

THE RELATIONSHIP BETWEEN KNOWLEDGE OF BREAST SELF-EXAMINATION  
AND PRACTICES REGARDING BREAST SELF-EXAMINATION AMONG WOMEN  
AGED 25 – 49 YEARS AT MBARE FAMILY SERVICES CLINIC IN HARARE,  
ZIMBABWE

BY

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## ABSTRACT

Worldwide, breast cancer is the most frequently diagnosed cancer in women and it is the leading cause of cancer deaths among women (Jemal, Ward, Center, Siegel and Thun). In Zimbabwe, the proportion of women dying from breast cancer is 1 in 28. The breast cancer rates are higher than those for any other cancers besides lung cancer (Chokunonga, Borok, Chirenje, Nyakabau and Rukainga, 2009). The purpose of the study was to examine the relationship between knowledge of breast self-examination and practices regarding breast self-examination among women aged 25 to 49 years at Mbare Family Services Clinic in Harare, Zimbabwe. The Health Promotion Model was used to guide the study. A non-experimental descriptive correlational study design was used. A simple random sample of 85 women who visited Mbare Family Services Clinic in Harare, Zimbabwe was used. A structured interview questionnaire comprised of demographic data, knowledge of breast self-examination and practices of breast self-examination. A pilot study was conducted. Data was analysed using the statistical package for social sciences (SPSS/CP). Data was analysed using descriptive statistics, inferential statistics and the Pearson's Correlation Coefficient. The study findings showed a strongly positive linear relationship between knowledge of breast self-examination and practice of breast self-examination. The  $r = 0.668$  indicating that as knowledge improves the practice of breast self-examination improves. The regression analysis was done  $R^2 = .446$  which implies that the effect of knowledge accounts for 44.6% of the variation on the practice of breast self-examination.

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## CHAPTER I

### BACKGROUND AND ORGANISING FRAMEWORK

#### Introduction

The study sought to determine the relationship between knowledge and practices regarding breast self examination among women aged 25 – 49years at Mbare Family Services Clinic in Harare, Zimbabwe. The Chapter covers the background information on breast cancer and breast self examination, problem statement, purpose of the study, theoretical framework, conceptual definition of terms, objectives, questions and significance of the study to nursing.

#### Background Information

Worldwide, breast cancer is the most frequently diagnosed cancer in women and it is the leading cause of cancer deaths among women worldwide (Garcia et al, 2007). Worldwide breast cancer caused 519,000 deaths in 2005 (Laurence, 2006.) The incidence of breast cancer has increased since 1970, a phenomenon partly blamed on modern life styles in western countries. The incidence of breast cancer varies greatly around the world. There are over 212,000 cases of breast cancer diagnosed in the United States of America each year. In Canada, the figure is 20,500, Australia 13,000 and in the United Kingdom the figure is 41,000 (Charity, 2008). The highest incidences of breast cancer are in North America, Northern and Western Europe. Intermediate levels are reported in Eastern Europe, (Devilee and Tavassoli, 2003). In Mexico, breast cancer is the second cause of death for women aged between 30 to 54years and affects all socio economic groups (Knaul et al, 2008).

Breast Cancer incidents have been rising in many developing countries including Asia and African countries. The reasons for these trends are not completely understood but likely reflect changes in reproductive patterns, nutrition and physical inactivity, (Garcia, Jemal, Ward, Center, Hao Siegal and Thun, 2007). In Sudan, breast cancer accounts for 75% of cancers reported in women and the survival rates are poor because of late cancer diagnosis.

(McIntyre 2005). In Nigeria, at Lagos University Teaching Hospital, a study of breast cancer in the Western and Northern parts of Nigeria showed that 34% of all breast biopsies done on women over a 10 year period were malignant. A report from Zaria, Nigeria described the mean age at presentation of breast cancer to be below 25 years and up to 42 years. A ten year review of breast cancer in Eastern Nigeria revealed that 30% of all the respondents had breast cancer (Salaudeen, Akande & Musa, 2009). According to (Yauni and Aziz, 2000) in a study of breast cancer in Egypt, breast cancer is the most commonly diagnosed cancer among women constituting 25.5% and the magnitude could be higher because of incomplete reporting and low screening rates at the hospital. In 2002, the incidence of Breast Cancer in Algeria was 18.8%. The incidence occurred among women from 25years to 70years and above (Curado et al, 2007). In Zimbabwe, more than 1 in 4 cancers diagnosed among women are breast cancer (Mandere, 2009). In Zimbabwe the proportion of women dying from breast cancer is 1 in 28. The breast cancer death rates are higher than those for any other cancers besides lung cancer (Curado et al, 2007). Also in Zimbabwe, the incidence of breast cancer starts from approximately the age of 18 (a few cases have been diagnosed below 18 years) and after that, there is a steep increase until the age of about 49years. It further increases after the age of 60 years (Chokunonga, Borok, Chirenje, Nyakabau & Rukainga, 2009). This is consistent with the results of Mekenna et al in 2004 who reported that incidence rates of breast cancer begin to

rise at 30years and are highest among women 60years and above and those should be targeted as the group that needs assistance with compliance and regular breast self examination (Mekenna et al, 2004). Moreover, Pearson et al recommended that in order to make breast self- examination a habit, education about breast self examination ought to be started for girls at high school age.

Usually breast cancer either begins in the cells of the lobules (which are milk-producing glands) or the ducts, (the passages that drain milk from the lobules to the nipple) (Weiss, 2008). The types of cancers are “Ductal Carcinoma in Situ” which is a precancerous marker lesion that is still an early cancer. The Cancer is confined to the ducts and if detected at this stage, it is easy to cure. “Invasive Ductal Carcinoma in Situ” is a cancer that starts in the ductal epithelium and spreads beyond the ducts. “Invasive Lobular Carcinoma in Situ” is a cancer that starts in the lobules and spreads. This type of cancer may be difficult to diagnose (Laurence, 2006).

The most common screening methods are self and clinical breast examination, x-rays, mammography, breast magnetic resonance imaging, genetic testing, ultra sound scan and breast biopsy (Devilee and Tavassoli, 2003). Breast self examination involves examining ones’ own breasts using specific palpation technique to detect any lumps in the breast tissue which may be cancerous. By a proper breast self examination, cancers can be detected at an early stage and can be cured by modern treatment (Sanjeeva, 2008). In Zimbabwe most breast lumps are detected by the women themselves and they let their health providers know (Shodu et al 2001).

Research has shown that there are several predisposing factors to developing breast cancer. There are two major breast cancer susceptibility genes, breast cancer susceptibility gene 1 (BRCA1) and breast cancer susceptibility gene 2 (BRCA2). Women who have an abnormal BRCA 1 and BRCA 2 gene have up to an 85% risk of developing breast cancer by the age of 70 years. BRCA 1 and BRCA 2 genes are the most common inherited cancer gene abnormalities in breast cancer (Reaney, 2006). Having a close relative (mother or sister) with breast cancer doubles the risk of getting breast cancer compared to women who have no family history of breast cancer. Gender and age are the main risk factors. Women over 50 years of age are 100 times more likely than men to get breast cancer. Women who start their menstrual cycle before the age of 12 or experience late menopause (after age 55) have an increased risk of breast cancer. Hormone replacement therapy (H R T), if used over a long period of time is likely to increase the risk of breast cancer. Women who never had children or who had them after the age of 30 years are at risk for breast cancer. Other risk factors, include diets high in fats and drinking more than two glasses of alcohol a day (Bankhead, 2009).

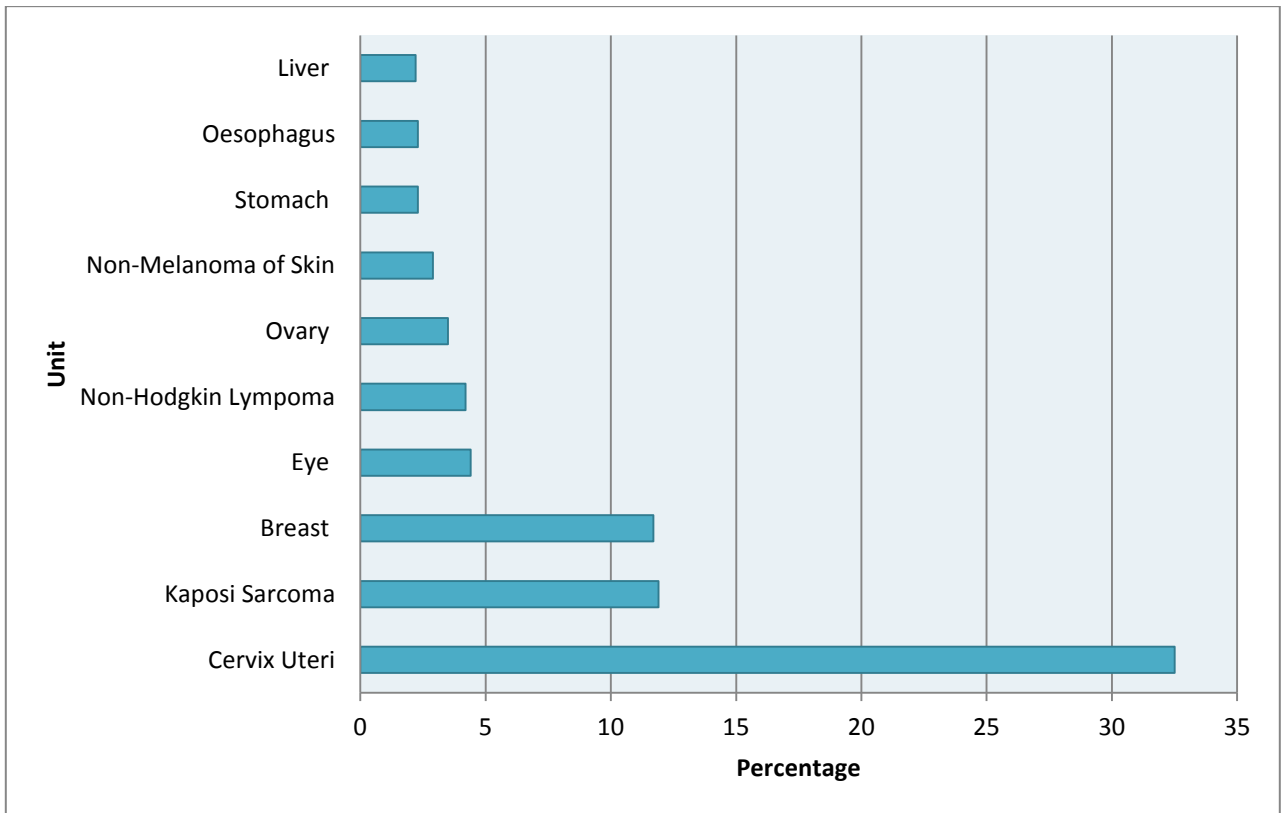
#### Problem Statement

In 2005, Harare City, Zimbabwe, the most common cancers among black women were reported as cervical cancer 29.5% followed by breast cancer 11.5%. In 2006 breast cancer in Harare, was reported to be 11.9% among black Zimbabweans and 23% among the non black Zimbabweans indicating an increase in breast cancer (Chokunonga, Chirenje, Nyakabau and Rukainga, 2009).

Statistics in Zimbabwe indicate that breast cancer is the leading cause of cancer mortality among women (Shodu et al 2001). More than 184,000 Zimbabwean women are diagnosed yearly with breast cancer. Only 50% are diagnosed at the early stage of the disease and about 30% of all women are projected to subsequently die of the disease (Mandere, 2009). Also according to Mandere, the women usually present at late stages of breast cancer and yet health providers and health educators have been recommending breast cancer screening to their patients in order to detect early breast cancer while it is treatable. The causes of breast cancer are unknown but there are high risk factors that may predispose women to developing breast cancer. Breast cancer affects all classes of women. Teaching women how to examine their breasts every month at the same time of the month after menses and encouraging them to do so contributes to maintaining good health.

The figure 1 below illustrates the most common cancers in Zimbabwe among black females in 2006:-

Fig 1: Most Common Cancers: Zimbabwe Black Women: 2006



2006 Cancers Among Zimbabwean Black Females (Chokunonga, Chirenje, Nyakabau and Rukainga, 2009).

The results are presented in tabular form as percentage frequencies using the ICD format which is the international classification of diseases to facilitate international comparison (Chokunonga, Borok, Chirenje and Nyakabau, 2010).

In order to illustrate the seriousness of breast cancer in Zimbabwe, the Radiotherapy Centre at Parirenyatwa Hospital, Harare, Zimbabwe conducted a Retrospective Study in the year 2000 on 156 patients who were diagnosed with breast cancer. The results showed that 92.2% of the patients had ductal breast carcinoma, 52% had grade 3 stage breast cancer, 62% of the patients had T3 and T4 (Primary Tumour) disease, 52% had N2 and N3 (regional lymph nodes disease) and 24.4% of the patients had distant metastases at presentation. The clients received either chemotherapy, radiotherapy or a combination of both (Ndlovu and Vuma, 2009).

An analysis of all cancers was done among Zimbabweans who were diagnosed with different cancer diagnoses in 2005, it consisted of 4,015 new cancer patients comprising of 1,762 (43.9%) males and 2,253 (56.1%) females (Chokunonga, Borok, Chirenje, Nyakabau and Rukainga, 2009). This is an indication that women more than men are affected by cancer and most of the women die from cancer.

