer was	35	9.1

4.6 Individual factors associated with breast self examination among the study participants.

At bivariate analysis, the individual factors associated with breast self examination among the study participants were age, number of children, marital status, employment status, having had a breast exam from a health worker, perceived importance of breast self examination, knowledge on breast self examination, knowledge of breast cancer and knowledge of at least one screening method for breast cancer

While the socio cultural factors associated with breast self examination among the study participants were receiving support from spouse or partner and receiving support from family and friends. These results are shown in table 5 below.

Table 5: Bivariate analysis of individual factors associated with BSE

Variable		Breast Self Examination		OR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Age	18-29 years	152(80)	179(92.3)	1	
	30-48 years	38(20)	15(7.7)	0.335(0.178-0.633)	0.001
No of children	0-1 child	163(85.8)	180(92.8)	1	
	2 or more children	27(14.2)	14(7.2)	0.470(0.238-0.926)	0.029
Marital status	Married/divorced/separated	36(18.9)	16(8.2)	1	
	Never married	154(81.1)	178(91.8)	2.320(1.300-4.141)	0.004
Year of study	Year 1 and 2	106(55.8)	127(65.5)	1	
	Year 3 and 4	84(44.2)	67(34.5)	0.666(0.441-1.005)	0.053
Employment	Employed	61(32.1)	38(19.6)	1	
	Not employed	129(67.9)	156(80.4)	1.941(1.216-3.098)	0.005
Breast lump	Lump	27(14.2)	17(8.8)	1	
	No lump	163(85.8)	177(91.2)	1.121(0.545-2.308)	0.756
Breast infection	Infection	16(8.4)	10(5.2)	1	
	No infection	174(91.6)	184(94.8)	1.057(0.402-2.780)	0.911
Breast cancer	Cancer	6(3.2)	4(2.1)	1	
	No cancer	184(96.8)	190(97.9)	1.091(1.247-4.810)	0.908
CBE	Done	87(45.8)	38(19.6)	1	
	Not done	103(54.2)	156(80.4)	2.219(1.344-3.662)	0.002
Mammography	Done	10(5.3)	2(1)	1	
	Not done	180(94.7)	192(99)	4.372(0.747-25.597)	0.102
Perceived importance of BSE	Important	174(91.6)	148(76.3)	1	
	Not important	16(8.4)	46(23.7)	2.427(1.268-4.647)	0.007
Perceived level of risk	High risk	20(10.5)	22(11.3)	1	
	Low/no risk	170(89.5)	172(88.7)	0.901(0.446-1.821)	0.772

4.7 Knowledge factors associated with breast self examination.

At bivariate analysis, the knowledge factors that were associated with breast self examination were knowledge of breast self examination, knowledge of breast cancer and knowledge of at least one screening method for breast cancer as shown in table 6 below.

Table 6: Bivariate analysis of knowledge factors associated with breast self examination

Variable		**Breast Self Examination**		**OR (95% CI)**	**P-value**
		Yes, n (%)	**No, n (%)**		
Knowledge of BSE	Knowledgeable	58(30.5)	11(5.7)	1	
	Not knowledgeable	132(69.5)	183(94.3)	7.310(3.695-14.462)	<0.001
Knowledge of BC	Knowledgeable	184(96.8)	166(85.6)	1	
	Not knowledgeable	6(3.2)	28(14.4)	5.173(2.090-12.804)	<0.001
Know BC screening	Know	4(2.1)	31(16)	1	
	Don't know	186(97.9)	163(84)	0.113(0.39-0.327)	<0.001

4.8 Socio cultural factors associated with breast self examination

The socio cultural factors that were associated with breast self examination at bivariate analysis were receiving support from spouse or partner and receiving support from friends and family. The results are shown in table 7 below.

Table 7: Bivariate analysis for socio cultural factors associated with breast self examination

Variable		Breast Self Examination		OR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Family history of BC	Positive	26(13.7)	24(12.4)	1	
	Negative	164(86.3)	170(87.6)	0.872(0.446-1.821)	0.690
Support from spouse/partner	Supported	40(21.1)	8(4.1)	1	
	Not supported	150(78.9)	186(95.4)	2.563(1.052-6.244)	0.038
Support from friends/family	Supported	75(39.5)	29(14.9)	1	
	Not supported	115(60.5)	165(5.1)	2.107(1.199-3.703)	0.010
Use of herbal medicine	Use	10(5.3)	12(6.2)	1	
	Don't use	180(94.7)	182(93.8)	0.663(0.233-1.887)	0.441

4.7 Multivariate analysis of factors associated with breast self examination

The factors that were considered for multivariate analysis were those which had a p-value <0.2 at bivariate analysis. At multivariate analysis, factors that were independently associated with breast self examination included age, having ever had a breast exam from a health worker, knowledge of breast self examination, knowledge of at least one screening method for breast cancer and receiving support from friends and family. This is shown in the table below.

