SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) OF BREAST SELF-EXAMINATION AMONG FEMALE SOLDIERS AT THE 37 MILITARY HOSPITAL

BY

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DECLARATION

I Annabelle Asuming-Bediako the author of this proposal, do hereby declare that with the exception of references to the literatures and works of other researchers which have been duly cited and acknowledged, this proposal is my original work.

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Date........................
DEDICATION

This work is dedicated to the memory of my good friend, Lieutenant Colonel Richard Atarah who always encouraged me to reach for the skies.
ACKNOWLEDGEMENTS

What shall I render to God for all his goodness and mercies towards me? To God I am most grateful for life, good health and the opportunity to pursue this academic feat.

I am grateful to my mother and sisters especially Lorna, who constantly challenged me to get this work done. To my dearest husband, Gabriel Kpedzah, your love and support keeps me going.

A special thank you to my supervisor, Dr. Emmanuel Asampong for his suggestions and guidance. Dr Asampong, I would never have completed this work without you. I am thankful to all the lecturers at the Social and Behavioral Science Department – your impact is immeasurable.

Finally, to my course mates, thank you for making this academic journey pleasant and memorable. We made it!!!
ABSTRACT

Early screening for detection and diagnosis of diseases and health conditions is an important public health principle. Breast self-examination (BSE) is one of such screening strategies where a woman examines her breasts regularly to detect any abnormal swelling or lumps in order to seek medical care. This study therefore explored the knowledge, perceptions and the practice of Breast Self-Examination among female soldiers at the 37 Military Hospital.

This study combined both quantitative and qualitative methods to attain results. Questionnaires were administered to 210 female soldiers selected using a stratified sampling across 15 departments. Five (5) focus group discussions consisting of 6-8 participants were also conducted for departments directly involved in breast cancer care and ten (10) heads from these departments were interviewed on the attitudes and practices of breast self-examination by female soldiers at the hospital.

Findings revealed that education levels impacted on the knowledge and practice of breast self-examination; the higher the education levels, the higher the tendency to breast self-examine. Focus group discussions revealed that it wasn’t a lack of knowledge affecting the practice of breast self-examination, however the fear of discovering a cancerous lump. Interviews with department heads confirmed findings from the questionnaires that female soldiers had knowledge on breast self-examination and seemed to have a positive attitude towards it however, there was no certainty as to whether or not they breast self-examined.

The study recommends an intensity of knowledge on breast self-examination as well as breast cancer screening for all female soldiers ahead of any peace keeping mission.
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CHAPTER ONE

INTRODUCTION

1.1 Background

The most common cancer among women in the world is breast cancer. Insufficient knowledge, attitudes and practices (KAP) on contributing factors are among the serious issues responsible for the increasing prevalence. In 2015, among the 17.5 million cancer cases documented worldwide, 8.7 million deaths were realized. This accounted for 22% of deaths due to non-communicable diseases (NCDs). Within a period of 10 years up till 2015, cancer cases increased by 33% of which breast cancer contributed about 2.4 million. Breast cancer accounted for most cancer deaths and disability adjusted life years among women with 523,000 deaths and 15.1 million disability-adjusted life years (DALYs) (Global Burden of Disease Cancer, 2017). The Global Burden of Cancer found that in Africa, breast cancer is the leading cause of cancer related deaths and has the highest incidence as well. (Global Burden of Disease Cancer, 2015).

Breast cancer cases in Africa are commonly reported in young women who usually present in advanced-stage of the disease (Hill et al., 2008; Owusu-Afriyie et al., 2014; Wabinga et al., 2015). As a result, breast management surgery in most cases, is not an option hence patients experience higher mortality rates (Frenk et al., n.d). For any low and middle-income country (LMIC) especially in Africa with Ghana inclusive, the survival rate for patients with breast cancer does not exceed 50% (Ginsburg, 2013). In Ghana, nearly 70% of women diagnosed with breast cancer are in the advanced stages. This is as a result of stumpy awareness which results in low treatment success and high death rates (Anyanful et al., 2016).
Several studies have been conducted on risk factors that lead to breast cancer. One of such studies revealed that females with a history of breast cancer within the immediate family are highly susceptible to developing breast cancer (Collaborative Group on Hormonal Factors in Breast Cancer, 2001). Also, the report shared that, women with early menstruation, late age at menopause or obesity are slightly prone of breast cancer (Gammon et al., 1993; Collaborative Group on Hormonal Factors in Breast Cancer, 2001).

Breast cancer usually starts in the parts of the breast tissue that consist of glands for milk production, called lobules, and ducts that link the lobules to the nipple. It may not indicate any symptoms when the tumor is small however, with the growth of the tumor, symptoms such as a lump in the breast or under the armpits, pain in the chest which may occur with a swelling or thickening, inversion of the nipple and spontaneous discharge from the nipple may occur. (American Cancer Society, 2013).

Advancements in medical research has revealed that a third of all cancers can be prevented, and another third, if diagnosed at a fairly early stage is potentially treatable. Hence, cancer control ought to be prioritized in health programs in developing countries (Parkin, 1994; World Health Organisation, 1997). One critical safeguard for reducing mortality resulting from breast cancer is breast screening. Regular breast screening which may lead to early diagnosis usually leads to treatment for metastasis which may improve treatment outcomes (Parkin, 1994). Diagnosing the disease at an early stage provides different types of treatment, increased changes of long-term survival and a better quality of life (Al-Nagar et al., 2009; Paraskevi, 2012). In developing countries however, low levels of education on breast cancer and breast self-examination as well as inadequate treatment tools has resulted in high mortality from breast cancer. (World Health Organisation, n.d).
In spite of this, there is still a limited number of studies on breast self-examination, especially in Sub-Saharan Africa (SSA) on knowledge, attitudes and practices of breast self-examination among women.

1.2 Problem statement

One of the main public health worldwide is cancer (Getu et al., 2016). Globally, in 2018 cancer cases rise by approximately 18.1 million whereas 9.6 million fatalities were recorded of which breast cancer among women where part of the top three cancer cases (WHO, 2018). Breast, which is an essential part of a woman’s body is also highly prone to attracting diseases which is detrimental to women’s health. Cancer cases are estimated to surge by 45% from 2010 to 2030 with older people and minorities taking the brunt of the burden (Smith et al., 2009). Among the cancer cases, breast cancer is the main health problem for women and causes more death among women (WHO, 2018). According to WHO (2018), breast cancer affect 2.1 million women each year. The estimated death resulting from breast cancer among women is 627,000 representing 15% of cancer related deaths among women (WHO, 2018).

Most of the fatality cases recorded on breast cancer worldwide emanates from developing economies as the cancer is not detected early (MOH, 2018).