Breast Cancer screening is an attempt to find unsuspected cancers. The purpose of screening is to detect breast cancer early before any symptoms can develop and that is when cancer is usually easier to treat. Not all cancers can be found by screening. By examining their breasts every month at the end of the month after menses, women will know how their breasts normally look and feel.

There are also other views that there is no evidence that breast self examination has an effect on reducing breast cancer (D Saslow, 2003), (Cready, Littlewood and Jenkinson, 2005). Breast mammography has also been known to miss breast cancers. In a country with poor health services and low access to available services due to factors such as women's poverty

and illiteracy, women are still better-off practicing breast self examination despite its lack of total efficacy. However, breast self examination requires adequate, knowledge, skill and efficiency for early cancer detection of breast abnormalities (Kosters & Gotzsche, 2008).

Most of the women in Zimbabwe live in rural areas where access to mammography is limited due to shortages of equipment. The women have limited funds and transport. Even in the cities, not all women can afford to pay the user fees. Drugs are often unavailable and must be paid for in cash (Demographic and Health Survey, 2005 – 2006). The few women who are able to afford are in the higher socio-economic group. These can afford treatment at private institutions because they subscribe to Medical Insurance. The rest of the population rely on the underfunded public services provided by the Ministry of Health and Child Welfare and still not all the women have access to these facilities. Cancer treatment is also expensive and sometimes unavailable in Zimbabwe. The Health delivery system has extreme difficulties because of the economic recession and cannot afford certain services. For women with inadequate access to health care, breast self examination may be the only screening technique. Breast self examination has been proven to reduce breast cancer for the majority of the women in Zimbabwe and therefore remains a necessary option for the majority of women, (Mandere, 2009).

Large numbers of women are admitted with breast cancer at the major hospitals in Zimbabwe. Most of them present at late stages of cancer. Nurses and all classes of women are affected from around the age of 18 and above. The Ministry of Health and Child Welfare encourages breast self examination as an integral part of safe-motherhood, maternal health and family planning programmes to all women. Guidelines have been documented and revised for use by nurses and other health personnel. The American Cancer Society encourages women

to start breast self examination at the age of 20. In Zimbabwe several studies have been conducted on knowledge and use of contraceptive methods, family planning methods, knowledge of modern family planning methods and knowledge of reproductive physiology and the results showed that the level of knowledge varied according to background characteristics of the respondents such as rural versus urban, province, wealth and education (Calverton and Maryland, 2006). Lack of knowledge and poor practices have been cited in a number of studies in several countries as a major causal factor in the high incidences of breast cancer and the women presenting at late stages of breast cancer. Countries such as Turkey (Gursay, 2009), Brazil (Marinho, 2006), Iran (Haji-Mahmoodi, et al 2002), Nigeria (Olumole, 2008) and Egypt (Yauni & Azizi, 2000) have cited lack of knowledge and poor practice as the cause of high incidents of breast cancer in their countries.

The practice of breast self-examination is very important. It is also critical that women perform the practice correctly as stipulated in Medical and Nursing Literature for it to be effective (Reproductive Health Service Delivery Guidelines Ministry of Health and Child Welfare, 2001). However, the prevalence of breast cancer in Zimbabwe makes one wonder whether the women adhere to the correct practice of breast self-examination. It is against this background that the researcher was prompted to conduct a study to determine the relationship between knowledge and practices regarding breast self examination among women aged 25 – 49 years at Mbare Family Services Clinic in Harare, Zimbabwe.

## Purpose of the Study

The purpose of this study was to examine the relationship between knowledge and practices regarding breast self examination among women aged 25 - 49 years at Mbare Family Services Clinic in Harare, Zimbabwe.

## Study Objectives

The study sought to:-

1. Determine the knowledge of breast self-examination among women aged 25 – 49 years.
2. Determine the breast self-examination practices among women aged 25 – 49years.
3. Examine the relationship between knowledge and practices regarding breast self examination among women aged 25 – 49 years.

## Research Questions

1. What is the knowledge of breast self examination among women aged 25 – 49years?
2. What are the breast self-examination practices among women aged 25 – 49years?
3. What is the relationship between knowledge and practice regarding breast self examination among women aged 25 – 49 years?

## Theoretical Framework

The Health Promotion Model (H P M) by Nola J. Pender, 1997 provided a guide to the study. The Health Promotion Model has been used in nursing literature since the early 1980s as a guide for exploration of complex bio-psychosocial processes that motivate individuals to engage in behaviours directed towards enhancement of health. In 1987, the Health Promotion Model was revised and stimulated a number of studies to determine the power of its component constructs to explain and predict behaviours. The Health Promotion Model is categorized into cognitive perceptual factors, modifying factors and variables which affect likelihood of action leading to engaging in health promoting behaviour.

### Cognitive Factors

According to the Health Promotion Model, cognitive factors are proposed to have a direct influence on the likelihood of engaging in health promoting behaviour. The cognitive factors are importance of health, perceived control of health, perceived self efficacy, definition of health, perceived health status, perceived benefits of health and perceived barriers to health promoting behaviours. Individuals who value health result in health promoting behaviour. Women who value their health would adhere to breast self examination and seek for best practice techniques in order to detect breast lumps and other breast abnormalities for early treatment. Perceived health efficacy refers to the individual's convictions that they can successfully execute the required behaviour that is necessary to produce a desired outcome. The clients would practice breast self examination as prescribed. Definition of health influences the extent to which the individual may engage in health promoting behaviour by adherence to regular breast self examination in-order to prevent breast cancer. Perceived

health status refers to the perception of long-term benefits rather than short term benefits from health promoting behaviour. Clients may involve themselves in regular participation in issues involving women's health including breast cancer awareness. Perceived barriers to health promoting behaviour such as inaccessibility or distance from a health facility tend to decrease participation in health activities. In Zimbabwe, access to health services and facilities is that 85% of Zimbabweans live within 8km of a health facility while half of the population in rural areas lives within 4km of a health facility. There has been a progressive decline in resource for maintaining the existing services (National Health Strategy, 1997 – 2007). In Zimbabwe, some women in the rural areas travel long distances to the nearest health facility and sometimes they cannot afford to pay for transport. Cultural factors where breast self examination is taboo can be a barrier to breast self examination. Lack of knowledge is also a barrier.

### Modifying Factors

Modifying factors affect the patterns of health promoting behaviours. Individual factors such as age, race, gender and biological characteristics such as body weight form a basis for making decisions concerning healthy life-styles. Interpersonal influences are derived from significant others, spouses, health personnel and family, patterns of health where this influence in turn affects health behaviour and support. Attitudes and expectations, supporting relatives and interaction with health personnel on the occurrence of health promotion behaviour influence health promotion.

## Cues to action

Cues to action is the likelihood of taking health promoting actions by activating cues from self and the environment. Personal, psychological factors such as self esteem, self assertiveness and self confidence have a positive impact on how an individual engages in health promoting behaviour.

Theoretical Framework

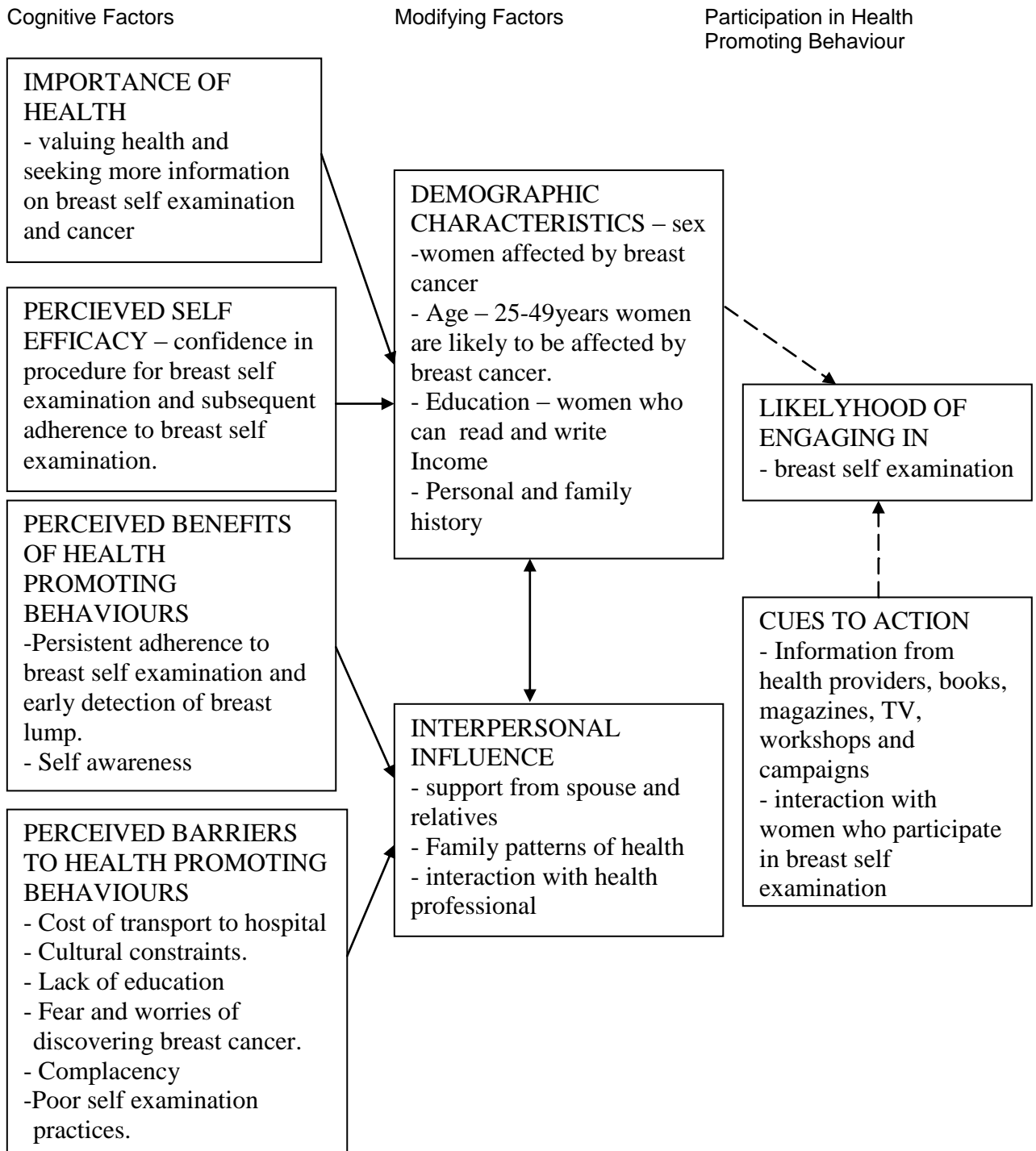


Fig 2: Health Promotion Model Adapted and Adopted according to the Study Variables (Pender,1996).

## Conceptual Definition of Terms

### Breast Cancer

Breast cancer is unnatural or uncontrolled growth of part or the whole breast which does not respond to the limiting growth factors of breasts and have the ability to spread throughout the body (Mandere 2009). Breast cancer is overwhelmingly a female disease (1% occur in men). Breast cancer is most common as the age increases and 80% of cases occur in women over 50 years (Garcia et al, 2007).

### Breast Self Examination

A technique for checking one's own breasts for lumps or suspicious changes (Farrel, Smeltzer & Bare 2007).

### Staging of Breast Cancer

The staging of breast cancer is based on the size of primary lesion, extent of the cancer, spread to regional lymph nodes and presence or absence of metastases. Staging provides prognosis information. Tumor, Nodes, Metastases (TNM) breast cancer according to characteristics. (T) for Primary tumour, (N) for regional lymph nodes. (M) for Distant metastases. (Luckmann & Sorensens, 1993).

### Stages of Breast Cancer

Stage 0, the cancer cells remain in the breast duct.

Stage I, is where the tumour measures less than 2cm. The cancer is confined to the breast. There are negative lymph nodes and there is no metastases.

Stage II cancer describes a small tumour up to 5cm with positive lymph nodes or a larger tumour with negative lymph nodes.

Stage III, either the tumour is larger than 5cm or extends to the chest wall and or skin of the breast. There is involvement of infraclavicular or supraclavicular lymph nodes.

Stage IV is when the cancer has metastasised to other parts of the body such as the brain, bone or liver (Weiss, 2008).

### Significance of Study to Nursing

The findings may be used in the nursing discipline, practice, research and education to improve quality of care. The strategies may relate to promoting an integrated and systematic approach to health education, as well as the provision of relevant messages on breast self-examination. Appropriate health education may increase breast awareness by making women familiar with the anatomy and physiology of their breasts. The findings may also increase understanding among practitioners regarding the correlation between breast self examination, its practice and subsequent reduction in breast cancer incidence. The health education may empower women in decision making about their health and how breast cancer can be prevented by breast self-examination. An empowered woman is likely to have a positive influence in health promoting behaviour.

The study recommendations may also create opportunities for further research to generate evidence on broader perceptions regarding breast cancer among Zimbabwean women. This is an area which could provide insight on patterns of breast self examination and its practice. The findings may assist in the development of National Health Plans and Policy that include breast cancer prevention and management as one of the top priorities.