Table 8: Adjusted odds ratios for factors associated with breast self examination

Variable		Breast Self Examination		Adjusted- OR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Age	18-29 years	152(80)	179(92.3)	1	
	30-48 years	38(20)	15(7.7)	0.289(0.102-0.818)	0.019
No of children	0-1 child	163(85.8)	180(92.8)	1	
	2 or more children	27(14.2)	14(7.2)	2.557(0.731-8.940)	0.142
Marital status	Married/divorced/ separated	36(18.9)	16(8.2)	1	
	Never married	154(81.1)	178(91.8)	1.260(0.471-3.369)	0.645
Employment	Employed	61(32.1)	38(19.6)	1	
	Not employed	129(67.9)	156(80.4)	1.337(0.7-2.551)	0.379
CBE	Done	87(45.8)	38(19.6)	1	
	Not done	103(54.2)	156(80.4)	2.101(1.228-3.595)	0.007
Mammography	Done	10(5.3)	2(1)	1	
	Not done	180(94.7)	192(99)	3.291(0.618-17.511)	0.163
Perceived importance of BSE	Important	174(91.6)	148(76.3)	1	
	Not important	16(8.4)	46(23.7)	1.429(0.956-2.135)	0.082
Knowledge of BSE	Knowledgeable	58(30.5)	11(5.7)	1	
	Not knowledgeable	132(69.5)	183(94.3)	5.542(2.682-11.452)	<0.001
Knowledge of BC	Knowledgeable	184(96.8)	166(85.6)	1	
	Not knowledgeable	6(3.2)	28(14.4)	0.946(0.595-1.503)	0.814
Know BC screening	Know	4(2.1)	31(16)	1	
	Don't know	186(97.9)	163(84)	0.315(0.102-0.977)	0.046
Support from spouse/partner	Supported	40(21.1)	8(4.1)	1	
	Not supported	150(78.9)	186(95.4)	2.353(0.938-5.903)	0.068
Support from friends/family	Supported	75(39.5)	29(14.9)	1	
	Not supported	115(60.5)	165(5.1)	2.023(1.085-3.772)	0.027

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This study assessed the prevalence and factors associated with breast self examination among the female student population of international health sciences university. The median age was in the early twenties. Most participants were nulliparous and since most of them were 'direct' university entrants, they had not yet started families. The ethnicity was varied and majority of the participants came from the dominant ethnic groups in terms of numbers. The Baganda and Ankole contributed to 37.8% of the respondents. Majority 93.8% were Ugandans.

As it will be seen in the discussion, in Uganda there is still paucity of data regarding breast self examination especially among university students, and so most inferences will be made by comparing with studies done in other countries.

5.2 Prevalence of breast self examination

In this study, nearly half of the students (49.5%) had ever performed breast self examination however only a few 23.2% performed it correctly. In addition, majority 61.1% of those that perform the examination perform if less frequently. These findings concur with a study done in Senegal indicating that only 42.7% of the women reported to be performing breast self examination but only 29% perform it correctly (Gueye SMK et al., 2009). A study conducted in Turkey also revealed that 50% of female university students did not know how to perform breast self examination (Beydağ. K and Karaoğlan. H, 2007).

The most common reason cited for not performing breast self examination was not knowing how to do it (44.2%). Other common reasons included forgetfulness, not having the time to do it and not seeing any value in doing it. This could be attributed to the fact that there is little dissemination of health education messages on breast self examination to this population since it was found from the study that the majority of the respondents knew about breast self examination from health workers 37.8 % followed by the media 32.5%. School programs only contributed to 9.6% of the knowledge of the respondents.