In Ghana, about 2,900 breast cancer cases are recorded per annum. This accounts for 17% of the cases and has landed the second position of cancer death related causes (Sodjah, n.d). More so, according to the National Cancer Registry of South Africa, breast cancer is the main health headache among women (Judge et al., 2011). Again, in Uganda, breast cancer landed position three as common cancer disease among women (Alkhasawneh et al., 2009 as cited in Segni et al., 2016). The foregoing statistics does not look encouraging as a matter of urgency key measures should be instituted to help curb breast cancer cases among women.
A major solution for reducing breast cancer related deaths is through early detection (WHO, 2013). Early detection methods include mammography for breast screening, clinical breast tests and breast self-examination. Mammography is the only proven method that is effective in early detection, however this method is very expensive (WHO, 2013). In developing countries, breast self-examination is recommended because it can be easily practiced without visiting a health facility or using any special equipment. Although it is continually debated, the extent to which BSE is effective in reducing cancer mortality, it remains an economical method that women can employ along with other breast examination techniques (American Cancer Society, 2012). Studies by scholars have shown that, regular BSE can help women to detect premature breast cancer (Chioma & Asuzu, 2007). The American Cancer Society (2012), suggest that all asymptomatic women within the age bracket 20 to 39 years and above 40 years should undertake a BSE on a monthly basis. Studies have shown an increase in the incidence of breast cancer, often occurring a decade earlier among women in developing countries (Clegg-Lamptey et al., 2007). Female healthcare soldiers working at 37 Military Hospital play a vital role in ensuring good healthcare to women in the hospital and as a matter of fact require excellent expertise to render good services in detecting breast cancer in its earliest stages. Female health care workers represents the professionals that require in-depth knowledge to both prevent breast cancer personally and to render quality service to other women suffering from breast cancer. When the depth of knowledge and practice of breast self-examination among female soldiers at the 37 military hospital is ascertained, findings from the study can be adopted to organize effective programmes that will improve the attitudes and practice of BSE among the female soldiers.
1.3 Narrative of Conceptual Framework

The conceptual framework of the study describes the relationship of ideas, which sets the key concepts in the study and defines their relationship with each other. (Polit & Beck, 2012; LoBiondo-Wood & Haber, 2014). This study was guided by Ajzen’s theory of planned behavior, depicted in figure 1 (Ajzen et al., 2011). The theory predicts an individual's intention to engage in a specific behavior at a specific time and place. The theory has successfully been used to predict a wide range of health behaviors and intentions including health services utilization, smoking, drinking, breastfeeding, and substance use etc. Based on the theory, the intent of someone behaving in a specific way is vastly determined by the dangers and benefits expected of the outcome.
Three groups of beliefs were identified, namely behavioral, normative and control beliefs. Behavioral beliefs link specific BSE-related behavior and a consequence or expected outcomes that arise from this behavior.

Normative beliefs shows the relationship that exists concerning a particular BSE-pertained behavior and the results the individual may achieve based on the acted behavior. Out of the normative opinions results personal standards. The personal standards are not restricted to a particular BSE-pertained behavior but also other significant expectations related to the patient’s life; whether they approve or disapprove of the behavior. For the control beliefs, it explains how the individual understands the factors that will help or hinder her for controlling BSE-pertained matters. Finally, the ease or difficulty of performing the specific BSE-pertained behavior will be based on the individual understanding. Details of the individuals posture was given to access the genuine BSE-pertained behavior. The posture of the individual towards the BSE issues, the personal standards and understanding reveals how well equipped or wane an individual approach a particular BSE-related issues.

The theory is appropriate for the study as it enables the researcher discover the knowledge of respondents concerning BSE and the measures they are taking to deal with it. The researcher links the behavior of the respondents to the control measures which perfectly fits into the theory planned behavior.

This study postulates that, in the long run, the individual BSE-related behavior will rest on breast cancer awareness and the possible measures the patient has over performing such control behavior.
1.4 Justification of Study

The incidence of breast cancer in Africa continues to rise steadily and the mortality associated with breast cancer in Africa is alarmingly high. One major factor responsible for this high mortality is patients reporting late to the hospital when symptoms are detected. This study looks at how BSE knowledge, attitudes and practices are significant contributors to a positive health status and behavior. Most patients in LMICs report late to health facilities when the disease is already advanced and has a poor prognosis. Some common reasons for reporting late include lack of awareness of breast cancer, low socioeconomic status, fear of the diagnosis, spirituality, poor attitude towards Breast Self-examination amongst others (Mbuka-Ongona & Tumbo, 2013). A study conducted in 2010 assessed the knowledge, attitude and perceptions of breast cancer among female soldiers. However, the study adopted only a quantitative study approach (Kwawu, 2010). Hence results from this study, which will use a mixed method approach will help ascertain the perceptions of female soldiers to breast self-examination and inform the policy decisions regarding screening for breast cancer in the Ghana Armed Forces and in Ghana as a whole.

1.5 Research questions

- What is the level of knowledge of breast self-examination among the respondents?
- How often do female soldiers perform breast self-examination?
- What is the attitude of female soldiers towards breast self-examination?

1.6 Study Objectives

1.6.1 General Objectives

To assess the factors influencing breast self-examination among female healthcare military personnel at 37 military hospital.
1.6.2 Specific Objectives

• To assess the level of knowledge of breast self-examination among female healthcare soldiers.

• To determine the practices of self-examination practice among female healthcare soldiers.

• To assess the attitude of female healthcare soldiers towards breast self-examination.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews available literature related to this study. It includes the concepts and findings of other studies on what is known about the research problem and what still needs to be researched. Literature on this study includes the global situation of BSE, factors influencing the knowledge, attitudes and practices of healthcare practitioners on BSE as well as barriers to the practice of breast self-examination.

2.2 Global perception of breast cancer

Worldwide, the occurrence of breast cancer is growing by approximately 3% per annum and deaths by 1.8% per annum (Ginsburg & Love, 2011). Breast cancer accounts for over 18% of female cancers globally (American Cancer Society, 2013). The occurrence of new breast cancer cases in some high income countries is gradually becoming stable and the death rates are decreasing, however, the case is different in developing counties where both incidence of new cases and death rates appear to be increasing (Hermon & Beral, 1996; Peto et al., 2000; Bray et al., 2004; Kanavos, 2006). Globally, the general public and even healthcare practitioners find breast cancer alarming. A study found that the fear of developing breast cancer led to women mostly misinterpreting their risk of breast cancer, overrating their lifespan risk and death associated with cancer to a substantial degree. The study also found that, BSE among women was on the low due to the fear of discovering a lump (De-Jonge et al., 2009). Inappropriate risk awareness leads to unsuitable health behavior, hence it is essential for the public as well as healthcare practitioners to fully comprehend the techniques involved with breast cancer to help implement effective strategies to prevent it. A study
conducted on 500 women, 30% representing 150 respondents indicated high levels of fear in developing breast cancer (Lemal & Van den Bulck, 2009).

### 2.2.2 Healthcare Practitioner Knowledge of Breast cancer and BSE

Among the trusted source of public health information, healthcare practitioners play a vital role in the broadcasting arena. Nurses for example play a key role in teaching women through specially designed learning interventions. This includes public outreaches that fit within the various communities (Nichols, 2012).

Turk et al. (2010) states that, breast cancer educational programs are essential in fighting against the disease in various health facilities. Another study conducted in Turkey on nurses and midwives found that over 50% of the respondents performed BSE, however, among those that performed BSE, 35% attained vital information within their working period (Ertem & Kocer, 2009).