## CHAPTER 2

### LITERATURE REVIEW

A literature review is an organized written presentation of what has been published on a topic by scholars (Burns and Grove, 2004). In this chapter, literature related to knowledge, practices of breast self-examination and the relationship between knowledge and practices regarding breast self-examination was reviewed. Primary and secondary sources of literature were utilized. A review of the Health Promotion Model by Nola J. Pender (1996) was done and other studies which are based on the Health Promotion Model were discussed.

#### Knowledge of breast self-examination

It is pertinent to assess the knowledge of breast cancer and its early detection measures such as breast self-examination especially in an environment where late presentation is predominant. Baseline reports on current levels of knowledge is vital to an effective awareness program hence the need for studies to assess the level of knowledge of breast cancer in the population where breast cancer is prevalent. It has also been documented that rural populations are usually neglected in health education issues in general (Oluwatosin & Oladepo, 2006).

A study was carried out to examine knowledge of breast self-examination among African American women in the United States of America. The majority of the women in the study demonstrated a lack of knowledge on breast cancer. African American women rarely acquire new knowledge in isolation but gain knowledge through dialogue with other members of their community. Story telling is a means of sharing and teaching one another through personal testimony especially about breast health and story telling increases knowledge about

breast cancer and screening guidelines in order to improve the practice of breast self-examination among African American Communities (Nickerson and Potter, 2009). Similarly in another descriptive cross-sectional study regarding knowledge and practices of breast self-examination, clinical examination and mammography, women were admitted in a tertiary care hospital in Pakistan. The results showed that 84% of the patients had heard about breast cancer, 35% knew about one or two major risks of breast cancer and 65% knew at least one major sign or symptom of breast cancer. At least 85% of the women believed that early detection of breast cancer through breast self-examination improved survival (Maqsood, et al 2009). The results of the study illustrates a lack of knowledge of breast cancer and breast self-examination which results in lack of practice among women.

Several authors have examined the knowledge of health workers regarding breast self-examination as they are the leaders in health promotion. In a study amongst Medical practitioners, nurses, pharmacists and laboratory scientists in a Nigerian Community Centre, the research findings revealed that the majority of the respondents were aware of breast self-examination from various sources. They had knowledge about breast self-examination although less than half of the respondents performed breast self-examination on monthly basis as recommended (Molase, 2008). In a similar study in Nigeria in the state of Owo Ondo, the majority of the respondents were aware of breast self-examination although their knowledge of breast cancer was poor. The majority knew about breast self-examination from lectures and some got information from their colleagues.

A study to assess women's level of knowledge of breast cancer, early detection measures and warning signs was done among rural women aged 26 – 78years. A sample of 420 rural women was randomly selected from two districts. A self structured validated

questionnaire was administered by trained interviewers. The mean score for knowledge of early detection of breast cancer was 24.8, standard deviation 2.3, range of scores 12 -36. Only 54 (13.3%) claimed to have heard about breast self-examination. The leading source of information about breast self- examination were health workers. The findings of the study revealed that the respondents lacked knowledge of vital issues about breast cancer and early detection measures (Oluwatosin and Oladepo, 2006).

In a study carried out among nurses in three large cities of Jordan to evaluate knowledge and practice of breast self-examination, the results demonstrated that the nurses had high levels of knowledge of breast self examination and 85% of the nurses reported doing breast self-examination in the past 12 months but only 17.7% were doing so on a monthly basis. Nurses who are more knowledgeable about breast cancer screening and breast self-examination are more proficient in imparting the information to their clients (Alkhasawneh, 2010). A Turkish study on knowledge and practice of breast self-examination among health workers, demonstrated that 35% of the respondents stated that they did not know how to conduct an examination of their breasts, indicating that there is a low level of knowledge among health workers. There is a need for the health workers to improve their knowledge and be sensitive towards breast cancer self-examination (Gulesor, Unalan & Akyldz, 2009). Similarly in Iran, the study findings suggested that the knowledge of the female health workers concerning breast cancer is relatively low (Mahmoodi et al, 2002) and needs to be improved considering the role that health care workers play in communicating health promoting behaviour to the general public.

To evaluate the effects of an in-service training programme about breast cancer and breast self-examination practice for primary care nurses, a study was carried out in Turkey and

it revealed that the education programme improved the knowledge about breast cancer and practice of breast self-examination (Soye & Ceber, 2007). A similar in-service programme for evaluating the effect on knowledge and practice of breast self-examination in Egypt revealed that the level of knowledge on breast cancer before the study was 10.6 % and the knowledge of breast self-examination was 11.5% respectively. After the programme intervention, there was a remarkable improvement in the level of knowledge and practice of breast self examination at 96.7% and 95% respectively (Nadia & Madga, 2000). It is important for primary health care workers to have adequate knowledge since they are involved in the education of clients at primary health care level (Ciceklioghi & Ceber, 2007).

Researchers have also conducted some studies on rural and urban women separately with regards to knowledge and practices regarding breast self-examination. In a cross-sectional study in the rural area of Marisa, Western Turkey among women aged 20 to 64 years, the practice of breast self-examination was significantly associated with older and more educated women and a significantly positive personal family history of breast cancer.

According to the women's responses 23.4% of them had no knowledge, 27.9% had no concept of breast self-examination, 72.1% of the participants reported having knowledge of breast self-examination and 40.9 % of that group indicated having practised breast self-examination in the previous 12 months. The majority, (76.6%) reported having read or heard about breast cancer. The main source of knowledge was Television/Radio programmes and from health officials (Dinda et al, 2006). A similar study in rural Nigeria reported that 90.7% of the respondents did not know anything about the treatment of breast cancer and the early warning signs. Only 6.4% identified breast self-examination as a method of detection of early breast cancer. Their source of information was also Radio, Television and information from

health workers, elders and friends (Oluwatosin & Oladepo, 2006). In contrast, an urban study revealed an overall knowledge of 69% which was the majority of the respondents. Their sources of knowledge were journals, reading books, schools, hospitals, seminars, electronic media and colleagues (Akhigbet & Omuemu, 2009). The importance of knowledge and need to be aware of surveillance on the women's breasts and the various ways to perform the breast self-examination cannot be overemphasized. These findings affirm the educational disparity between rural and city dwellers and that rural women lack appropriate information about breast cancer. Three breast cancer survivors who went on a breast awareness campaign in Namibia reported that breast cancer education was non-existent even among health personnel. Most of the women in the rural areas had never heard about breast self-examination did not know how to perform it. These findings are quite disturbing as breast cancer is on the increase world wide. The basic understanding about any cancer was that once diagnosed, there was no treatment and the person would eventually die (Bause, 2007). In this setting where there is no knowledge at all, breast self examination is not practiced.

#### Practices Regarding Breast Self-Examination

In developed countries, mammography and clinical breast examination are readily available and have been recommended as part of a periodic health examination in the prevention of breast cancer among women. Following recent studies in the United Kingdom, breast self-examination is said to play a minor role in detecting breast cancer. Instead, it is said to be one of the ways for women to know how their breasts normally feel and to notice any changes in their breasts. (Mc Cready, Littlewood & Jenkinson, 2005) Women who want to, are encouraged to keep doing breast self-examination and those who do not may choose not to (Saslow, 2008).

In the United States of America, African Americans have a higher breast mortality rate than their caucasian counterparts. The phenomenon is attributed to disproportionate rates of late stages of breast cancer at first diagnosis because of inadequate screening (Nickerson and Potter, 2009).

A study by Sadler et al in 2007 involving African American women with breast cancer in the United States of America in which the women were being taught breast self examination, was carried out. The study findings were that African Americans do not adhere to regular breast self screening guidelines due to limited finances, problems with transportation and other access related factors, inconvenience, lack of time, lack of social support, low health literacy and psychological factors such as fear and fatalism. When cancer is diagnosed, the Black Americans believe that death is inevitable (Farmer, Reddick, D'Ogostino & Jackson, 2007).

In the United States of America, a study was carried out to compare behaviours, breast cancer knowledge and attitudes of rural health workers (mostly nurses) and non health workers with respect to early detection of breast cancer. The results indicated that 50% of the health workers performed breast self-examination once every month or more frequently and had a positive attitude to future participation in breast self-examination. Literature encourages once a month breast self-examination 5 – 7 days after menses in order to maintain good health (Reproductive Health Services Delivery Guidelines, Ministry of Health and Child Welfare, 2001). This information has been used in the development of the instrument in this study. The non-health workers believed breast cancer to be less common and its causes were less controllable and did not perceive early detection as beneficial (Bastani, et al 1994). The

positive attitude by the health workers shows that the health workers were likely to promote health promoting behaviour and also participate in breast awareness programmes.

Women in the United Kingdom have poor survival prospects for breast cancer. Women in the United Kingdom are encouraged to be breast aware at the age of 18. However evidence suggests that women do not engage in breast- self examination and are frightened and confused about their role in the breast health promotion (McCready et al, 2005). It appears that the women are not aware that breast awareness provides them with empowerment and acknowledgement of the important role that they play in their own health. Hence it might be the case in the proposed study since breast cancer is on the increase in Zimbabwe and the question is whether the women practice breast self- examination. Evidence based practices could benefit the women in their endeavor to engage in the practice of breast self-examination. In a study in Pakistan among women in a Tertiary Care Hospital, a total of 200 women were selected. Of the 101 participants who were less than 40years of age, 36.9% practiced breast self-examination. The rest of the women had never heard of screening tests or did not feel any need to perform breast self-examination (Maqsood, et al, 2009). The study reveals poor practice regarding breast self-examination among women.

In Iran, breast cancer occurs at a younger age than in Western Communities. A study to determine the practice of breast self-examination among women aged 25 – 45years in Shiraz, Southern Iran was carried out. A total of 300 women who were attending a health care centre were interviewed. A stratified convenience sampling method was used. Nine (5.6%) of the participants practiced breast self-examination using the correct method and at the appropriate time. Six (3.8%) of the nine women were found positive of breast cancer. The non performers did not know how to perform breast self-examination for fear of being positive of

cancer or just did not care about it. The likely hood of performing breast self-examination was not associated with educational level or how the participants learned about breast self-examination. Lack of knowledge on how to perform breast self-examination was the main reason why most of the non performers did not examine their breast (Simi, Yadollahie, Habibzadeh, 2009).

Several authors have examined the practices of breast self-examination among various categories of health professionals as they are the leading source of information about breast self-examination. A Nigerian study of breast self-examination by female health workers revealed that 80% of the health care workers practiced breast self-examination while the rest (20%) did not and 50% did practice breast self-examination as recommended monthly. Some practiced breast self-examination quarterly, 11.25% and the other 22.5% practiced it every six months and the remaining 10% only practiced it occasionally. Those who practiced breast self-examination annually were 6.25%. The barriers to practice were identified as lack of information (40%) and forgetfulness (26%). The majority of respondents (92%) considered breast self-examination to be effective. The findings were assuring considering that the respondents were health professionals who should promote breast self-examination practices amongst their patients. The level of awareness is consistent with another Nigerian study of health workers in the state of Owo Ondo in Nigeria. The study found that 80% of the study population practiced breast self-examination on a regular basis and 50% practiced it monthly as stipulated. Less than 50% did not practice breast self-examination monthly(Oluwole, 2008). In a similar study of Jordanian nurses, 85% of the respondents reported doing breast self-examination in the past 12 months but only 17.7 were doing so on a monthly basis (Alkhasawn, 2010). The findings in this study are however higher than those of Turkish and

Iranian health workers in which 52.4% and 63% respectively reported that they performed breast self-examination and only 17% and 6% respectively reported doing so on a monthly basis and 38% stated that they did not know how to conduct breast self-examination (Gulesor, Unalan & Akyldz, 2009 and Mahmoodi et al, 2002). The study proved that knowledge of breast self-examination is not the only variable which influences the practice of breast self-examination since the majority of the health workers knew how to perform the breast self-examination but did not perform it monthly.

Research studies have been conducted separately in rural and urban areas in various countries with regard to knowledge and practices regarding breast self-examination. In a study in Turkey, the practice of breast self-examination was irregular. Only 10% practiced on a monthly basis. A total of 59.1% of the participants indicated that they had never performed breast self-examination (Dundar et al, 2006). Similarly in a study in rural Nigeria, 89% had never practiced breast self-examination and some claimed to have been examined by health workers, their mothers, their mothers in law, their husbands and one by a friend. The respondents did not examine their breasts regularly (Oluwatosin & Oladepo, 2006). In contrast to an urban study in Nigeria which revealed that 77.6% of the respondents performed breast self-examination (Akhigbe & Omuemu, 2009). The city environment provides a reasonable location to educate women on the importance of breast self-examination and how to examine themselves.

In Zimbabwe, very few studies have been conducted on knowledge of breast cancer and breast self-examination. One of the few studies was conducted by Gale Sewell in 1997. The study explored the relationships between knowledge, attitudes and breast self-examination practices of women between 20 and 40 years of age who were attending Family Planning

Services in Bulawayo, Zimbabwe. The findings of the study showed that the majority of women had not been taught the specific technique of breast self-examination and therefore there is need for further studies to be conducted in other parts of the country. Mandere, (2009) in his study, revealed that the majority of women in Zimbabwe do not practice breast self-examination. Therefore the proposed study will seek to explore some of these gaps.