5.3 Individual factors associated with breast self examination

5.3.1 Knowledge of breast self examination

Despite majority (74.2%) of the respondents reporting that they know what breast self examination is, only almost a quarter of them (28.1%) were able to define breast self examination correctly and less than half of them (33.3%) were knowledgeable about the breast self examination procedure. The knowledge of breast self examination was seen to be very significant at both bivariate and multivariate level in performing breast self examination. (Odds ratio: 5.542, C.I: 2.682-11.452, p-value <0.001) The results of this study therefore reveal that there is a huge gap between having knowledge on the examination and correctly performing the examination. This may be the reason for such a low prevalence in performing breast self examination correctly. This was also seen in a study done among students in a Ugandan university where it was found that the level of awareness was high; but the knowledge of the technique and practice ratios was poor (Obaikol R et al., 2010). Similarly, in a study conducted in Nigeria, it was found that majority of the female undergraduate students had heard about breast self examination, although only a few of them had ever practiced it (Gwarzo U.M.D et al., 2009). It is important that the correct knowledge on breast self examination transforms into

sufficient and proper practice for the detection of cancerous lumps in the breast early enough. Since most cancerous breast lumps are self discovered, it is imperative that these lumps are discovered in their early stages. Breast self examination needs to be practiced correctly and this involves a number of aspects; regularity, timing, consistency and using the correct technique as well as quick action on any positive findings. According to previously done studies, women who practice breast self examination tend to be of a higher socio economic status, younger and pre menopausal (Auvinen A et al., 1996) (Le Geyte M et al., 1992). This could possibly due to access and exposure to health information through the media, health workers and possibly peers. This is also portrayed in the demographic findings of this study.

5.3.2 Knowledge of breast cancer and breast cancer screening

There was generally a high level of knowledge about breast cancer, (90.9%) knew what breast cancer was and (97.1%) knew at least one method of breast cancer screening. Knowledge on breast cancer screening was seen at multivariate analysis as a significant factor to performing breast self examination (Odds ratio: 0.315, C.I: 0.102-0.977 and p-value 0.046). This is comparable to, though slightly higher than studies done in Egypt (81%) (Karima and M. S. Ashraf, 2010) and Nigeria (80.7%) (Olumuyiwa OO and Olufemi O, 2001). In this study, majority of the respondents mentioned breast self examination and clinical breast examination as the major screening methods for breast cancer.

Other screening methods mentioned were mammography and x-ray though these methods were not commonly mentioned. The high level of knowledge could be explained by the common anti breast cancer campaigns in the country especially through the media. The biggest source of knowledge about breast cancer in this study was found to be the media followed by health workers.

5.3.3 Age

In this study, age was found to be a significantly associated with breast self examination both at bivariate (O.R; 0.335 CI; 0.178-0.633 p-value 0.001) and multivariate (O.R; 0.289 CI; 0.102-0.818 p-value 0.019) analysis. This study revealed at multivariate analysis that women who were aged between 30-48 years were 0.289 times more likely to practice breast self examination. This is in agreement with a study done in Nigeria which found that older women appeared to have more knowledge about breast self examination and therefore most likely to practice breast self examination compared to younger women (Okobia MN et al., 2006). It is however not in agreement with other studies done in Britain and Australia which revealed that age, marital status and religion have no relationship with knowledge of breast cancer, its risk factors and self breast examination practices (Paul C et al., 1999,) (Grunfeld EA et al., 2002).

5.3.4 Clinical Breast Examination

Clinical breast examination is the breast examination done by a health worker to an individual. In this study, only 125(32.6%) of the participants had ever undergone a clinical breast examination. At multivariate analysis, participants who had ever undergone a clinical breast examination were 2.101 times more likely to perform breast self examination (CI; 1.228-3.595 p-value 0.007). this is similar with a study done in Ethiopia where women who had a clinical breast exam(CBE) were twice more likely to practice breast self examination (BSE) than those who did not do a clinical breast exam (CBE) (Muluken A et al., 2013)

5.4 Socio cultural factors

Spousal support was found to be significant at bivariate analysis but was not found to be significant at multivariate analysis. This may be because the number of participants in this study with spouses were few.

5.4.1 Support from friends and family

In the study, women who received support from their friends and family were 2.023 times more likely to perform breast self examination (CI; 1.085-3.772 p-value 0.027). Similarly, in a study done in Ethiopia among health extension workers, (Muluken A et al., 2013) women who had discussion with families and friends on the importance of breast self examination (BSE) were 5.51 times more likely to practice breast self examination (BSE) than those who had no discussion with someone on the importance of breast self examination (BSE).

5.5 Limitations of the research

This research's main source of information was by data collected through self administered questionnaires. Therefore the researcher acknowledges that accuracy of the information provided depended on the acceptability of the respondents to offer accurate information.