Studies have shown that health workers who examined their breasts independently had a significantly higher level of knowledge than those who did not (Shamian & Edgar, 1987; Erdem & Toktash, 2016). It is reported that nurses with vital information relating to cancer issues can help immensely in the discovery of premature breast cancer (Dan & Tan, 2011). This is because nurses play a crucial role in educating women in society and influencing their health behavior, especially in rural areas (Tasci & Usta, 2010).

In Saudi Arabia, a study was conducted by Yousuf (2010) on nursing students to evaluate the impact of breast cancer seminars on students’ knowledge before and after the seminar. The study used a sample size of 33 nursing students. The study concluded that the respondents’ had a better knowledge and understanding about breast cancer and BSE after they attended the seminar (Fiador, 2018).
Another study conducted by Segni et al. (2016) on breast self-examination; knowledge, attitude and practice in Ethiopia among female health students at Adama science and technology university concludes that, of the 368 respondents, 8.7% of the respondents had good knowledge about breast cancer. The remaining 91.3% had reasonable to poor knowledge concerning breast cancer. Again, another study conducted in Palestine on BSE among nursing students reveals that out of the 97 students that participated in the study, 43.3% of the respondents had poor knowledge, 41.2% indicated having fair knowledge and 15.5% had good knowledge (Ayed et al., 2015).

In Ghana, a study conducted by Akuamoah et al. (2013) among female nursing students at Presbyterian University concluded that 95% of the respondents knows about breast cancer and BSE. Again, 80% had knowledge on how to perform BSE.

**2.2.3 Screening Methods for Breast Cancer**

Breast cancer screening mostly comprises breast self-examination (BSE), clinical breast examination (CBE) and mammography. Morse et al. (2014) states that developed countries with existing public health and health systems infrastructure have well-defined, developed, and implemented evidence-based strategies for breast cancer screening and early detection. These strategies are mainly related to mammography, access to quality breast cancer screening, diagnostic services and treatment methods (Morse et al., 2014). However, the contrary is the reality in countries with fewer resources, as breast cancer screening is a difficult activity because the countries have limited public health infrastructure and weak health systems (Morse et al., 2014). In Malawi for instance, screening for breast cancer is not carried out, and little is known about women’s perceptions on receiving early detection services (Kohler et al., 2015). In a study conducted in the United States, Chicago, women
recommended a more strengthened community-based health education with more pressing messages, strategic partnerships, and active learning experiences to increase patient engagement (Ragas et al., 2014). Women are more likely to participate in breast cancer screenings when recommended to them by their physicians, however, research has found that physicians are unlikely to equally recommend screenings to all patients (Bhosle et al., 2007).

**Breast Self-Examination**

Among the screening methods, BSE is considered cost-effective and has a lot of benefits since it can be performed without any cost and is easily accessible (Baxter, 2001). Performing constant BSE causes a decline rate of 3.1% in breast cancer cases with interfacing axillary lymph (Carelli et al., 2008). Breastcancer.org outlines five steps involved in BSE. The first stage involves observing the breast in a reflect object such as mirror and observing physical changes such as breast size, shape, color, shape of breasts and presence of swelling among others. The second set of activities involves movement of the arms to observe possible irregularities in the breast. Once arm movements are successfully observed, focus is turned to the nipples to check for inversion or unusual fluids. The breast self-examination continues by lying down and smoothly touching the breast in all angles in a specific pattern with the finger. The same procedure is repeated while the woman is standing or sitting. Most women prefer to start from the nipple until every tissue of the breast is examined. This pattern enables the participant to feel her skeletal structure at the end (Breastcancer.org, n.d). BSE has been view to be of importance and a prime method in detecting breast cancer in the early stages. It encourages women to seek help from practitioners upon finding a lump (Benjamin et al., 2003). Nonetheless, inappropriate application can create wrong results (Martha & Benford, 2012).
Clinical Breast Examination (CBE)

According to WHO (2018) Clinical Breast Examination (CBE) is an “examination of both breasts performed by a trained health professional”. The CBE consists of three stages. These stages of examination has been explained by Benjamin et al. (2003) in their study “Early detection of breast cancer in countries with limited resources”. The first stage involves the optical examination of the breast. The woman stand with her arms on her side first then lift beyond her head. The second stage involves palpation of the axillae and supraclavicular fossae as the woman stands in a straight position. The third stage involves palpation of the breast which consists of two positions. Firstly, the woman stand straight and then lie down for the breast to be examined. The health professional examines the breast to detect the presence of oedema, erythema, wrinkling, lumpiness, or ulceration which could indicate breast cancer (Benjamin et al., 2003 as cited in Mia, 2007). CBE seems to be a promising approach for low resource locations (WHO, 2018).

Mammography

According to WHO (2018) mammography refers to an X-ray to detect anomalies in the breast. In a well-resourced environment, mammography is recommended for women as an effective method for detecting breast cancer as it has shown to reduce breast cancer mortality by 20%. Mammography screening is expensive but cost-effective in countries with good health infrastructures (WHO, 2018).

2.2.4 Healthcare Practitioner Attitudes towards Breast cancer and BSE

General practitioners have a role to play in providing professional knowledge and support for patients as well as their caregivers about screening and prevention of breast cancer. This requires professionals to have in depth knowledge and expertise on breast self-examination techniques.
Diagnosing breast cancer at the initial stage is preferable as it allows for breast protection surgery in suitable situations. The frequently employed methods of breast cancer screening are BSE, CBE and mammography (Coleman, 1991; Smeltzer & Bare, 2000; Akyolcu, 2001; Komen, 2006). Nurses and midwives should put in the required effort to convey the need for BSE to the women they interact with. Studies have shown that women’s adherence to breast cancer screening depends substantially on the attitude of their doctors (Wang et al., 2009; Price et al., 2010; Somanchi et al., 2010). The study conducted by Segni et al. (2016) concludes that 60% of the sampled respondents had positive attitude towards BSE. 44% of the respondents stated that breast cancer is extremely rampant and the top cause of mortalities among diseases in Ethiopia.

Umbreen et al. (2017) researched about BSE; knowledge, attitude and practiced among post nursing students in Lahore concludes that nurses do not have a positive attitude towards BSE. The study was conducted within 5 months and employed the cross sectional study design.

Moreover, the study by Ayed et al. (2015) checks on the level of attitudes of BSE among 97 nursing students and concludes that, 63.9% representing the majority held the view that all women should perform BSE. Also, 4.2% of the respondents indicated that BSE is a shame, 29.9% asserts that they dread to think about breast cancer whereas 21.6% had no interest in performing BSE.
2.2.5 Practices of Healthcare Practitioner related towards Breast cancer and BSE

Performing

BSE on monthly basis has proven to be effective as the performer is able to discover lump on it initial phase of development. Discovering lump early has improved survival rate as early treatment is resorted to (American Cancer Society, 2002). Frequently practicing BSE can enable women know and detect any anomaly in breast (Larkin, 2001 as cited in Ayed et al., 2015).

Various studies have been conducted on the techniques and awareness relating to BSE among health workers. As a matter of fact, few of those studies are from sub-Saharan Africa (Shelby, 2014). Studies have shown that the level of knowledge involving breast self-examination among nurses are on the increase (Alkhasawneh et al., 2009; Ibrahim & Odusanya, 2009).