#### Relationship between knowledge and practices of breast self-examination

Breast health awareness provides women with some acknowledgement of the part they can play in being empowered to fight breast disease (Karayurt, Ozmen & Cetinkaya, 2008). In a cross sectional study to determine levels of knowledge and attitudes of breast self examination and mammography in a group of women in a rural area in Turkey. It was found that being knowledgeable of breast cancer is the only significant variable in breast self examination as well as in the practice of mammography. Similarly the Hyums study in 2003 also revealed that women who are taught to perform breast self-examination have a better level of knowledge about breast cancer. In a study by Sadler et al, (2007) involving African American women with breast cancer, knowledge of breast cancer was associated with improved practice of breast cancer screening. In another study on 122 working group of women in various Medical and Nursing Faculties of Ain Shams University in Egypt to evaluate the effect of a breast self-examination training programme, on knowledge, attitudes and practice regarding breast self-examination, the results illustrated that there was a relationship between practice of breast self-examination with age and educational level. The women, 40 years of age and above increased their frequency of breast self-examination, practice and were confident after the programme. A higher percentage of university graduates (90.1%) achieved a satisfactory level of breast self-examination practice than those who

graduated from secondary school (74.5%). The differences were statistically significant ( $p < 0.01$ ). It becomes apparent from the literature that the women seem to be aware of breast self-examination but are not well informed about the specific procedures and techniques of how to do it. It appears that there is a lack of confidence in their ability in self detection. They seem to lack orientation towards preventative health behaviour and memory. Hence the different patterns in the frequency the women perform breast self-examination. There are no reports that relate to the women's confidence in self detection or their feelings about breasts in general or breast self-examination and breast cancer knowledge specifically including the risks of breast cancer. Hence the investigator proposes to fill in these gaps in the proposed study. Similarly in a study of knowledge and practice of breast self-examination among health workers in Turkey the practice of breast self-examination was significantly associated with older, more educated, medical secretaries and a significantly positive personal family history of breast cancer ( $P < 05$ ) (Nihal, Demet and Yakup, 2009). In studies to evaluate the effect of a breast self-examination training programme on knowledge and practice of breast self-examination, the studies in Egypt (Seif and Aziz, 2000) and Turkey (Gulsum Nihal, Demet and Yakup, 2009) revealed that there was an improvement in breast cancer and breast self-examination knowledge resulting in a significant increase in the practice of breast self-examination. It also increased the subjects' value of health. The results support the study by Nour and Ragheb, (2007), who stated that women who lacked sufficient knowledge about breast self-examination avoided the practice.

A descriptive cross-sectional study was carried out to assess knowledge and practice of breast self-examination among registered female traders in a well defined market in Nigeria. A total sample of 281 female traders were interviewed using interviewer administered

questionnaire. The mean age of the respondents was 37.3. The range was 16 – 80 years. Only 89 (37.1%) of the traders were aware of breast self-examination. Fifty one (18.1%) had never checked their breast. One hundred and ninety two (68.3%) of the traders were not aware of breast self-examination. The women who had tertiary education were more knowledgeable about breast self-examination. Those with primary education were least knowledgeable ( $p < 0.045$ ). The study revealed that the practice of breast self-examination among the traders was unacceptably low (Balogun and Owonje, 2005)

A study among women in Riyadh Saudi Arabia revealed that knowledge of breast self-examination was high at 82%. Of the respondents, 79.2% knew about breast self-examination, 37.9% to 44.5% had performed breast self-examination. The knowledge of breast cancer, risk factors and protective factors for breast cancer was moderate. There was a statistically significant association between the knowledge and practice of breast self-examination among the women. The study revealed an imbalance between knowledge and practice of breast self-examination. Therefore awareness programmes would be invaluable for all the women so that they know the practice of breast self-examination Alam, (2006).

## Theoretical Framework

### Health Promotion Model

Several theoretical perspectives have been offered to explain women's behaviors in health prevention. The Health Promotion Model (H P M) gives a foundation on which to understand why people make certain decisions about their health. It appears from Literature review that several researchers on breast cancer have used the Health Belief Model (H B M) to examine beliefs related to breast cancer screening behaviors such as Breast Self-Examination

(Tavafian et, al 2009). The Health Promotion Model includes several components of the Health Belief Model but with significant differences. The Health Promotion Model is not limited to disease prevention behaviors and does not include 'fear' or 'threat' as a source of motivation behavior although immediate threats to health have been shown to motivate action. Threats in the distant future lack the same motivational strength (Nola J Pender, 1996).

Using the Pender's Health Promotion Model, McCathy, (2010), conducted a study to explore knowledge of dermatology patients about ultraviolet exposure and skin cancer. The clinical focus of the study was to explore knowledge and perception regarding the barriers to skin cancer prevention and avoidance of ultraviolet exposure. The Health Promotion Model provided the structure to examine the factors influencing health promoting behaviors among the dermatology patients. The results demonstrated that there was adequate knowledge about the sun – safety and protective measures but the knowledge did not correlate with sun safety behavior. Ironically dermatology patients demonstrated inadequate use of protective measures despite public awareness given by health care professionals about the harmful effects of ultraviolet rays. Skin cancer is on the increase in the United States of America, efforts to educate people on skin cancer prevention have been earmarked at educating people about results of ultraviolet exposure but it appears that there is still a knowledge deficit. The study demonstrated that there was a need for routine physical illustrations like self-examinations.

Ougwahanaphaisan, (2006) used the Health Promotion Model on factors affecting health promotion behavior among officers working at the Bureau of the Royal Household in six areas which are, health responsibility, exercise, nutrition, interpersonal relationships, self-actualisation and stress management. The variables for predicting health promoting behaviors were, perceived self efficacy to practice health promotion behavior followed by health status

under personal influence, gender and age respectively. The findings indicated that the perceived health status, perceived benefits of action, perceived self-efficacy, interpersonal influence and environmental influence to practice health promotion behaviors were positively related to health promoting behaviors, while perceived barriers of action to perform health promoting behaviors were negatively associated with health promoting behaviors with statistical significance at the 0.05 Levels (P-Value = 0.01). These findings illustrate poor practices of health promoting behaviors to maintain good health by the officers.

Using the Pender Health Promotion Model, a study to compare perceived exercise benefits, exercise barriers and the commitment to the exercise plan was conducted among Korean women aged 40 years and diagnosed with either osteoporosis or osteoarthritis. The two groups differed on commitment to the plan for exercise. The women with osteoporosis had greater commitment than the women with osteoarthritis, Exercise, self-efficacy was the most influential variable on commitment to plan for exercise accounting for 27% of the variance in commitment among osteoporosis patients and 53% variance among osteoarthritis. The information generated from this study was relevant in tailoring exercise interventions to the differing needs and perceptions of Korean women with osteoporosis and osteoarthritis (Shin et al, 2006).

A study in United States of America to determine the feasibility of an individually tailored computerized physical activity programme plus a nurse counseling intervention in order to increase physical activity participation among girls in Grade 6 to 8 from two middle schools was conducted. The researchers used the Health Promotion Model by Nola J Pender, (1996). The results indicated that no differences in self reported physical activity emerged between the interventions and central groups at baseline and post intervention. The

intervention group had a significantly greater social support across time than the control group. Social support increased for the intervention group but decreased for the control group. The important information derived from this study could be that social support increases physical activity participation (Black, 2006).

Adolescents have unique health considerations as they transit from parent-managed health care to personal responsibility for health behavior. It is important to consider a theoretical model for explaining and predicting adolescent health promoting behavior. This integrative review explored Pender's Health Promotion Model in relation to adolescent health. Specifically this view summarizes the components of Pender's Model and the supporting theoretical underpinnings based in the social cognitive theory. Research literature related to the Health Promotion Model and various aspects of teen health is explored' (Srof & Velsor-Fridrich, 2010).

A review of literature on the study variables in which knowledge on breast self examination and the practices of breast self-examination and the relationship between knowledge and practices regarding breast self-examination were done in this chapter.

The Health Promotion Model literature was also reviewed together with different studies with various perspectives to the studies. The variation was because of different settings, constraints, cultural approaches, beliefs, coverage, access to the target groups, varying political influences and availability of funds and resources.

The literature review study populations were composed mainly of medical personnel who are assumed to be knowledgeable. The literature review findings revealed that some respondents who had knowledge of breast cancer and the practice of breast self- examination

were complying to the practice, but not all of them. The majority of those who were knowledgeable did not practice the breast self-examination as recommended. The range was between 64.1% and 38%. Some women did not practice the breast self-examination at all as evidenced by the Saudi Arabia study. Most of those who were not knowledgeable as evidenced by studies in the rural areas did not practice breast self-examination such as in Nigeria only 89% of the women never practiced breast self-examination at all. A study of breast self-examination which was carried out in Zimbabwe by Sewell (1997) in the city of Bulawayo, the investigator recommended that a similar study be carried out in a different setting and a different location. From those findings the investigator was probed to carry out a study on knowledge and practice regarding breast self-examination among women aged 25 to 49 years at Mbare Family Services Clinic in Harare, Zimbabwe. The study population is composed mainly of non health professionals who are assumed not to be very knowledgeable on breast self-examination. The setting and location is different from previous studies. There is need to promote breast self-examination in order to diagnose breast cancer early and reduce the incidence of breast cancer in Zimbabwe.

### Summary

Literature review is an important component of the research process which is done in order to understand the background of the problem. It helps to identify gaps in the body of knowledge. Various works of different authors and researchers have been reviewed and their findings highlighted. The investigator will use these findings to guide the study in Mbare Family Services Clinic in Harare, Zimbabwe. It is hoped that the obtained literature will assist to generate new knowledge on the variables in question.

## CHAPTER 3

### METHODOLOGY

#### Introduction

This chapter addresses the methodology for conducting the study. The research design, sampling plan, sampling procedure, sample size, variables, instrument design, data collection procedures, data presentation, data analysis and human rights considerations were discussed. The purpose of the study intended to examine the relationship between knowledge and practice regarding breast self-examination among women aged 25 – 49 years at Mbare Family Services Clinic in Harare, Zimbabwe.

#### Research Design

The purpose of a research design is to achieve greater control and thus improve the validity of the study in examining the research problem (Burns & Grove, 2004). A descriptive correlation design examines the relationships that exist in a situation or may examine variables in a situation that has already occurred (Burns & Grove, 2004). A quantitative descriptive correlation design was used for this study. There was no control or manipulation of the situation by the investigator.

The descriptive element of this study was going to examine the accurate occurrence of the two phenomena of interest which were knowledge and practice regarding breast self-examination. The correlational component was going to examine the linear relationship, the type of relationship and the strength of the relationship between knowledge and practice

regarding breast self-examination among women aged 25 – 49years at Mbare Family Services Clinic in Harare, Zimbabwe.

### Population

Population refers to the aggregate or totality of all the objects, subjects or members that conform to a set of specifications (Polit and Hungler, 1999). A target population consists of all those individuals who meet the sampling criteria (Burns & Grove, 2004). The target population in this study was all women aged 25 – 49 years attending Mbare Family Services Clinic during the period of the study. This was the most accessible age group and most appropriate for the study given that the incidence of breast cancer in Zimbabwe starts from approximately the age of 18 and after that there is a steep increase until the age of 49 years (Chokunonga, Borok, Nyakabau and Rukainga, 2009). The subjects were randomly selected from all women who were aged between 25 and 49 years and were visiting Mbare family Services Clinic at the time the researcher was collecting data.

### Sampling Plan

A sampling plan describes the strategies that were used to obtain a sample for the study. It was developed to increase representativeness, decrease systemic bias and decrease the sampling error. The sampling plan that was used in this study was the probability (random) sampling method to ensure precision in estimating the population parameters. The method ensures that every member of the population has a probability higher than zero of being selected into the sample (Burns and Grove, 1997). The sampling plan needs to be described in detail for purposes of critique, replication and future met-analyses (Burns &

Grove, 2004). The process includes selection of a sampling method, selection of a sample size and the procedure used for recruiting study participants (Polit & Hungler, 1999).

### Study Setting

The study setting was Mbare Family Services Clinic where women attending the clinic have some information on breast self-examination. Mbare Clinic is in one of the high density suburbs of Harare and has a wide catchment area from which a representative population of women is drawn from and this may enable results to be more generalisable. The female gender was selected since breast cancer is more common in women than men. Women breast cancer mortality in Zimbabwe is one of the highest in the region. The study participants pay an affordable fee for attending the Mbare Clinic unlike the higher costs at the referral or main hospitals. The affordable fees make access by the users easy for the women who attend the clinic. The larger the catchment area and attendance from which the sample is drawn, the more generalisable are the results.

### Inclusion Criteria

Inclusion criteria are conditions for participating in the study. In this study, the inclusion criteria for the subjects was all women aged 25 to 49 years who were attending Mbare Family Services Clinic. Volunteers who met the selection criteria and were able to speak English or Shona were included in the study.

### Exclusion Criteria

Exclusion criteria are those characteristics that can cause a person to be excluded from the target population (Burns and Groove, 2004). Women who were below the age of 25 and

over 49 years old were excluded. Those women who were already diagnosed with cancer of the breast were excluded from participating in the study and those who could not speak English or Shona.