CHAPTER SIX

CONCLUSION

6.1 Introduction

This chapter presents the conclusions derived from the study and offers relevant recommendations to be followed in order to improve the practice of breast self examination among the young women.

6.2 Conclusion

This study found that the prevalence of breast self examination among young female university students remains low. Furthermore, the level of knowledge associated with the correct methods of performing breast self examination also remained low. The frequency of the practice is also low. Despite the level of knowledge about breast cancer being high, this does not translate to regular breast self examination by the young women.

6.3 Recommendations

1. The ministry of health together with other partners in the fight against breast cancer should ensure dissemination of health programs on breast self examination especially through the media.
2. The ministry of health should also develop teaching manuals for use by health care providers during the teaching of breast self examination procedure in order to ensure consistency and uniformity in the correct breast self examination procedure and general information to the women.

3. In addition the MOH should ensure proper training and re training of health care providers to ensure correct information on breast self examination is being given to the women.
4. School health programs should include health education on breast self examination and these should start as early as 12 years of age so that the girl child can be able to begin being breast aware as early as possible and make breast self examination a part of her life routine.
5. Health care providers should aim at initiating discussions with female patients emphasizing on regular breast self examination and encourage the women to also make clinical breast examination part of routine check up during every hospital/ health centre visit.
6. Men should also be encouraged to take part by being involved in the teaching of breast self examination as they form an integral part of social support for the women.

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APPENDICES

APPENDIX I: THE 6-POINT THOROUGHNESS SCORE.

This tool is a modification of the original tool developed by the National Survey of Breast Cancer, (NCI, 1980) (Coe Kathryn et al., 1994) The following steps are used to determine the proficiency and knowledge of the breast self examination technique.

1. MOVEMENT: Circular motion/feel around/examine nipples
2. POSITION: Lying down (or lying on a pillow)
3. PART OF FINGERS: finger pads
4. PRESSURE: light/ medium/ deep
5. NUMBER OF FINGERS: three
6. ARM: contra lateral arm

A score of zero indicates that the respondent was unable to describe anything she did, while a score of six indicates that the respondent mentioned performing all steps necessary for a complete breast self examination.

APPENDIX II: INTRODUCTORY LETTER

Interviewer's Name:_____

Questionnaire ID:_____ Date of Interview _____

Good Morning/ Good Afternoon. My name is _____

and I am a student from International Health Sciences University. We are interested in knowing the prevalence and factors associated with breast self examination for cancer detection among female students of International Health Sciences University.

As part of this study, I will ask you to fill in a questionnaire. The answers you give will generate information that can be useful in generating strategies to improve the BSE knowledge and practice among young women. All of the answers you give will be confidential. If you should come to any question you don't want to answer, just skip it and go on to the next question. You are also free to stop answering the questions at any time should you feel that you do not want to continue. You should feel free to ask me any questions before, during, or after you answer the questionnaire.

APPENDIX III: CONSENT FORM

INVESTIGATOR: Chimoyi Anne Kulundu. International Health Sciences University.

TITLE: Prevalence and factors associated with breast self examination for breast cancer detection among female students of international health sciences university.

Purpose

You have been asked to participate in a study on the prevalence and factors associated with breast self examination for breast cancer detection among female students of International Health Sciences University. Your responses will provide a better understanding of the practice of breast self examination and the factors associated with the practice among female university students. Data collected will be used in looking for sustainable, community acceptable strategies to improve breast self examination among women.

There is no risk associated with participating in the study.

Confidentiality will be upheld on all the information provided. No names orany form of identification will be used.

Your participation is completely voluntary. You can choose not to participate or withdraw at any time without risking penalty.

No compensation will be provided during the collection of data.

If you have any questions about the study, please contact the investigator

Consent

I voluntarily consent to participate in this study. I have read and understood the information above.

Participant's name **participant's signature**

I confirm that I have explained the nature and purpose of the study to the subject named above. I have answered all questions.

_____ _____ _____

Name of Person Signature Date

APPENDIX IV: QUESTIONNAIRE FOR SURVEY RESPONDENTS

1. Have you undergone any surgical procedure to remove both of your breasts?

(If No, please continue. If Yes, please do not continue with the questionnaire)

Socio-demographics

2. What is your age? _____
3. What is your marital status?

   1=Married 2=Never married 3=Divorced/ separated 4=widowed
4. What is your religion?