A study in Turkey showed that majority of the respondents (nurses and midwives) possess in-depth knowledge as to how to conduct BSE, but were not practicing effectively (Ertem & Kocer, 2009). With regard to BSE technique, majority knew that the perfect techniques to identify any changes in the breast were inspection and palpation. The results shows that the practice and essential knowledge the respondents have on BSE were related. Nevertheless, more emphasis should be laid on BSE within health courses and programs (Sreedharan et al., 2010).

Some of the most common reason for not practicing breast self-examination were that, they were either too busy, forgot or considered it unnecessary (Akhtari-Zavare et al., 2015).

In Ethiopia Segni et al. (2016), concludes among 368 female nursing students, 39.4% have practiced BSE and 60.6% have not practiced BSE. Furthermore, a study conducted in Lahore concludes that among the 78 sampled post nursing students nurses do not practice BSE (Umbreen et al., 2017).
Also, Ayed et al. (2015) checking on 7 items on the level of BSE practice found out that among the 97 female nursing students they surveyed in Palestine, 62.9% of the respondents indicated that they don’t practice BSE on monthly basis. 42 respondents representing 43.3% indicated they do not know the right procedure of performing BSE. 14.4% indicated of knowing the right procedure of performing BSE. This shows that female nursing students are less knowledgeable about BSE. Therefore the need to constantly research to upgrade the knowledge of BSE among practitioners and patients. Research employing the KAP strategy is vital to the health industry as it helps to know the exact zones that need to be improve for effective services to be rendered. As most results emanating from BSE research shows that knowledge and practice are directly proportional. Sreedharan et al. (2010) suggested that education should be intensive concerning BSE.

However, there are factors that hinder most women from practicing BSE in developing countries. Multiple barriers such as awareness on breast cancer, fear of possible detection, low self-confidence, availability of time, and an uneasy feeling about handling breasts as well as a lack of motivational support from parents, spouse or friends contributes to women not practicing BSE on regular basis (Al-Naggar et al., 2011; Akhtari-Zavare et al., 2015; Birhane et al., 2017). Studies also found knowledge, socio-cultural and environmental factors as contributing barriers to the practice of BSE (Akhtari-Zavare et al., 2015). Also Al-Dubai et al. (2012) revealed in their study of BSE that a larger number of the respondents knew about breast cancer but were reluctant to engage in BSE. They found that socio-demographic factors, mainly ethnicity and BSE practice were significantly related.
CHAPTER THREE

METHODOLOGY

3.1 Study Area

The 37 Military Hospital is a specialist military based Hospital located in the South – Eastern part of Greater Accra Region. It is located close to Jubilee House, which is the seat of government, at the intersection of the Liberation road and Giffard road. It is the largest Military Hospital in Ghana supported by various Medical Reception Stations (MRSs) in the various military garrisons across the country. It is a United Nations Level IV Hospital for the West African sub-region, Ghana’s National Disaster and Emergency Hospital and serves as one of the major referral hospitals in Ghana. The 37 Military Hospital has a mixed staff of both military personnel and civilians. It has an estimated staff capacity of about 3500, a bed capacity of about 500 and an estimated annual outpatient attendance of about 26486 visits. Its annual inpatient attendance is about 13,208. The majority, thus 85% of the annual attendance is from the general public. The map below shows the location of the study area, it was obtained from Centre for Remote Sensing and Geographic Information Systems (CERGIS) University of Ghana.
Independent Variables

- Age
- Educational level
- Marital Status
- Parity
- Department
- Rank

3.4 Study Population
The study population in this case were female soldiers who are healthcare workers at the 37 Military Hospital who met the criteria for inclusion in this study. The study targeted female soldiers who are healthcare workers at the 37 Military Hospital.

3.5 Inclusion Criteria
Female soldiers who work at the 37 Military Hospital were included in this study.

3.6 Exclusion Criteria
The study strictly excluded female workers who are not soldiers at the 37 Military Hospital.

3.7 Sampling procedure
Sampling refers to the criteria used in drawing the samples from the population (Sommer, 2001). The study adopted stratified and purposive sampling techniques in drawing the samples from the population. The stratified sampling help the researcher draw respondents for the quantitative analysis whereas purposive sampling enables the researcher selects samples for qualitative analysis.
3.7.1 Sample size

Quantitative

The estimated population of female soldiers at the 37 military hospital is about 475. Cochran (1963) estimates the sample size from the population as follows;

\[
n = \frac{z^2 \cdot p(1 - p)}{d^2}
\]

Where

\( n \) = sample size

\( z \) = the confidence interval

\( p \) = prevalence rate

\( d \) = margin of error

Based on an estimated level of 30% knowledge of all aspects of breast cancer in a study in Nigeria (Odusanya, 2001), a 5% margin of error at 95% confidence interval, the sample size, \( n \) was determined

\[
n = \frac{1.96^2 \cdot 0.3(1 - 0.3)}{0.05^2}
\]

\[
n = 322.69
\]

Therefore using the finite population correction factor with the formula given as:

\[
\frac{n}{1 + \frac{n}{N}}
\]

\[
\frac{323}{\left(1 + \frac{323}{475}\right)}
\]
Approximated to 192

By adding on 10% for non-respondent, the employed sample size for this study was 210 female soldiers.

3.7.2 Sampling Technique

Quantitative Sampling Technique.

In using the stratified sampling technique, the female military personnel were grouped into strata in order to achieve a sample which is representative of the studied population. Strata consists of various departments at 37 military hospital. In each strata, simple random sampling by balloting was conducted to select respondents for the questionnaires. Among the 210 respondents that were selected for the study, 10 respondents which were selected from each of the 15 departments was used for the quantitative data collection. The remaining 60 respondents were used to gather data for the qualitative analysis. The 60 samples comprise of 10 departmental heads and 8-member five (5) focus group.

Qualitative Sampling Technique.

For the qualitative data the researcher selected the departments which offer breast care services and purposively selected individuals in the departments who are directly involved in breast care services. These departments include family planning and health promotion units of the public health division, the obstetrics and gynecological division, the surgical outpatient’s department and the polyclinic. The qualitative samples are a subset of the quantitative samples.

A total of five focus group discussions was conducted. The researcher based on the purposive sampling approach considered the availability and willingness of the respondents to partake
in the research work at the time of data collection and selected them from the various
departments that provides breast care services. Each group of discussants consisted of 8
health care providers. A total of ten (10) departmental heads were interviewed using an in-
depth interview guide. The departments include public health, the obstetrics and
gynecological, the health promotion, the surgical outpatient and the polyclinic. Respondents
were educated on proper breast self-examination after each focus group discussion. The
selection criteria was effective to achieve the research objectives as respondents had more
insight into breast cancer.

3.8 Data Collection Method/Instrument

3.8.1 Quantitative data
Quantitative data was collected using structured questionnaires to identify issues pertaining to
socio-demographic characteristics, knowledge, attitudes and practices related to breast self-
care examination, knowledge of risk factors for breast cancer, warning signs and symptoms
about breast cancer, screening methods, performance of BSE and perceptions about breast
cancer etc. The questionnaires comprised of both closed ended and open ended questions.
These were administered by trained research assistants to ensure consistency. The
questionnaire was administered using the English language. Interviews conducted in a local
language were translated back into English.