### Sample Size

A sample is a subset of a population that is selected for a study (Burns and Grove, 2004). A sample of sufficient size is essential to describe a phenomenon or to detect a relationship (Burns & Grove, 2004). Detailed planning must occur related to acquiring subjects before data collection in order to increase the researcher's control of data collection, decrease the threats to design validity and increase the credibility of findings. Generally researchers should use the largest sample possible. The larger the sample the more representative of the population it is likely to be (Polit & Hungler, 1999). There are other sophisticated methods of developing a sample size like the "Power analysis", effect size, homogeneity of the population and level of significance. Practical factors such as availability of subjects, limit on length of time for data collection and other complexities of data collection are instrumental. In this study, to calculate the sample size, the Lipsey and Mark, (1990) chart of precalculated sample sizes was used using a power of 0.8, a significance level of 0.05 and an estimated effect size of 0.5. The power level of 0.8 results has a 20% risk of committing a Type II error (wrongly accepting a false null hypothesis) (Polit & Hungler, 1999). A study power below 0.8 is not recommended for nursing research because it increases the risk of a Type II error. The study fails to detect the existing differences and relationships. The sample for the study comprised of 65 women aged 25 to 49 years according to the Lipsey and Mark chart (1990). Twenty more subjects were added to make a total of 85 in order to cater for potential attrition of the participants. The participation was 100%.

Power is the capacity of a study to detect differences in relationships that exist in the population (Burns & Grove, 2004). Selecting power less than 0.8 for this study may have led to failure to detect the true relationship between knowledge and practices of breast self-examination and wrong conclusions could have been ultimately made indicating that there is no relationship while in actual fact there was a relationship. Using higher power means a larger sample size and also more financial resources are used.

Effect size is the extent to which the Null Hypothesis is false (Burns & Grove, 2004). It refers to the magnitude of the difference among variables influencing the sample size or other factors. Effect size must be determined in order to perform a power analysis for the purpose of determining a sample size. A small effect size is 0.2, a medium effect size 0.5 and a large effect size is 0.8. As effect size increases, the sample size decreases and vice-versa (Burns & Grove, 1997). The investigator used the effect size of 0.5 as it yielded a sample size that is achievable for the purpose of this study.

### Sampling Method

Sampling method is the process of selecting a group of people, events, behaviours or other elements that are representative of the population being studied (Burns & Grove, 1997). Simple random sampling was used for this study, which is a probability sampling method. The hall-mark of probability sampling is the random selection of elements from the population. Each element in the population has an equal independent chance of being selected (Polit & Hungler, 1999) therefore minimizing bias. A brief explanation of the study was given to the women who met the inclusion criterion, that is all women aged 25 – 49 years attending Mbare Family Services Clinic and did not have breast cancer. Voluntary consent was sought

from each woman who met the selection criteria. The target number of participants was ten per day. Pieces of paper corresponding with the number of participants present were placed in a hat and only one paper had a number on it. The papers were mixed well and the hat was circulated so that every participant would pick a paper. The participant who picked the paper with a number on it was chosen to participate in the study and was taken to the interview room. The paper with the number was put back into the hat and one blank paper was removed from the hat. The papers were mixed well again and the hat was re-circulated. The procedure was repeated until ten participants were chosen for each day and the desired sample of 85 was achieved. All questions were read to the participants and their answers were recoded in the code book. This procedure was done from 13<sup>th</sup> September to 23<sup>rd</sup> September 2010 everyday from Monday to Friday 8.30am to 2pm.

### Variables

Variables are qualities or characteristics of persons, things or situations that change or vary and are manipulated or measured in research (Polit & Hungler, 1999). The variables under study are “knowledge of breast self-examination” as the independent variable and “practice of breast self-examination” as the dependent variable.

### Conceptual and Operational Definitions

A conceptual definition provides a variable or concept with connotative (abstract, comprehensive, theoretical) meaning and is established through concept analysis, concept synthesis (Burns and Grove, 2004). An operational definition is a description of how variables or concepts will be measured or manipulated in the study (Burns & Grove, 2004). In this study the variables are “practice of breast self-examination” as a dependent variable and

“knowledge of breast self-examination” as an independent variable. The variables were measured in the study and not manipulated.

### Knowledge of breast self-examination

Knowledge of breast self-examination was the independent variable and conceptually defined as facts and having specific information and instructions on breast self-examination and risk factors. Breast self-examination is encouraged as an integral part of safe motherhood, maternal health and family planning programmes in Zimbabwe (Ministry of Health and Child Welfare, 1998). Knowledge of practice of breast self-examination was operationalised using a structured interview schedule. Question 19 looked at whether women had received information on breast self-examination. Question 20 requested for the source of information on breast self-examination. Question 21 sort to elicit at what age women should start breast self-examination. Question 22 addressed the time to perform breast self-examination. Question 23, the best position for the breast self-examination. Question 24 sort to elicit which part of the hand is used for breast self-examination. Question 25 sort to elicit what the women feel for when performing breast self-examination. Question 26 addressed what changes one should report to a health care giver. Question 27 addressed knowledge on risks of developing breast cancer .

### Practice of Breast Self-Examination

Conceptually, practices of breast self-examination according to the Health Promotion Model have been defined into two concepts, health promotion and health protection. Health promotion is defined as behavior motivated by the desire to increase well being and actualize human health potential. It is an approach to wellness. Health protection or illness prevention

is described as behavior motivated desire to actively avoid illness, detect early or maintain functioning within the constraints of illness (Pender, 1996).

Operational definition for practices of breast self-examination which was the dependent variable was measured using a structured interview schedule under importance of breast self-examination, observation of breast self-examination, age of first breast self-examination, how often breasts are examined, which part of the hand is used for breast self-examination and clients were asked to demonstrate how they perform a breast self-examination.

#### Demographic variables

Demographic variables are characteristics or attributes of the subjects that are collected to describe the sample (Burns & Grove, 2004). This study included demographic variables like age, religion, marital status, level of education, employment status, family history of breast cancer, number of children and socio-economic status. Operationally, demographic characteristics were elicited through the Demographic Data Questionnaire (DDQ). Demographic items ranged between 1 and 10 in the structured interview schedule.

#### Data Collection Instruments

An instrument is the written device that a researcher uses to collect data (e.g questionnaires, tests observation schedules (Polit & Hungler, 1999). The instrument in this study was a structured interview schedule which included strategies that provide increased amounts of control by the researcher over the contents of the interviews. The written questionnaire was designed by the investigator using items in the related literature prior to the initiation of data collection, and the order of the questions was specified (Burns & Grove,

2004). The interview involved verbal communication between the investigator and the subjects (Burns & Grove, 2004). The researcher used open ended questions to get qualitative data and closed ended questions to get quantitative data. Face to face interview technique provided the interviewer an opportunity to elicit more information (Polit & Hungler, 1999). In some cases the question was repeated if the subject responded such as “I don’t know” or I don’t understand the question. The questionnaire was pilot tested at Marlborough clinic in Harare on subjects similar to those who were used in the study (Burns & Grove, 2004). The pilot study enabled the investigator to revise and adjust the instrument accordingly. “Pretesting the interview allows the researcher to identify problems in the design of questions, sequencing of questions or procedure for recording responses. It also allows an assessment of the reliability and validity of the interviewer instrument” (Burns and Grove, 1993). In this study a three part structured interview schedule was used (See Appendix B). Section A for demographic data, Section B for knowledge of breast self-examination and Section C for practice of breast self-examination. The interviews were conducted in English or Shona according to the respondent’s preference. Question 18 was a check list with items on the demonstration of breast self-examination.

#### Knowledge of breast self-examination

The independent variable in the study was knowledge of breast self-examination among women aged 25 to 49 years at Mbare Family Services Clinic, Harare, Zimbabwe. It was measured using structured interview schedule Section C of the instrument.

The knowledge interview schedule comprised of 9 items that was items 19 to 27. The knowledge scores ranged between 0 and 29. The minimum score which indicated a lack of

knowledge was 0 and the maximum score which indicated a high level of knowledge was 29. The mean score was 12. Item 19 sought to elicit if the subjects ever had a formal or informal education on breast self-examination, the 0 score was assigned for 'No' and 1 for Yes giving a maximum score of 1 for the item. Item 20 was a follow up to item 19 which sought to find out who had given the information to the subjects. A 0 score was assigned for not applicable, 1 score assigned for information from friends and relatives, 2 scores were assigned for public media and 3 scores were assigned for information obtained from health personnel. The total number of scores for item 20 was 3. Item 21 sought to find out if the subjects knew at what age women are taught to start practicing breast self-examination, a 0 score was assigned for those who did not know and 1 score was assigned to those who said 18 to 20 years giving a maximum score of 1 for the item. Item 22 sought to elicit when women should examine their breasts, a 0 score was assigned for I don't know, 1 score was awarded for before your menstrual period and 2 scores were awarded for 5 – 7 days after menstrual period. The maximum score for item number 22 was 2. Item 23 sought to find out if the women knew the best position to examine their breasts. The scores were 0 for I don't know and 1 score for in front of a mirror or lying down that explains others in the interview schedule. The total scores for item 23 was 1. Item 24 sought to find out if the women knew which part of the hand was used to palpate their breasts, 1 score was awarded for those who said the pads of their hand and 0 score for those who did not know and any other response besides the pad of the hands. The maximum score for item 24 was 1. Item 25 sought to elicit what the women feel for when palpating their breasts, 0 was assigned to do not know, 1 score for thickening of breasts, 2 scores for breast lumps and 1 score for other specific abnormalities of the breast. The maximum score for item 25 was 2. Item 26 sought to find out what changes the women would report to a health care giver. The question comprised of 10 items and each positive response

was scored 1 and the total maximum score obtainable was 10. Item 1 sought to find out if the women would report any change in the size or shape of the breasts. Item 2 sought to find out if the women would report dimpling or bulging of the skin. Item 3 sought to find out if the women would report an inverted nipple or nipple that has changed position, item 4 redness, item 5 rash, item 6 swelling, item 7 any persistent unusual pain, item 8 nipple discharge, item 9 swelling of upper arm or a lump in the arm-pit and item 10 if the women would report a breast lump. Item 27 sought information on risks of breast cancer and the question was comprised of 8 items which were assigned 1 score for a positive response. The maximum score obtainable was 8 and the minimum score was 0. Item 1 sought to find out if getting older was a risk for breast cancer, item 2 if a family history of breast cancer was a risk, item 3 if early menarche was a risk for breast cancer, item 4 if one consumes alcohol or smokes, item 5 if one has no children or had children after the age of 30 years, item 6 if one is overweight, item 7 previous breast diseases and item 8 if genes are a risk for breast cancer. The maximum score for knowledge of breast self-examination was 29 and the minimum score was 0. Scores above the mean indicate knowledge of breast self-examination and scores below the mean indicate lack of knowledge of breast self-examination.

#### Practices of breast self-examination

The dependant variable in the study was practice of breast self-examination by women aged 25-49years at Mbare Family Services Clinic in Harare, Zimbabwe. Section B of the instrument consisted of items which elicited information on practice of breast self-examination.

The structured interview schedule measured the practices of breast self-examination among the women. The practice of breast self-examination interview schedule comprised of 8 items, items 11 to 18. The total minimum score indicating lack of practice of breast self-examination was 0 and the total maximum score indicating high level of practice of breast self-examination was 25. The mean score was 6.22. Item 11 sought to elicit if the subjects thought breast self-examination was important or not. The Yes was awarded one score and No was assigned 0 score. Item 12 sought to elicit if the subjects had ever observed a breast self-examination. One score was awarded for yes and 0 score was assigned for No. Item 13 was a follow up question for the subject to indicate who they observed performing the demonstration. No score was assigned to those who had never seen a demonstration of breast self-examination, 1 score was awarded for observing from a friend or relative, 2 scores were awarded for television or book, this is more reliable information than friend or relative and 3 scores were awarded for doctor or nurse because information from health personnel is most reliable. Item 14 sought to elicit at what age the subjects started practicing breast self-examination, 0 score was assigned to do not remember, 1 score was awarded for after 20 years of age, 2 scores for 20 years of age and 3 scores for 18years of age. Item 15 sought to elicit how often the subjects examine their breasts, 0 score was assigned to those who had never palpated their breasts, 1 score was awarded to those who said sometimes and 2 scores to those who said once a month. Item 16 sought to confirm that the subjects really practiced breast self-examination. They were asked how many times in the last three months the subjects had practiced breast self-examination. Zero score was assigned for 0 times, 1 score was awarded for once, 2 scores for thrice and 4 scores for more than 3 times. More scores were awarded as a credit for being conscious of breast self-examination. Item 17 sought to find out if the subjects used their hands correctly to palpate their breasts. No score was assigned for those

who did not palpate their breasts, 1 score was awarded to those who were partially correct in the use of their hands and 2 scores to those who performed correctly. Item 18 asked the subjects to demonstrate how they palpated their breasts, and item 18 comprised nine items each assigned 1 score for a correct palpation to come up with a maximum of 9 scores and 0 score was given for wrong palpation technique. Item 1 sought to evaluate if they used a mirror. Item 2 if the subjects checked for breast changes, item 3 if the subjects observed the rise and fall for free movements of the breasts dimples or skin reactions, item 4 if the subjects checked for nipple discharge, item 5 if the subjects would lie down in a supine position with support under the shoulder, item 6 if the subjects used pads of fingers, item 7 if the subjects palpation was correct and effective, item 8 if the subjects palpated their axilla and item 9 if the subjects palpated the tail of spine. The maximum score for practice of breast self-examination was 25 and the minimum score was 0. Scores above the mean indicated effective breast self-examination and scores below the mean indicated poor practices of breast self examination.