   1=Catholic 2=Protestant 3=Pentecostal 4=Muslim

   5=Seventh day Adventist 6=Others, specify_____
5. How many children do you have?_____
6. What course are you pursuing?

   1=Masters degree 2=Bachelors degree 3=Diploma

   4=Certificate
7. What year of study are you?

   1=One 2=Two 3=Three 4=Four
8. Are you employed?

   1=Yes 2=No
9. What is your tribe?

   1=Mufumbira 2=Ganda 3=Tooro 4=Acholi

   5=Ankole 6=Gisu 7=Musoga 8=Other,specify_____

10. What is your nationality? _____

Prevalence of breast self examination (*circle the answers that apply*)

11. Do you practice breast self examination?

    1 =Yes 2= No

    If Yes to question 11 go to 12, if No go to question 20

12. How many times in the last 12 months have you done breast self examination?

    1= Less than 6 times 2=6 to 11 times 3= 12 times or more

13. When was the last time you did breast self examination?

    1=A month ago 2=2 months ago 3=3months ago

    4=4 months ago 5=5 months ago 6=6 or more months ago

14. The last time you carried out breast self examination, which position did you use?

    a) Lying down or on a pillow 1=Yes 2=No

    b) Standing up 1=Yes 2=No

15. The last time you carried out breast self examination, what part of the fingers did you use to feel breast tissue?

    a) Finger tips 1=Yes 2=No

    b) Finger pads 1=Yes 2=No

16. The last time you carried out breast self examination, what kind of movements did you use to feel breast tissue?

    a) Short circular movements 1=Yes 2=No

    b) Large circular movements 1=Yes 2=No

17. The last time you carried out breast self examination, what kind of pressure did you use on the breast tissue?

a) Light 1=Yes 2=No

b) Medium 1=Yes 2=No

c) Deep 1=Yes 2=No

d) All the above 1=Yes 2=No

18. The last time you carried out breast self examination, how many fingers did you use to feel the breast tissue?

a) Three 1=Yes 2=No

b) More than three 1=Yes 2=No

c) Less than three 1=Yes 2=No

19. The last time you carried out breast self examination, which arm did you use?

a) Contralateral arm (the arm opposite the breast being examined) 1=Yes 2=No

b) Any arm 1=Yes 2=No

20. If you **do not** do breast self examination, why don't you?

1=It is embarrassing 2=I forget 3=I don't have time

4=I don't know how to do it 5=I am afraid to find something

6=I don't think it has any value 7=Others, specify_____

Knowledge factors

21. Do you know breast self examination?

1=Yes 2=No

22. If Yes, where did you learn breast self examination from?

1=Radio 2=Television 3=Newspaper/magazine

4=From the internet 5=Friends 6=Health worker

7=Others,specify_____

23. What is breast self examination?

_____

24. What are the steps used in performing breast self examination? ***Circle all that apply***

1=Look 2=Feel 3=Record 4=I don't know

25. Should one practice breast self examination?

1= Yes 2=No 3= I don't know

26. Why should someone do breast self examination?

1=To be familiar with the breasts 2=To discover breast cancer 3=If one is at risk of breastcancer 4= I don't know 5=Others, specify _____