3.8.2 Qualitative data
In-depth Interviews (IDIs) and focus group discussion (FGD) were used to assess qualitative
data from the participants of the study. Interview guides were developed based on the
objectives of this study to interview stakeholders such as the departmental heads. Both
Focused Group Discussions (FGDs) and the IDIs participants were recorded on audio tapes
as well as notes taken by the research assistant. Interviews were conducted in English and/or the local languages of Twi & Ga.

A total of five (5) FGD was conducted. Each detailed FGD was made up of 6-8 purposively selected participants. In-depth interviews was conducted among heads of departments who offer direct breast care services.

3.9 Data processing and analysis

Quantitative data

Data was be cleaned, checked for completeness and entered in Epi-Info version 7 and SPSS for analysis. Using descriptive statistics, such as frequencies and percentages for categorical data, means and standard deviations or medians and percentiles for continuous data were calculated. Statistical analysis was performed using Stata 13.0 software. Chi-square test was performed to test the relationship between socio-demographic characteristics and BSE. Graphical representation of data was done using graphs and tables.

Qualitative data

A codebook for each code was developed to ensure consistency in coding of qualitative interviews. The codebook contained the main and sub-themes that emerge from the data collected. Thematic analysis was conducted using INVivo 11 to enhance transparency in a pragmatic evaluation. All FGDs, and IDIs were transcribed verbatim into Microsoft Word by the researcher. Interviews which were conducted in the local language were translated into English language during the transcription process. However, local language terminologies were not translated into English so as to preserve their informative meanings.
3.10 Ethical Considerations

3.10.1 Ethical Approval
The Ethical Review Committee of the Ghana Health Service provided ethical approval for the study. Permission from the 37 military hospital and the departmental heads of the 37 military hospital was sought. Consent was obtained from female soldiers and confidentiality assured before their engagement in the study.

3.10.2 Voluntary Participation and Informed Consent
All respondents participated freely. Their consent was sought and any further clarification was made upon request.

3.10.3 Potential risks/ benefits
There were no anticipated risks to the participants of this study. The content of the discussions and questionnaire were not particularly sensitive. Furthermore the burden on participant time was small with interviews taking place in a location convenient to them. Benefits from the study are anticipated to showcase the key importance of breast care self-examination and further inform appropriate interventions to ameliorate these findings.

3.10.4 Privacy and confidentiality
Interviews were conducted in a convenient private place with the door closed. The interview only took place in a location that both the participant and the interviewer were comfortable with, in order to protect privacy and to permit freedom of speech as well as minimize risk of being overheard. Information collected was treated with confidentiality.

3.11 Quality control
Quality assurance measures included training research assistants, review of responses and processing the data for further analysis.
CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the findings related to the research objectives. Issues considered include the relationship between socio-demographic characteristics of respondents and their level of knowledge about breast self-examination, factors influencing performance of BSE and the attitude of female soldiers towards BSE.

4.2 Background Characteristics of Respondents

Table 1 presents results on the background information of the quantitative and qualitative sampled respondents. Majority (79.1%) of the respondents were aged between 25 – 35 years while those below 25 years represented the least (2.8%) age group. The lowest educational level or respondents was a diploma or certificate with majority (79.1%) having a tertiary level education. There were more single (63.5%) female soldiers than married (32.2%) female soldiers, separated/divorced (2.4%) and widowed (1.9%). Christianity was identified as the dominant (87.2%) religion among respondents. A small number of respondents (8.1%) were senior officers while 60.2% of the respondents had a junior rank. Among the demographic variables considered, only educational level (p – value <0.05) was significant in determining the knowledge level of respondents concerning breast self-examination.
Table 1: Association between Socio-demographic Characteristics and Level of Knowledge about BSE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n = 211)</th>
<th>Percentage (%)</th>
<th>$\chi^2$ (p – value )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 25</td>
<td>6</td>
<td>2.8</td>
<td>4.229</td>
</tr>
<tr>
<td>25 – 35</td>
<td>167</td>
<td>79.1</td>
<td>(0.646)</td>
</tr>
<tr>
<td>36 and above</td>
<td>44</td>
<td>20.8</td>
<td></td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior High School</td>
<td>38</td>
<td>20.8</td>
<td>17.671</td>
</tr>
<tr>
<td>Tertiary</td>
<td>167</td>
<td>79.1</td>
<td>(0.007)*</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>68</td>
<td>32.2</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>134</td>
<td>63.5</td>
<td>8.671</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>5</td>
<td>2.4</td>
<td>(0.193)</td>
</tr>
<tr>
<td>Widowed</td>
<td>4</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christianity</td>
<td>184</td>
<td>87.2</td>
<td>8.158</td>
</tr>
<tr>
<td>Islam</td>
<td>21</td>
<td>10.0</td>
<td>(0.086)</td>
</tr>
<tr>
<td>Traditional</td>
<td>6</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior rank</td>
<td>127</td>
<td>60.2</td>
<td></td>
</tr>
<tr>
<td>SNCO</td>
<td>8</td>
<td>3.8</td>
<td>15.386</td>
</tr>
<tr>
<td>Junior Officer</td>
<td>54</td>
<td>25.6</td>
<td>(0.052)</td>
</tr>
<tr>
<td>Senior Officer</td>
<td>17</td>
<td>8.1</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 0.05 significance level

4.3 Level of Knowledge on Breast self-examination

The study sought to assess the level of knowledge of respondents on BSE by posing some questions to them. Whereas 193 (91.5%) of respondents indicated that breast self-examination refers to breast examined by one’s self, others (8.5%) indicated that they understood BSE to mean breast examination done by a healthcare provider. The responses was classified into satisfactory, moderate and low level of knowledge. During the data analysis, the researcher coded satisfactory to indicate respondents that knew the right methods of performing BSE by themselves. Moderate indicate respondents that have not figure out the right method of performing BSE whereas low indicate respondents that knew nothing at all about BSE personally and requires on the services of a health practitioner.
Overall, this indicated a satisfactory knowledge level on what constitutes BSE. The best time to perform BSE is after menstruation, and majority (68.7%) of respondents chose this option, while others indicated that the best time to perform BSE is either before menstruation (26.5%) or during menstruation (4.7%). The changes to look for when performing BSE include changes in the size of the breast, skin colour changes as well mass in the breast. The knowledge level of respondents in this regard indicated that they had a satisfactory idea about what symptoms to look out for whenever they perform BSE.