### Reliability

Reliability refers to the degree of consistency with which an instrument measures the attribute supposed to be measured (Polit, Beck & Hungler, 2006). It is an indication of the extent of random error in the measurement method (Burns & Grove, 2004). Reliable instruments enhance the power of a study to detect significant differences or relationships actually occurring in the population under study. Reliability is expressed as a form of correlation coefficient with 1.00 indicating a perfect reliability and 0.00 indicating no reliability. A reliability of 0.80 is considered the lowest acceptable value for a well developed measurement instrument (Burns & Grove, 2004). A pilot study was conducted to test the

reliability of the instrument in this study. The reliability coefficient for this study was 0.8405 according to the Chronbach's Alpha which confirms that the instrument was reliable. Considering that the instrument was constructed by the investigator and was being used for the first time, it confirms the instrument reliability.

### Validity

Validity of an instrument is a determination of the extent to which the instrument actually reflects the abstract construct being examined (Burns & Grove, 2004). Validity of an instrument is extremely difficult to establish as it varies from one sample to another. There are three primary types of validity, content validity, predictive validity and construct validity. Currently validity is considered a single broad method of measurement evaluation referred to as construct validity (Burns & Grove, 2004). Content validity is concerned with the sample adequacy of items for the construct that is being measured. In order to evaluate for content related validity of an instrument, the investigator needs to follow three sources which are, the literature, representativeness of the relevant population and content experts. The supervisor at the Department of Nursing Science was asked to analyse and critique the instrument for content validity. A pilot study was conducted to pretest the instrument.

### Pilot Study

A pilot study is a smaller version of a proposed study conducted to develop and or refine the methodology such as treatment or data collection process (Burns & Groove, 1999). A pilot test of the questionnaire needs to be performed to determine the clarity of questions, effectiveness of instructions and completeness of response sets, time required to complete the questionnaire and the success of data collection techniques. The subjects of the pilot test and

techniques need to be similar to those planned for the main study as possible (Burns & Grove, 1999). A pilot study was conducted at a Marlborough clinic in Harare, Zimbabwe and no adjustments were required. The results were significant. Pearson Correlation ( $r = 0.817$ ;  $p < 0.05$ ).

#### Data collection plan

Data collection plan details how the study was implemented. The data collection plan was specific to relationship between knowledge with regard to breast self-examination among women aged 30 to 49years at Mbare Family Services Clinic. Elements that needed to be planned are procedures which were used to collect data, the time and cost of data collection, development of data collection forms that facilitated data entry and a data collection codebook was developed. Before data collection, the researcher obtained consent or permission to collect data at the study site. The purpose of the study was explained to the subjects (Burns & Grove, 2004). The investigator obtained consent, permission and explained the procedure to the subjects before commencing this study.

#### Human Rights Considerations

When humans are used as study participants in any research investigations, extreme care must be exercised in ensuring that the rights of those humans are protected (Polit & Hungler, 1999). Permission to carry out the study was requested from the Director of Harare Health Services, at Rowan Martin Building, Harare, Zimbabwe. Also permission from the Medical Research Council of Zimbabwe was sought by the investigator.

Participation was voluntary and free. Ethical considerations of the procedures were used to protect the participants' rights. The participants were informed of the procedures and

the purpose of the study in the language that they understood. Informed consent about the procedures provided sufficient information for the participants to make an informed decision to participate or not to participate. There were no risks to participation as individuals. Privacy and confidentiality was ensured. No names appeared on the questionnaires and the completed questionnaires were kept under lock and key by the investigator only. They will be destroyed after five years. The investigator availed her contact information to the participants. The participants had a right to withdraw from the study if they so wished without prejudice to their treatment at the clinic. At completion of the research study the participants will be informed of the findings and the findings will be used to improve the practice of breast self-examination among women for early detection of breast lumps.

#### Data collection procedure

Data collection procedure requires addressing two dimensions of consistency, the consistency among subjects and consistency among data collectors. Thus one must consider how data will be collected and by whom. The specific days and hours of data collection may influence consistency of data collected (Burns & Grove, 1999). For this study, data was collected by the investigator at Mbare Family Services Clinic Harare, Zimbabwe following approval by the Director of City of Harare Health Services. The investigator liaised with the sister-in-charge of the clinic as well. The women who met the inclusion criteria were asked to participate. The participants were able to speak English or Shona fluently since the questionnaire was in those two languages only. The women were given information on the study so that their participation is voluntary. The interviews were done in a private room to afford privacy and confidentiality. The interviews were done from Monday 3<sup>rd</sup> to Friday 24<sup>th</sup> September between 9am and 2pm because the clinic operates Monday to Friday from 8am to

4pm. The subjects were interviewed one at a time and given enough time to respond to the questions in order to prevent interview exhaustion. Ten to fifteen minutes was given for each subject for the interview.

### Data Analysis

Data analysis is conducted to deduce, organize and give meaning to data (Burns & Grove, 2004). For this study, raw data was analysed using the statistical package for social sciences (SPSS/CP) after coding. The descriptive statistics such as the mean, standard deviation, frequencies, mode, median and the range were used to deduce, summarize and describe data using the computer. Inferential statistics are based on Laws of probability and provide a means for drawing conclusions about a population given the data obtained for the sample (Burns & Grove, 2004). Using inferential statistics, the investigator was able to generalize the results based on the sample of 85 women aged 25 – 49years from Mbare Family Services Clinic about knowledge of breast self-examination and practices regarding breast self-examination. The effect of knowledge on the practice of breast self-examination in this study was 44.6%.

### Demographic Variable

Descriptive statistics such as mean, mode, median and standard deviation were used to analyse the Demographic Data. In this study, these were age, marital status, education level, religion, employment status and income of the women aged between 25 and 49 years at Mbare Family Services Clinic in Harare, Zimbabwe.

## Independent Variable

The independent variable was knowledge of breast self-examination. It was also analyzed using descriptive statistics. The frequencies and percentages were given.

## The Relationship of the Independent and Dependent Variables (Inferential Statistics)

In the study, the relationship of the independent and dependant variables was analyzed using inferential statistics. The Pearson's Product-Moment Correlation Coefficient Test 'r' was used. A value of (+ 1 or -1) reflects a great strength and a value of zero indicates no strength at all (Burns and Grove, 2004). Simple linear regression provides a means to estimate the value of a dependent variable based on the value of the independent variable. The line of best fit provides the best explanation of the linear relationship between two variables (Burns & Grove, 2004).

## Dependent Variable

Descriptive statistics were used to analyze the dependent variable which was the practice of breast self-examination. The frequencies and percentages of the variables were deduced.

## CHAPTER 4

### RESULTS

#### Introduction

The purpose of this study was to determine the relationship between knowledge and practice regarding breast self-examination among women aged 25 – 49 years. Data was collected using face to face interviews. A structured interview schedule was used. The subjects were women who visited Mbare Family Services Clinic in Harare, Zimbabwe. A simple random sample of 85 women (N = 85) who met the selection criteria was selected during the data collection period. The response was 100%. The study sought to answer the following research questions:-

1. What is the knowledge of breast self-examination among women aged 25 – 49 years at Mbare Family Services Clinic in Harare, Zimbabwe?
2. What are the breast self-examination practices among women aged 25 – 49 years at Mbare Family Services Clinic in Harare, Zimbabwe?
3. What is the relationship between knowledge of breast self-examination and practice regarding breast self-examination among women aged 25 – 49 years at Mbare Family Services Clinic in Harare, Zimbabwe?

The data was analyzed using Statistical Package of Social Sciences (SPSS). Descriptive and inferential statistics were used to analyse the data. Pearson's Coefficient Correlation was used to determine the relationship between knowledge and practice regarding breast self-examination among women aged 25 – 49 years. Regression analysis was used to examine the strength of the relationship between practice of breast self-examination (dependent variable) and knowledge (independent variable) of breast self-examination.

## Sample Demographics

Descriptive statistics were used to describe the characteristics of age, gender, marital status, level of education, religion, employment status, monthly income, history of breast cancer in the family, number of children and history of breast problems.

Tables 1 and 2 illustrate the demographic characteristics of the respondents. The age range was 25 to 49 years with a mean age of 31 years. The median was 31 years and bi modal age of 25 and 35 years.

As illustrated on table 1, twelve respondents (14.1%) were age 25 years, eight respondents (9.4%) were 26 years, three respondents (3.5%) were 27 years, five respondents (5.9%) were 28 years, four respondents (4.7%) were 29 years, seven respondents (8.2%) were 30 years, six of the respondents (7.1%) were 31 years, seven of the respondents (8.2%) were 32 years, two of the respondents (2.4%) were 33 years, eight of the respondents (9.4%) were 34 years, twelve of the respondents (14.1%) were 35 years, 1 of the respondents (1.2%) was 36 years, three of the respondents (3.5%) were 37 years, one of the respondents (1.2%) was 38 years, three of the respondents (3.5%) were 39 years, one of the respondents (1.2%) was 42 years and two of the respondents were 49 years (2.4%).

Table 1

Sample Demographic Data (N = 85)

Age	Frequency	Percentage
25	12	14.1
26	8	9.4
27	3	3.5
28	5	5.9
29	4	4.7
30	7	8.2
31	6	7.1
32	7	8.2
33	2	2.4
34	8	9.4
35	12	14.1
36	1	1.2
37	3	3.5
38	1	1.2
39	3	3.5
42	1	1.2
49	2	2.4
Total	85	100.0

Table 2 illustrates that two respondents (2.4%) had never been to school, fourteen (16.5%) attained primary school level of education, sixty four respondent (75.3%) attained secondary school level, five (5.9%) of the respondents reached tertiary level of education. At those two levels of education women are able to understand about breast self-examination. Two respondents (2.4%) were single, seventy five (88.2%) of the respondents were married, partners support each other, therefore men can be involved to support breast self-examination, one (1.2%) was divorced, one (1.2%) was widowed and six respondents (7.0%) were cohabiting. Seventy nine (92.9%) of the respondents were Christians. Forty one (48.2%) were unemployed, thirty seven (43.5%) were self employed and seven (8.2%) were formally employed. Seventeen respondents (20.0%) had a family income below USD50.00, twenty two (25.9%) had an income between USD51.00 and USD100.00, twenty one respondents (24.7%) had a family income of USD101.00 to USD150.00, thirteen respondents (15.3%) had an income of USD151.00 to USD200, twelve respondents (14.1%) had a family income above USD200.00. Women in the higher socioeconomic group are able to participate in breast cancer screening because they can afford it. Asked who had informed the respondents about breast self-examination, two (2.4%) of the respondents heard from their spouses, twenty five (29%) heard from Television and four (4.7%) heard from the newspapers. The media may be a good source of breast self-examination education. The majority of the respondents who were forty four (51%) had heard from health professionals who are the appropriate educators on breast self-examination. Fifteen (17.6%) had heard from relatives, parents and friends and eight (9.4%) had never heard about breast self-examination at all.

Table 2: Sample Demographics (N = 85)

Variable	Frequency	Percentage
<u>Education Level</u>		
No school	2	2.4
Primary	14	16.5
Secondary	64	75.2
Tertiary	5	5.9
<u>Marital Status</u>		
Single	2	2.4
Married	75	88.2
Divorced	1	1.2
Widowed	1	1.2
Cohabiting	6	7.0
<u>Religion</u>		
Christian	79	92.9
Moslem	1	1.2
Ethist	5	5.9
<u>Employment</u>		
Unemployed	41	48.3
Self-employed	37	43.5
Formal employment	7	8.2
<u>Income</u>		
Below USD50.00	17	20.0
USD51 – USD100.00	22	25.9
USD101 – USD150.00	21	24.7
USD151 – USD200.00	13	15.3
Above USD200.00	12	14.1
<u>Breast Self Examination Information</u>		
From spouse	2	2.4
From Television or Radio	25	29
From Newspaper	4	4.7
From Nurse or doctor	44	51
Relatives and Friends	15	17.6
Never heard	8	9.4

Table 3 illustrates the demographic section on history of breast cancer in the family, number of children and any history of breast problems. One respondent (1.2%) did not know if there was a history of breast cancer in their family, eight respondents (9.4%) had family members with breast cancer and seventy six respondents (89.4%) had no history of breast cancer in their families. Four respondents (4.7%) had no children, eight respondents (9.4%) had one child. That was the group at high risk for breast cancer. Twenty five respondents (29.4%) had two children, thirty three respondents (38.8%) had three children, six respondents (7.1%) had four children and nine respondents (10.6%) had more than four children. Those women with more children were not at a high risk for breast cancer as those without children. Eleven respondents (12.9%) had a history of breast problems like previous lumps or an abscess, the majority, seventy four respondents (87.1%) never had breast problems before.