27. How often should breast self examination be done?

1=Every week 2= Every month 3=Once a year 4=Idon't know

28. When should breast self examination be done?

1=Anytime of the month 2=Anytime of the year

3=Between 7-10 days before the monthly menstruation period

4=Between 7-10 days after the monthly menstruation period 5= I don't know

29. What do you look for when doing breast self examination? ***Circle all that apply***

1=Abnormal painful lumps in the breast and armpits

2=Abnormal painless lumps in the breast and armpits

3=Swelling of the breast

4=Abnormal skin changes

5=Any discharge from the nipple

6= I don't know

a. Knowledge on breast self examination procedure

30. What is the correct position when doing breast self examination?

    1=Sitting down 2=Standing up 3=Lying down 4=I don't know

31. What part of the hand or fingers is used in performing breast self examination?

    1=Pads of the fingers 2=Palm of the hands 3=Tips of the fingers 4=I don't know

32. What type of movement or motion is made with the fingers?

    1=Large circular motions 2=Medium circular motions 3=Small circular motions

    4=I don't know

33. How much pressure do you exert on the breast tissue? ***Circle all that apply***

    1=Light pressure 2=Medium pressure 3=Firm pressure 4=I don't know

34. How many fingers are used?

    1=One 2=Two 3=Three 4=Four 5=All five 6=I don't know

35. When examining the right breast, which hand do you use?

    1=Right hand 2=Left hand 3=Either hand 4=Both hands 5=I don't know

b. Knowledge about breast cancer

36. Do you know what breast cancer is?

    1=Yes 2= No

37. Where did you hear about breast cancer from?

    1=Radio 2=Television 3=Newspaper/magazine 4=Read it on the internet

    5= Friends 6=Health worker 7= Others, specify _____

38. What is the cause of breast cancer?

    1=Unknown 2=Witchcraft 3=I don't know

39. What are the risk factors for breast cancer? ***Circle all that apply***

    1=Alcohol consumption 2=Women who have never delivered

    3=Use of oral contraceptives 4=Women who have few children

    5=Women with many children 6=Women who begun their menstruation before the age of 12 7=Family history of breast cancer 8=Having first pregnancy after age of 30 years

    9=Taking a high calorie and fat diet 10= Personal history of any breast problem

    11= I don't know 12=Others, specify_____

40. What are the symptoms of breast cancer? ***Circle all that apply***

    1=Discharge from the nipple 2=Lump in the breast 3=Nipple retraction

    4=Swelling of the breast 5=Breast skin looking like orange peel 6=Bleeding from the nipple

    7=Thick, hard, immobile skin 8=Scaling and erosion of the nipple and areola

9=Skin discoloration 10= I don't know 11=Other, specify

_____

41. What screening methods for breast cancer are available? ***Circle all that apply***

1=Breast self examination 2=Clinical breast examination

3=Mammography

4=X-ray 5=Ultra sound

42. What is the treatment of breast cancer? ***Circle all that apply***

1=Removal of the lump 2=Removal of the breast 3=Oral medicine

4=Radiotherapy

5=Herbal medicine 6= I don't know 7=Others, specify _____

43. How can breast cancer be prevented? ***Circle all that apply***

1=One should not take or should take little amounts of alcohol 2=Regular physical exercise

3=Reducing the amount of calories and fat in one's diet 4=Breastfeed for longer periods

5= I don't know

c. Individual factors of breast self examination

44. Have you ever had breast lumps?

1=Yes 2=No

45. Have you ever had breast infection?

1=Yes 2=No

46. Have you ever had breast cancer?

1=Yes 2=No

47. Have you ever had a breast exam from a health worker?

1=Yes 2=No

48. Have you ever had a mammography?

1=Yes 2=No

49. What level of risk do you think you have of acquiring breast cancer?

1=Not at risk 2=Low risk 3=High risk 4=I don't know

50. Do you think you know how to perform breast self examination?

1=Yes 2=No 3=I don't know

d. Socio-cultural factors of breast self examination

51. Is there anyone in your family who is or was diagnosed with breast cancer?

1=Yes 2=No 3=I don't know

52. Do you receive any support from your spouse or partner in performing breast self examination?

1=Yes 2=No

53. Do you receive any support from your friends in performing breast self examination?

1=Yes 2=No

54. Do you utilize herbal medicine in order to prevent breast cancer?

1=Yes 2=No

Thank you for your time and participation in the study.

APPENDIX V : INTRODUCTORY/ ACCEPTANCE LETTER

IHSU INTERNATIONAL HEALTH SCIENCES UNIVERSITY

PART OF INTERNATIONAL MEDICAL GROUP

Office of the Dean, Institute of Health Policy & Management

Kampala, 23rd May 2014

The Registrar,
International Health Sciences University

Dear Madam,

Re: Assistance for Research

Greetings from International Health Sciences University.

This is to introduce to you **Chimoyi Anne Kulundu, Reg. No. 2010-BSCPH-PT-032** who is a student of our University. As part of the requirements for the award of a Bachelors Degree of Public Health of our University, the student is required to carry out field research for the submission of a Research Project

Chimoyi would like to carry out research on issues related to: **Prevalence and Factors associated with Breast Self Examination for Cancer Detection among female students of International Health Sciences University**

I therefore request you to render the student such assistance as may be necessary for her research

I, and indeed the entire University are thanking you in anticipation for the assistance you will render to the student

Sincerely Yours,

INSTITUTE OF HEALTH POLICY AND MANAGEMENT IHSU

Prof. David Ndungutse Majwejwe
Dean, Institute of Health Policy & Management

Request granted

Registrar

MAKING A DIFFERENCE IN HEALTH CARE

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