Table 2: Level of knowledge on Breast self-examination

<table>
<thead>
<tr>
<th>Variable</th>
<th>Low n (%)</th>
<th>Moderate n (%)</th>
<th>Satisfactory n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is BSE?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast examination done by yourself</td>
<td>–</td>
<td>–</td>
<td>193 (91.5)</td>
</tr>
<tr>
<td>Breast examination done by a healthcare provider</td>
<td>18 (8.5)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Best time to perform BSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before menstruation</td>
<td>56 (26.5)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>After menstruation</td>
<td>–</td>
<td>–</td>
<td>145 (68.7)</td>
</tr>
<tr>
<td>During menstruation</td>
<td>–</td>
<td>10 (4.7)</td>
<td>–</td>
</tr>
<tr>
<td>Changes to look for when performing BSE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>–</td>
<td>–</td>
<td>4 (1.9)</td>
</tr>
<tr>
<td>Skin changes</td>
<td>–</td>
<td>–</td>
<td>40 (19.0)</td>
</tr>
<tr>
<td>Mass in the breast</td>
<td>–</td>
<td>–</td>
<td>167 (47.3)</td>
</tr>
</tbody>
</table>
4.4 Who Should Perform Breast Self-Examination

As shown in figure 3, majority of respondents (93.0%) indicated that women are supposed to perform breast self-examination where as 7.0% of respondents indicated that adolescents should perform breast self-examination.

![Figure 3: Distribution on performance BSE](image_url)

Table 3 shows results on Fear of performing BSE, How frequent respondents perform BSE and the attitude they depicts upon discovering a lump in the breast. The detailed explanations are given in 4.5, 4.6 and 4.7 respectively.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of Performing BSE</td>
<td>Yes</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>185</td>
<td>88</td>
</tr>
<tr>
<td>Frequency of Breast self-examination</td>
<td>Daily</td>
<td>25</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td>Once a week</td>
<td>50</td>
<td>23.7</td>
</tr>
<tr>
<td></td>
<td>Once a month</td>
<td>97</td>
<td>46.3</td>
</tr>
<tr>
<td></td>
<td>Every 3 months</td>
<td>38</td>
<td>17.9</td>
</tr>
<tr>
<td>Reaction to the Presence of Lump in Breast</td>
<td>See a doctor</td>
<td>204</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>See a herbalist</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>
4.5 Fear of Performing BSE

Respondents were also asked to indicate whether or not they were afraid of practicing breast self-examination. Figure 4 indicates that most respondents were not scared of practicing breast self-examination while about 12% noted that they were afraid of performing breast self-examination.

![Graph showing distribution of fear of practicing BSE](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAAEAAABCAQMAAABxL5m5AAAABGdBTUEAALGPC/xhBQAAAgAElwAAFYAAQIdQAAAErQUhJCGJiAAAAUlEQVR42mO+3QCAAUAECgFhFhAhAAAAABJRU5ErkJggg==)

Figure 4: Distribution of fear of practicing BSE

4.6 Frequency of Breast self-examination

The American Cancer Society, suggest that all asymptomatic women within the age bracket (20 to 39) year old and above 40 years should perform a BSE every month (American Cancer Society, 2012). It is interesting to observe that majority of the respondents indicated that they perform BSE once every month as recommended (Figure 5). Other respondents either perform BSE on a daily basis, weekly basis or on a quarterly basis.
Figure 5: Frequency of performing BSE

4.7 Reaction to the Presence of Lump in Breast

It can be observed from Figure 6 that most respondents would see a doctor in the event that she discovers a lump in her breast whereas others would prefer to consult a traditional herbalist to cure the lump in the breast.

Figure 6: Reaction to presence of lump in breast
4.8 Factors Influencing Performance of Breast self-examination

The educational levels of respondents was found to be significant (p – value <0.05) in determining the knowledge about breast self-examination (Table 3). Respondents with tertiary level of education were 1.36 times more likely to be knowledgeable about breast self-examination compared to those with senior high school qualification. The frequency of performing breast self-examination was also found to be significant (p – value <0.05) in determining knowledge about BSE. Moreover, the practice of breast self-examination was found to significantly enhance respondents’ knowledge about breast self-examination.

Table 4: Multiple Logistic Regression showing factors influencing knowledge about BSE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>95% C.I.</th>
<th>p – value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 25</td>
<td>Ref</td>
<td>–</td>
<td>0.093</td>
</tr>
<tr>
<td>25 – 35</td>
<td>0.892</td>
<td>(0.23, 0.67)</td>
<td></td>
</tr>
<tr>
<td>36 and above</td>
<td>0.548</td>
<td>(0.49, 0.58)</td>
<td></td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
<td>0.043*</td>
</tr>
<tr>
<td>Senior High School</td>
<td>Ref</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>1.36</td>
<td>(-0.94, 1.73)</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td>0.613</td>
</tr>
<tr>
<td>Married</td>
<td>Ref</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>0.74</td>
<td>(0.41, 0.45)</td>
<td></td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>0.32</td>
<td>(0.73, 1.42)</td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>0.67</td>
<td>(-0.38, 0.93)</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td>0.734</td>
</tr>
<tr>
<td>Christianity</td>
<td>Ref</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Islam</td>
<td>0.88</td>
<td>(0.33, 0.86)</td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>0.46</td>
<td>(0.70, 1.98)</td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td></td>
<td></td>
<td>0.106</td>
</tr>
<tr>
<td>Junior rank</td>
<td>Ref</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>SNCO</td>
<td>0.52</td>
<td>(0.87, 1.59)</td>
<td></td>
</tr>
<tr>
<td>Junior officer</td>
<td>0.96</td>
<td>(0.13, 0.47)</td>
<td></td>
</tr>
<tr>
<td>Senior officer</td>
<td>0.85</td>
<td>(0.31, 0.62)</td>
<td></td>
</tr>
<tr>
<td>Frequency of BSE</td>
<td></td>
<td></td>
<td>0.023*</td>
</tr>
<tr>
<td>Daily</td>
<td>Ref</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>1.68</td>
<td>(-0.13, 0.47)</td>
<td></td>
</tr>
</tbody>
</table>
Once a month 1.32 (-0.43, 0.25)
Quarterly 0.94 (0.49, 0.93)

Practice of BSE
Yes Ref –
No 0.87 (-0.21, 0.86)

Fear of BSE
Yes Ref –
No 0.85 (0.10, 0.57)

Who should perform BSE
Adolescents Ref –
Women in their reproductive years 0.62 (0.29, 0.91)

* Significant at the 0.05 significance level

4.9 Factors Influencing Performance of Breast self-examination (Qualitative Analysis)

Focus groups aid in extracting information that may not be available during individual interviews. It also helps researchers to agree on a particular understanding relating to complex issues (Denzin & Lincoln, 2000). The goal of the focus group discussion in this study was to assess the knowledge, attitudes, and practices of female soldiers concerning BSE. The factors influencing BSE among female soldiers are considered below.

4.9.1 Inadequate Knowledge on Breast self-examination

Low levels of knowledge about breast self-examination was identified as one of the barriers to breast self-examination among female soldiers at the 37 Military Hospital. Participants repeatedly mentioned that they did not know much about breast self-examination. One participant (participant 8) from the Obstetrics and Gynecology Department made the following comment:

“One of them would be lack of knowledge of what breast cancer is and lack of knowledge on how to do the procedure. And some people don’t think it is important to

32
do it. And some people don’t know that they should be doing it regularly as a woman between a certain age.”

This response revealed how knowledge on breast cancer impacted the significance of breast self-examination among female soldiers. Women who are less knowledgeable about BSE may are more likely to be unaware of a cancerous cell in their breast if they fail to perform the BSE themselves or having a health professional perform clinical breast examinations on them. Other studies also found knowledge, socio-cultural and environmental factors as barriers (Juni et al., 2015) to breast self-examination. Participant 7, from the Public Health Unit of the 37 Military Hospital had to this to say concerning BSE:

“Most of them are knowledgeable enough that they should do breast self-examination, but whether they do it or not I can’t tell. They might not do it for certain reasons but if you take statistics, most of them know about it, it is something they have heard.”