Table 3: Sample Demographics (N = 85)

Variable	Frequency	Percentage
<u>History of breast cancer in family</u>		
Don't know	1	1.2
Yes	8	9.4
No	76	89.4
<u>Number of Children</u>		
None	4	4.7
One	8	9.4
Two	25	29.4
Three	33	38.8
Four	6	7.1
Above four	9	10.6
<u>History of breast problems</u>		
Yes	11	12.9
No	74	87.1

## Knowledge of breast self-examination

Table 4 illustrates knowledge of breast self-examination which was the independent variable in this study. The possible minimum score was 2 and the maximum score was 26 out of 29. The higher score indicating higher levels of knowledge of breast self-examination. The scores ranged between 2 and 26. The mean was 12 and the median was twelve. The respondents who scored below the mean 12 were forty two (49.4%) and those who scored above the mean were forty three (50.6%). When asked if the respondents had ever had any formal or informal information on breast self-examination 63 (74.1%) said they had not received information and 22 (25.9%) had received information. Of the 63 (74.1%) who had some information, 20 (31.7%) had information from the health personnel and 2 (3.2%) had information from the public media. When asked at what age women are taught to start breast self-examination, sixty six (77.6%) did not know and nineteen (22.4%) said between 18 years and 20 years of age. Forty eight respondents (56.5%) did not know what time of the month to perform breast self-examination, eleven respondents (12.9%) said before menstruation, twenty six of the respondents (30.6%) said 5-7days after menstruation. Thirty eight respondents (44.7%) said the best position to examine their breast was in front of a mirror and forty seven (55.3%) did not know. Twenty three respondents (27.1%) used the pads of their hands to palpate their breasts and sixty two (72.9%) did not know which part of the hand is used. Twenty one respondents (24.7%) said when palpating their breasts, they feel for thickening of the breasts, fifty one respondents (60%) said they feel for lumps and thirteen of the respondents (15.3%) did not know what to feel for. Sixty respondents (70.6%) did not know what breast changes to report to the health care provider, twenty five respondents (29.4%) new what changes to report to a health care provider. Fifty nine respondents (69.4%) did not know that they report dimpling, puckering or bulging of the skin to a health provider, only twenty

six respondents (30.6%) would report dimpling, puckering or bulging of the skin to a health care provider.

Table 4: Knowledge of breast self-examination

Variable	Frequency	Percentage
<u>Have you received information about breast cancer</u>		
No	63	74.1
Yes	22	25.9
<u>From whom did you receive information about breast cancer</u>		
Not applicable	63	74.1
Friends / relatives	1	1.2
Public media	1	1.2
Health Personnel	20	23.5
<u>Age start breast self-examination</u>		
Don't know	66	77.6
18 – 20 years	19	22.4
<u>Timing of breast self-examination</u>		
Don't know	48	56.5
Before menstruation	11	12.9
5 -7 days after menstruation	26	30.6
<u>Best position for breast self-examination</u>		
Don't know	47	55.3
In front of mirror	38	44.7
<u>Which part of hand is used</u>		
Don't know	62	72.9
Pads of hand	23	27.1
<u>What do you feel for</u>		
Don't know	13	15.3
Thickening of breast	21	24.7
Lumps	51	60.0
<u>Changes One Reports to Health-Care Provider</u>		
<u>Size and shape</u>		
No	60	70.6
Yes	25	29.4
<u>Dimpling, puckering or bulging of skin</u>		
No	59	69.4
Yes	26	30.6
	60	

Table 5 illustrates that twelve respondents (14.1%) would report nipple changes to a health provider and seventy three respondents (85.9%) would not report it. Thirty one respondents (36.5%) would report redness of the breast to a health care provider and fifty four respondents (63.5%) would not report redness of the breast to a health care provider. Asked if the respondents would report any rash on the breasts, thirty four respondents (40.0%) said they would not report a rash to the health care provider and fifty one respondents (60.0%) said that they would report any rash on the breast to a health provider because it was an indication of breast disease that could lead to breast cancer. Forty eight respondents (56.5%) would not report swelling of the breasts to a health care provider while thirty seven respondents (43.5%) would report any breast swelling to a health care provider. Sixty four of the respondents (75.3%) would report any persistent pain of the breast while twenty one of the respondents (24.7%) would not report pain of the breast to the health personnel. Forty nine of the respondents (57.6%) would not report nipple discharge to a health personnel while thirty six (42.4%) would report any nipple discharge to a health care provider. Sixty of the respondents (70.6%) would not report upper arm swelling, twenty five of the respondents (29.4%) would report any upper arm swelling to a health provider. Sixty two of the respondents (72.9%) would not report a breast lump, twenty three of the respondents (27.1%) would report a breast lump to a health care provider.

Table 5: Knowledge of breast self-examination

Variable	Frequency	Percentage
<u>Nipple that has changed position/ inverted</u>		
No	73	85.9
Yes	12	14.1
<u>Redness</u>		
No	54	63.5
Yes	31	36.5
<u>Rash</u>		
No	34	40.0
Yes	51	60.0
<u>Swelling</u>		
No	48	56.5
Yes	37	43.5
<u>Pain</u>		
No	21	24.7
Yes	64	75.3
<u>Nipple Discharge</u>		
No	49	57.6
Yes	36	42.4
<u>Swelling of upper arm</u>		
No	60	70.6
Yes	25	29.4
<u>Breast Lump</u>		
No	62	72.9
Yes	23	27.1

Table 6 illustrates that fifty three of the respondents (62.4%) said that getting older is not a risk for breast cancer, thirty two of the respondents (37.6%) identified getting older as a risk of breast cancer. Forty of the respondents (47.1%) said a family history of breast cancer was not a risk for breast cancer and forty five of the respondents (52.9%) said a family history of breast cancer was a risk for breast cancer. Sixty two (72.9%) of the respondents said early menarche was not a risk for breast cancer. Twenty three of the respondents (27.1%) said it was a risk for breast cancer. Thirty seven (43.5%) of the respondents said alcohol and smoking were not a risk for breast cancer. Forty eight (56.5%) of the respondents said alcohol and smoking were a risk for breast cancer. Fifty (58.8%) of the respondents said having no children or late child bearing was not a risk for breast cancer. Thirty five (41.2%) of the respondents said it was a risk. Fifty of the respondents (58.8%) said being overweight was not a risk for breast cancer. Thirty five (41.2%) said it was a risk for breast cancer. Twenty two (25.9%) of the respondents said a previous breast condition or disease was not a risk for breast cancer. Sixty three (74.1%) of the respondents said a previous breast condition or disease was a risk for breast cancer. Twenty seven (31.8%) of the respondents said genes are not a risk factor for developing breast cancer. Fifty eight (68.2%) of the respondents said genes are a risk for breast cancer.

Table 7 displays the total knowledge frequency scores. The mean score was 12 and the respondents who scored below the mean were forty two (49.4%) and those who scored above the mean were forty three (50.6%). The total maximum score was 26 and the total minimum score was 2.

Table 6: Knowledge and risks of breast cancer

Variable	Frequency	Percentage
<u>Risks of Breast Cancer when one gets older</u>		
No	53	62.4
Yes	32	37.6
<u>Family history of breast cancer</u>		
No	40	47.1
Yes	45	52.9
<u>Early Menarche</u>		
No	62	72.9
Yes	23	27.1
<u>Alcohol /Smoking</u>		
No	37	43.5
Yes	48	56.5
<u>No children/late child bearing</u>		
No	50	58.8
Yes	35	41.2
<u>Overweight</u>		
No	50	58.8
Yes	35	41.2
<u>History of breast cancer</u>		
No	22	25.9
Yes	63	74.1
<u>Genes</u>		
No	27	31.8
Yes	58	68.2

Table 7 Knowledge of breast self-examination (N = 85)

Scores	Frequency	Percentage
2	1	1.2
3	1	1.2
5	2	2.4
6	1	1.2
7	8	9.4
8	7	8.2
9	7	8.2
10	10	11.8
11	5	5.9
12	9	10.6
13	8	9.4
14	4	4.7
15	3	3.5
16	5	5.9
17	4	4.7
18	3	3.5
19	2	2.4
20	1	1.2
22	2	2.4
26	2	2.4
Total	85	100

### Practice of breast self-examination

The dependent variable in this study was women's practice of breast self-examination. The respondents were asked questions to elicit information on their practices of breast self-examination. A demonstration of their practice was included in order to measure whether their practices were correct. The possible minimum scores for the questions was zero (0) and the possible maximum score was 25. The respondents scores ranged between 0 and 25 with a mean of 6.22 and median of 5 which explains that the majority of the women had poor practices of breast self-examination. Forty five (53%) scored below the mean and of those women some did not practice breast self-examination and others did not know about breast self-examination at all. Forty (47%) scored above the mean for practice of breast self-examination. The higher scores were indicative of those subjects with favorable practices regarding breast self-examination.

The dependent variable in this study was women's practice of breast self-examination.

Table 8 to Table 9 illustrate the responses from the respondents regarding the practice of breast self-examination. When asked about the importance of breast self-examination, two respondents (2.4%) said breast self-examination was not important, the majority eighty three of the respondents (97.6%) said breast self-examination was important for the women in the prevention of breast problems. They knew that breast self-examination was important due to a variety of sources of information. When asked if they had ever observed a demonstration of breast self examination sixty nine (81.2%) said they had never observed a breast self-examination and sixteen (18.8%) had observed a breast self-examination. Breasts are private and breast self-examination cannot just be done anywhere. The respondents who had observed breast self-examination from either a nurse or a doctor were 16 ( 18.8%). Asked at what age the women started breast self-examination, fifty three respondents (62.4%) could not remember, twenty four respondents (28.2%) started examining their breasts after twenty years of age, five of them (5.9%) started at twenty years and only three (3.5%) started at the age of eighteen years. The majority fifty three (62.4%) of the respondents never practiced breast self-examination. Those who practiced breast self-examination were thirty two (37.6%) , twenty four (28.2%) examined their breasts sometimes, and only eight (9.4%) examined their breasts once a month. The respondents were further asked to confirm how many times they had examined their breasts in the last three months. Among those who practiced breast self examination sometimes fourteen (43.7%) examined their breast once only in the last three months, ten (31.3%) had examined their breasts twice only, and eight (25% ) practiced three times. Among the thirty two (37.6%) respondents, eight (25%) used their hands correctly and twenty four (75%) of the respondents were partially correct. Twenty five (78%) of the participant did not use the mirror and only seven (22%) of the respondents use the mirror.

Table 8: Practice of breast self-examination N = 85

Variable	Frequency	Percentage
<u>Importance of breast self-examination</u>		
No	2	2.4
Yes	83	97.6
<u>Observed demonstration of breast self-examination</u>		
No	69	81.2
Yes	16	18.8
<u>Observed Demonstration by whom</u>		
None	69	81.2
Nurse/Doctor	16	18.8
<u>Age of Breast self-examination</u>		
Don't know	53	62.4
After 20 years	24	28.2
20 years	5	5.9
18 years	3	3.5
<u>How often breast self-examination is practiced</u>		
Never	53	62.4
Sometimes	24	28.2
Once a month	8	9.4
<u>Practice of breast self-examination in the last three months N = 32</u>		
Once (N = 32)	14	43.7
Twice (N = 32)	10	31.3
Thrice (N = 32)	8	25
<u>Part of hand used for Breast self-examination N = 32</u>		
Partially correct (N = 32)	24	75
Correct (N = 32)	8	25
<u>Demonstration N = 32</u>		
<u>Mirror Used</u>		
Did not use it.	25	78
Uses mirror	7	22

Data on table 9 illustrates that among the respondents who practiced breast self-examination eighteen respondents (56.3%) did not look for breast changes and only fourteen (43.7%) looked for changes in the breast during breast self-examination. Twenty seven of the respondents (84.4%) did not observe the rise and fall for free movements of breasts and five (15.6%) did observe the rise and fall for free movements of breasts.. Seventeen respondents (53.1%) of the respondents did not check for nipple discharge and fifteen (46.9%) did check for nipple discharge. Thirteen respondents (40.6%) did not lie down when palpating their breasts, nineteen (59.4%) did lie down in a supine position with a pillow under their shoulders to palpate their breasts. Seventeen respondents (53.1%) did not know that they should use the pads of their fingers to palpate their breasts, Fifteen (46.9%) knew that the pads of fingers are used when palpating their breasts. Twenty five respondents (62.5%) did not perform the correct and effective palpation, Twelve of the respondents (37.5%) performed the palpation correctly. Twenty eight respondents (87.5%) did not know that the axilla is palpated, only four of the respondents (12.5%) knew that the axilla is palpated. Thirty one (96.9%) did not know about palpating the tail of spence, only one respondent (3.1%) knew about palpating the tail of spence.

Table 10 shows the total breast self-examination practice frequency scores. The mean score for practice of breast self-examination was 6.22. Forty five (53%) of the respondents scored below the mean and 40 (47%) of the respondents scored above the mean.

Table 9: Practice of breast self-examination (N = 32)

Variable	Frequency	Percentage
<u>Observes breast changes</u>		
No	18	56.3
Yes	14	43.7
<u>Observes rise and fall for free Movement of breasts</u>		
No	27	84.4
Yes	5	15.6
<u>Checks for nipple discharge</u>		
No	17	53.1
Yes	15	46.9
<u>Supine position</u>		
No	13	40.6
Yes	19	59.4
<u>Palpates Using pads of fingers</u>		
No	17	53.1
Yes	15	46.9
<u>Correct and effective palpation</u>		
No	20	62.5
Yes	12	37.5
<u>Palpation of Axilla</u>		
No	28	87.5
Yes	4	12.5
<u>Palpation of tail of spence</u>		
No	31	96.9
Yes	1	3.1

Table 10 Practices of breast self-examination (N = 85)

Scores	Frequency	Percentage
0	2	2.4
1	27	31.8
2	4	4.7
3	5	5.9
5	6	7.1
6	1	1.2
7	4	4.7
8	5	5.9
9	6	7.1
10	4	4.7
11	8	9.4
12	2	2.4
13	1	1.2
14	3	3.5
15	3	3.5
16	1	1.2
17	1	1.2
18	2	2.4
Total	85	100.0

Table 11 below shows the results of the Pearson's Correlation analysis which was used to establish the relationship between knowledge of breast self-examination, the independent variable and the dependent variable practice of breast self-examination. The practice of breast self-examination by the women aged between 25 years to 49 years at Mbare Family Services Clinic in Harare, Zimbabwe was significantly correlated ( $r = 0.668$ ,  $p = < 0.001$ ) to the knowledge of breast self-examination by the women. This indicates a positive linear relationship, that is as knowledge increases, the practices of breast self-examination also increase. The correlation coefficient is a measure of the strength of the linear relationship between the two variables. In the study, the correlation coefficient was ( $r = 0.668$ ).