4.9.2 Negligence of Breast Self-Examination

In the following comments, participant 4 in the present study echoes the sentiments of the previous participant with regard to the lack of knowledge about BSE:

“Barriers include negligence and lack of knowledge about the importance of practicing breast self-examination. The knowledge level is ok among the soldiers but as to if they practice it I can’t tell. Occasionally, we get 50 of the soldiers coming to ask to be taught on how they can do breast self-examination by themselves.”

Ganasegeran et al. (2012) also found that a higher proportion of respondents were aware of breast cancer but did not practice BSE due to the lack of knowledge, psychological, cultural, perception and environmental factors. Among female soldiers, it was ascertained that they
were willing to undertake BSE but due to the demanding nature of their work schedule, they forget to perform BSE as regularly as recommended. A respondent from the Obstetrics and Gynecology Department (participant 10) echoed a similar sentiment from other respondents:

“Our schedule as military officers entails a lot and because you always have to conform to strict regulations and guidelines you sometimes forget to perform breast self-examination. So I think that could be one of the barriers to breast self-examination among female soldiers.”

4.9.3 Fear of Breast Cancer

The fear of breast cancer was identified as one of the reasons respondents do not regularly perform breast self-examination. In the words of one of the participants (participant 5), she tries to maintain a healthy lifestyle in order to reduce her risks:

“I am, like some people, actually frightened of detecting that I have breast cancer. But I already take into account things like diet, not smoking, not drinking too much, that kind of thing, keeping my weight down, exercising, and what to look out for. Another thing would be overcoming my fear of seeing a doctor if I did feel a lump anywhere.”

Participant 1 indicated that fear of finding a lump in the breast was one of the barriers to BSE, as she didn’t feel confident in her ability to regularly perform BSE

“I am afraid of performing breast self-examination because I am afraid I could find something in my breast.”

4.9.4 Attitude of Female Soldiers towards Breast self-examination

When the moderator asked the participants to comment on the question, “what is the attitude of female military personnel at the 37 Military Hospital towards breast self–examination?”
participants consistently indicated that the female soldiers exhibit a positive attitude towards breast self-examination. Participant 3 indicated that:

“They have a positive attitude, as you see knowledge is power, so if they have the information the attitude towards it is positive. For those that have the knowledge when they come around they have positive attitude towards breast self-examination. They want to learn so that they can do the examination themselves.”

Participant 9 indicated that

“Since breast cancer is as a health threat and one of the major causes of death in women, it has caused great concerns and it is needed to raise people’s attitude. In general, they have a positive attitude to make the performance possible.”
CHAPTER FIVE

DISCUSSION

5.1 Introduction

The study sought to evaluate the knowledge, attitude and practices of breast self-examination among female soldiers at the 37 military hospital. The research questions that guided the study were:

- What is the level of knowledge of breast self-examination among the respondents?
- How often do female soldiers perform breast self-examination?
- What is the attitude of female soldiers towards breast self-examination?

This chapter thus discusses the findings of this study in relation to the research questions stated above.

5.2 Level of Knowledge about Breast Self-examination

The educational level of respondents was found to be significant (p – value <0.05) in determining the knowledge about breast self-examination (Table 1). Respondents with tertiary level of education were more 1.36 times more likely to be knowledgeable about breast self-examination compared to those with senior high school qualification. The frequency of performing breast self-examination was also found to be significant (p – value <0.05) in determining knowledge about BSE. Moreover, the practice of breast self-examination was found to significantly enhance respondents’ knowledge about breast self-examination. Healthcare practitioners have a role to play in providing professional knowledge, skills and support for patients about screening and prevention, hence, the need for increased knowledge to adopt good screening methods. The value of BSE in the early diagnosis of breast cancer has been emphasized by several authors (Ceber et al., 2010; Dunn
This study revealed that most of the respondents had current and adequate knowledge on breast self-examination. The best time to perform BSE is after menstruation and majority of respondents chose this option. The changes to look for when performing BSE include changes in the size of the breast, skin colour changes as well mass in the breast. The knowledge level of respondents in this regard indicated that they had a satisfactory idea about what symptoms to look out for whenever they perform BSE. This wasn’t a surprise considering the respondents background. This was evident in the significance that was identified between educational level of respondents and knowledge about breast self-examination. Other studies have established that there is high level of knowledge of breast self-examination among nurses (Akhu-Zaheya et al., 2009; Ibrahim & Odusanya, 2009). The results shows that indeed knowledge and practice are directly related. However, emphasis should be laid on BSE in undergraduate and postgraduate courses, especially for nurses, as they are mostly involved in patient care and education (Muttappallymyalil et al., 2010).

### 5.3 Frequency of Breast Self-examination

Previous studies have demonstrated that when performed regularly BSE can lead to the early detection of breast cancer (Chioma & Asuzu, 2007). The American Cancer Society, suggest that all asymptomatic women within the age bracket (20 to 39) years old and above 40 years should perform a BSE every month (American Cancer Society, 2012). The study found that majority of the respondents indicated that they perform BSE once every month as recommended. Other respondents either perform BSE on a daily basis, weekly basis or on a quarterly basis. The results are in line with Ajzen’s theory as the respondents know that performing BSE regularly will yield a good result of detecting breast cancer on the initial stage. The regular performance of BSE was based on the in-depth knowledge of the
respondents. Thus, respondents knowing the right and appropriate methods in performing BSE.

This behavior was based on the reason that a person’s behavioral beliefs combined with other adjusting factors shows if that person is willing to exhibit a specific health-related practice. As respondents are health practitioners and providing services regarding BSE, there the need for the respondents to engage in BSE regularly knowing the benefits attached.

5.4 Attitude of female soldiers towards Breast Self-examination

Generally, female soldiers had a positive attitude towards breast self-examination. Their willingness to perform BSE as a screening mechanism to detect unusual changes in their breast was iterated by participants of the study. However, certain barriers to breast self-examination were identified among participants. Lack of adequate knowledge was identified as one of the barriers to breast self-examination among female soldiers at the 37 Military Hospital. Participants repeatedly mentioned that they didn’t know the essence of BSE. This finding confirms a similar finding that noted that knowledge, psychological, cultural, perception and environmental factors were barriers to BSE (Al-Dubai et al., 2012). Moreover, although there appears to be some willingness to undertake BSE, most of the female soldiers forget to perform BSE regularly as recommended due to the demanding nature of their work schedule. Juni et al. (2015), indicated in their study that some of the most common reasons for not practicing breast self-examination were that, participants were either too busy, forgot or simply considered it unnecessary.

Fear of detecting a lump in the breast was also identified in this study as contributing to the infrequent practice of BSE among some respondents. A similar study found that the fear of developing breast cancer led to women mostly misinterpreting their breast cancer risk and as
a result, overrating their lifetime and cancer-related death risks to a significant degree. They also found that, most women did not practice breast self-examination due to the fear of noticing a nodule (Vlasselaer et al., 2009). Other studies also indicated that, unavailability of time, low economic status, low levels of self-confidence, the fear of possibly detecting a lump, awkwardness about self-examining the breast and poor access to healthcare facilities among others were some barriers to performing BSE (Al-Naggar et al., 2011; Juni et al., 2015; Alemayehu et al., 2017). A study found that a higher proportion of respondents were aware of breast cancer but did not practice BSE.
CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction
In this study, aiming to assess the knowledge, attitudes, and practices regarding BSE among female soldiers at the 37 military hospital, only the educational level of respondents was significant in determining the knowledge level of respondents regarding breast self-examination. It is encouraging to note that a significant majority of the female soldiers perform BSE at the recommended time after their menstrual cycle, as this practice could lead to detection of unusual lumps in the breast. On the other hand, knowledge and awareness about the time to start BSE and the frequency of performing BSE indicated diverse results among the health personnel. The study identified inadequate knowledge about breast self-examination, fear of breast cancer and negligence to be barriers limiting the practice of BSE among female soldiers at the 37 Military Hospital.

6.2 Conclusion
Based on findings from this study, it was concluded that the practice of BSE could be improved through personal, face to face communication such as counselling which allows for information to be presented on a one-on-one basis rather than using mass media channels such as television.

The outcome from the study indicates that BSE education programs should be intensified as some respondents were not practicing it. Considering the fact that most breast cancers are identified by women themselves, the practice of BSE becomes necessary at regular intervals as it helps notice the disease in the early stages. It should be noted that some health workers have some uncertainties about BSE which should serve as a turning point to begin BSE
education at an early age in order to know the suitable practices to be employed to help curb it.

These findings were possible because the study adopted both what the women said (qualitative data) and their responses to the systematic data collection technique (quantitative data). Combining these two analytical methods in this way is a significant difference from earlier studies identified in the literature, which tended to focus on either qualitative or quantitative data. What the findings from this study may mean for the practice of BSE among women in general requires further research. There are some limitations to this study. The generalizability of findings in this research must be interpreted as suggestive rather than conclusive because of the small sample size and specific setting used for soliciting the focus group participants.

6.3 Recommendations

The study proposes the following mechanisms to help improve the knowledge, attitude and practices of breast self-examination among female soldiers in particular as well as women in general:

1. BSE performance should be intensified within female soldiers as well as be taught the appropriate techniques as is vital in noticing of breast cancer in the initial stages.

2. The management responsible for peacekeeping mission should make breast cancer screening a qualification requirement for female soldiers.

3. The administration of military hospitals should implement effective measures such as monthly report on BSE to be submitted by nurses within the hospital. Also, clubs could be formed to promote BSE among nurses.
4. The health ministry together with health practitioners should embark on breast cancer awareness through social media, printing of T-shirts, conducting seminars within schools, churches and communities.
REFERENCES


Collaborative Group on Hormonal Factors in Breast Cancer (2001). Familial breast cancer: collaborative reanalysis of individual data from 52 epidemiological studies including 58,209


APPENDIX

APPENDIX A: QUESTIONNAIRE

KNOWLEDGE, ATTITUDES AND PRACTICES OF BREAST SELF-EXAMINATION

questionnaire

1.1 Interviewer ID........................................................................................................................................

1.2 Date questionnaire is completed  .......... / .......... / ........... (dd/mm/yy)

SECTION 2

2.1 How old are you in years?

☐ 25-35
☐ 35-45
☐ 46+

2.2 What is your highest level of education

☐ Secondary school
☐ Completed secondary school Diploma/Degree
☐ Other (Specify)................................................................................................................

2.3 RANK

☐ Junior Rank
☐ SNCO
☐ Junior Officer
☐ Senior Officer

2.4 DEPARTMENT (Specify)..........................................................

2.5 Marital Status

☐ Married
☐ Single
☐ Separated/Divorced
2.6 Religion

☐ Christianity
☐ Islam
☐ Traditional
☐ Others; Specify …………………………………………………

2.7 Number of Children

☐ 1
☐ 2
☐ 3
☐ ≥ 4
☐ None

SECTION 3
Knowledge and practices of Breast Self-Examination

1. Have you heard of Breast self-examination? ☐ Yes ☐ No

2. If yes, what is breast self-examination?
   ☐ Breast examination done by yourself
   ☐ Breast examination done by a healthcare provider

3. What is the best time to perform breast self-examination? ☐ Before menstruation
   ☐ after menstruation ☐ during mensuration

4. What changes do we look for when we perform breast self-examination?
   ☐ Size
   ☐ Skin changes

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5. What changes signify an abnormal change in the breast?
- Changes in skin texture
- Mass in the breast
- Ulcer in the breast
- Discharge from the breast
- Inversion or retraction of nipple
- Peau d’ orange

6. What are some of the diagnostic tests used in identifying lumps in the breast? Please list:

7. Who should perform breast self-examination?
- Old women
- Adolescents
- Pregnant women
- Women in their reproductive years

8. Are you afraid to perform breast self-examination? □ yes □ no

9. What will be your reaction to someone who finds a lump in her breast?
- Advice them to see a doctor
- Advice them to see a herbalist
- Advice them to see a pastor
- Advice them to do nothing

10. Is breast self-examination useful? □ Yes □ No

Please explain your answer.
11. Would you advise someone to perform breast self-examination? □ Yes □ No

12. Would you do a surgery if a lump is found in your breast? □ Yes □ No

13. What action would you take if you discovered a lump in your breast? (Please tick)
   - Consult a doctor □
   - Consult a traditional healer □
   - Use a home remedy □
   - Pray about the condition □
   - Nothing □

14. Do you know of any women who have or have had breast cancer? □ Yes □ No

15. What is the best time of the month for breast self-examination?

16. Do you know that you can do breast examination yourself to detect problems early?
   □ Yes □ No
   
   If yes, do you practice Breast Self-Examination? □ Yes □ No
   
   If yes, how often? □ Daily □ Once a week □ Once a month □ Every 3 months

17. Do you know that doctors can test for breast cancer? □ Yes □ No

18. What are the outcomes of breast cancer?
   □ Death □ Lose the breast □ Can be successfully treated
QUESTIONNAIRE FOR FOCUS GROUP DISCUSSION

1. What is breast self-examination?

2. How is breast self-examination done?

3. Can you describe the procedure for breast self-examination?

4. What are the possible consequences of not practicing breast self-examination?

5. Do you like to perform breast self-examination?

6. Will you perform breast self-examination or not?

7. Will you advise someone to practice breast self-examination?

8. How often do you practice breast self-examination?

9. Who should perform breast self-examination?

10. When should breast self-examination be performed?
KEY INFORMANT INTERVIEW.

1. Is there a specialized clinic for breast care in 37 Military Hospital?
2. What is the prevalence of breast cancer among female soldiers?
3. What are the barriers to breast self-examination among female soldiers?
4. What is the knowledge level of breast self-examination among the female military personnel at the 37 Military Hospital?
5. How often do female military personnel at the 37 military hospital practice breast self-examination?
6. What is the attitude of female military personnel at the 37 military hospital towards breast self-examination?