Table 11

Pearson Correlation Matrix for the relationship between knowledge and practice regarding breast self-examination. (n = 85)

Variable	Y
	1.000
X	.668**

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p< .05\*                      \*\*p<.01                      \*\*\*p<.001

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Y = Practice

X = Knowledge

Table 12 shows the Regression Analysis. A regression is an estimate of the linear relationship between a dependent and one or more independent variables. In this study, the dependent variable was practices of breast self-examination and the independent variable was knowledge of breast self-examination. In this study  $R^2$  was 0.446 expressed as a percentage  $R^2$  was 44.6%.  $R^2$  shows the effect of the independent variable on the dependent variable that is 44.6% of the changes in the dependent variable are as a result of the independent variable.  $R^2$  explains the impact of variance that is the percentage that the independent variable has in terms of impact. The result implies that the effect of the knowledge (independent variable) accounts for 44,6% of the variation on the practice (dependent variable). In this study the effect that knowledge had in terms of effect was 44.6%. The other 54.4% is explained by other factors. The F statistic is used for testing the significance of  $R^2$  as well as the adequacy of the model in explaining the dependent variable. The F test in this study was significant ( $F = 66.849$   $P = < 0.001$ ) indicating a linear relationship and that  $R^2$  is significant. This means that knowledge explains 44.6% of the variance in practice of breast self-examination. The T test for the unstandardized regression coefficient was ( $b = 0.743$ ) and significant level at  $< 0.001$ . The b (0.743) represents a change in the dependent variable (practices) with every unit change in the independent variable (knowledge). It represents as average change in the dependent variable for a unit change in the independent variable at the significance level of  $< 0.001$ . B (b) is unstandardised. Standardised beta is written with capital B and read from beta. In this study, the significant standardized coefficient B is 0.668  $p < 0.001$  indicating the relative importance of the independent variable (knowledge). The bigger the value, the more important in terms of its contribution to the dependent variable (practice) which means that in this study the importance of knowledge was 66.8% in terms of its contribution to the practices.

Knowledge has therefore a positive influence on the rate of practices of breast self-examination.

Table 12 (a)

Regression Analysis of knowledge

<u>Variable</u>	<u>B</u>	<u>Standard Error</u>	<u>Beta</u>	<u>Significant T</u>
X	0.743	0.091	0.668	8.176
(constant)	-2.698	1.170		-2.306
R <sup>2</sup>	0.446	F = 66.849		

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\*p< .05                      \*\*p< .01              \*\*\*p< .001

(N = 85)

X = Knowledge

Table 12 (b) shows the regression

Variable	Coefficient	Standard Error	Significance
Constant	-2.698	1.170	0.024
Total Independent Variable	0.743	0.091	0.000

$$\text{TOT DV} = -2.7 + 0.7 (\text{TOT IV})$$

$$\text{Total Dependent Variable} = -2.7 + 0.7 - (\text{Total Independent Variable}).$$

**Key:**

TOTDV = (Total Dependent Variable)

TOT IV = (Total Independent Variable)

## CHAPTER 5

### Discussion, implications and recommendations

#### Introduction

This chapter represents a summary of the study findings, discussions and recommendations based on the specific study questions on knowledge and practices regarding breast self-examination among women aged 25 to 49 years at Mbare Family Services Clinic Harare, Zimbabwe. The implications of the study were discussed in relation to medical-surgical nursing practice, nursing administration, nursing education and nursing research. The recommendations and limitations of the study were outlined and the summary of the study was outlined.

#### Summary

The purpose of the study was to determine the relationship between knowledge and practices regarding breast self-examination among women aged 25 – 49 years. The study was conducted among 85 women at Mbare Family Services Clinic in Harare, Zimbabwe. The Health Promotion Model (Pender, 1996) was used to guide the study because of its relevance to the variables under study. The variables studied were knowledge of breast self-examination (independent variable) and practices regarding breast self-examination (dependent variable). A descriptive correlation design was used and a simple random sampling method was used to select those subjects who met the selection criteria.

A pilot study was conducted to test and refine the study instrument. Data collection was done from a sample of the eighty five subjects (N = 85) using face to face interview and a

structured questionnaire. The structured questionnaire comprised of three sections that is, demographic information, practices of breast self-examination and knowledge of breast self-examination.

The study results revealed that the frequency of the practice of breast self-examination reported by the 85 respondents was low. Scores for practice of breast self-examination ranged between 0 and 18 out of a total of 25 scores. The highest score attained by 2 (2.4%) of the respondents was 18 and the lowest score of 0 was also attained by 2 (2.4%) respondents. The mean score for practice of breast self-examination was 6, the median was 5. The majority 45 (53%) of the respondents scored below the mean for practice of breast self-examination which indicates poor knowledge of practices of breast self-examination and 40 (47%) of the respondents scored above the mean. The possible explanation is that the respondents' actual technique of breast self-examination was inadequate. Also the respondents did not practice breast self-examination regularly.

The levels of knowledge of breast self-examination reported by 85 respondents were average. Scores ranged between 2 and 26, the maximum possible score was 29. The highest score attained by 2 (2.4%) of the respondents was 26. The mean score for knowledge of breast self-examination was 12, Forty two (49.4%) of the respondents scored below the mean for knowledge of breast self-examination and 43 (50.6%) of the respondents scored above the mean. Inferential statistics of Pearson Correlation and regression analysis were computed to establish the relationship between knowledge and practice of breast self-examination. The study findings showed a significant positive linear relationship between knowledge and practice of breast self-examination. ( $r = 0.668$ ;  $p = < 0.001$ ) indicating that as knowledge improves, the practice of breast self-examination increases. A simple regression analysis was

done and was significant. In this study,  $R^2$  was 0.446 which implies that knowledge accounts for 44.6% of the variance observed in the breast self-examination practices. The reliability of the instrument was measured using Cronbach's Alpha, for this study it was 0.8405. It could therefore be concluded that the instrument was reliable because a reliability of 0.80 is considered the lowest acceptable coefficient for a well developed instrument, a reliability of 0.70 is considered acceptable (Burns and Grove, 1993).

## Discussion and Implications

### Sample Demographics

This study consisted of 85 subjects attending Mbare Family Services Clinic and all of them were women. The sample size of 85 as compared to similar studies was relatively small which means that it may not be generalisable of the population of women in Zimbabwe. Studies carried out by other investigators like Seif & Aziz, (2000) and Karayurt et al, (2008) had sample sizes of 122 and 718 subjects respectfully. The age range for the respondents in the study was 25 to 49 years and the mean age was 31years and the median age was 31. According to the statistics, this is when breast cancer rates begin to rise in Zimbabwe. Sewell, (1997) also conducted a study in Bulawayo, the second largest City in Zimbabwe on knowledge, attitudes and breast self-examination among women aged 20 – 49 years. This is a similar range to this study. Similarly in Nigeria the mean age at presentation of breast cancer was below 25years and up to 42 years as evidenced by Salaudeen, Akande & Musa, (2009) and hence the targeted group for the study. There is therefore a need for concern about prevention of breast cancer in this age group. There is need for further similar research in this age group at different setting globally so that conclusive strategies in the prevention of breast cancer are used. In contrast with Pearson et al, (2006) who recommended that in order to

make breast self-examination a habit, education about breast self-examination ought to be started for girls at high school age. Mckenna et al (2004) reported that the incidence rates of breast cancer begin to rise at thirty years and there is a steep increase at 49 years to 60 years as evidenced in Zimbabwe by Chokunonga, Nyakabau and Rukainga, (2009) who reported that breast cancer starts at approximately the age of 18 years. The incidence then steps from around 30 years to 49 years and further increases after the age of 60 years. Hence the investigator targeted the age group of 25 to 49 years. During data collection, the majority of the women who presented at Mbare Family Services Clinic were below thirty years and hence the age group for this study was reduced to 25 - 49 years.

According to the Health Promotion Model (Pender, 1996), importance of health is a cognitive factor leading to a likelihood of engaging in breast self-examination. The majority 74(87.1%) of the respondents were 25 years to 35 years and had health seeking behaviors by visiting the local clinic while the older women were fewer and coupled with possible increasing mortality rates. Most of the respondents 64(75.3%) attained secondary level of education, and only 2(2.4%) were illiterate. The level of education among the women confirms the high national literacy rate of over 91% for women in Zimbabwe (Zimbabwe Demographic Survey, 2005 – 2006). The level of education also supports the health promoting behavior and health-seeking behavior, among women in Zimbabwe. The level of education also provides the ideal environment for health education especially about breast self-examination. According to Pender's Health Promotion Model, (1996) the level of education is a modifying characteristic that leads to likelihood of engaging in breast self-examination.

The majority of the respondents 75(88.2%) in the study were married. The high rate of married couples provides assurance for mutual support and according to Pender's Health Promotion Model, interpersonal influence like support from spouse or relative is a cue to action leading to likelihood of engaging in breast self examination. The majority 79 (92.9%) of the respondents were Christians. Forty one (48.2%) of the respondents were unemployed. One (1.2%) of the women was divorced and 1 (1.2%) was widowed. These two women were employed since they had to fend for themselves. The 7 (8.2%) of the respondents who were formally employed were those who had attained a tertiary level of education. Thirty seven (43.5%) of the respondents who were self employed were vendors in the market place. Seventeen (20.0%) respondents had a family income below USD50.00, the majority 22 (25.9%) of the respondents had a family income between USD51.00 and USD100.00, and 21(24.7%) had a family income of USD100.00 to USD150.00. The family income below USD100.00 shows that the majority of the respondents 60(71%) were living below the international absolute poverty datum line of less than a dollar per day (Zimbabwe Demographic Survey 2005 - 2006). Those whose family income was above USD101.00 to over USD200.00 was still low. According to the Pender's Health Promotion Model, lack of finances is a perceived barrier to health promoting behavior. The majority 44(51%) of the respondents had heard about breast self-examination from health professionals. This indicates that the health professionals are the majority informers of women about breast self-examination. Twenty five (29%) of the respondents had heard about breast self-examination from television and 4 (4.7%) of the respondents had heard about breast self-examination from the newspapers. The findings are supported by Dinda et al, (2006) who stated that the main source of knowledge about breast self-examination was television and radio programmes and also reading about breast self-examination from books and newspapers. The Health

Promotion Model also concurs that interaction with health professionals is a modifying factor which leads to the likelihood of engaging in breast self-examination. The reference to the nurses as the main source of information emphasizes that nurses have a major role in addressing the issue of breast self-examination among the women population in Zimbabwe. Eight (9.4%) of the respondents had a family history of breast cancer. It is evident that the respondents who had a family history of breast cancer had knowledge and practiced breast self-examination correctly whereas the respondents who had no family history of breast cancer were complacent and had poor self-examination practices. In a similar study by Parsa and Kandiah (2005) among 261 women, the mean age of the women was 28 years. Most of the respondents were married 95.4% and 2.7% of the respondents reported having a family history of breast cancer and 8% of the respondents had a history of breast related problems. Two thirds of the respondents had never performed breast self-examination due to lack of knowledge. Those who performed breast self-examination had a history of breast related problems or a history of frequent visits to the clinic or Gynecologist. The findings showed that knowledge and the practice of breast self-examination were inadequate and the results were significant. In a similar study by Nour and Ragheb, (2007) the practice of breast self-examination was significantly associated with women who had a family history of breast cancer.

#### Knowledge of breast self-examination

In the study, the mean for knowledge of breast self-examination was 12. The respondents who scored below the mean were 42(49.4%) and the respondents who scored above the mean were 43(50.6%). The results illustrated an awareness of breast self-examination by slightly over a half of the participants that is 43(50.6%) who scored above the

mean. These results support Molase's (2008) study findings which revealed that the majority of the respondents were aware of breast self-examination from various sources but less than half of the respondents performed breast self-examination on a monthly bases as recommended. This may suggest that there are other factors besides being knowledgeable which determine the practice of breast self examination among women. In the study, majority of the respondents 63(74.1%) said they received information on breast self-examination and 20(23.5%) had never received information on breast self-examination. Of the 63(74.1%) who had information, 20 (31.7%) had information from health personnel and 2(3.2%) had information from the public media. The main source of knowledge was television and radio programmes and also from health personnel. In the study, the practice among the women was not promotive. The majority 66% of the respondents were not aware of the age when women are encouraged to start breast self-examination and 56% of the respondents thought breast self-examination should be performed before menses. The women also demonstrated that they had no knowledge of breast self-examination because 72.9% did not know that the pads of the hand are used to palpate their breasts and 53.3% did not know that a mirror is used. Twenty one (24.7%) of the respondents said when palpating their breasts, they feel for thickening of the breasts and 51(60%) of the respondents said they feel for lumps and 13(15.3%) did not know what to feel for. According to the health personnel at Mbare Family Services Clinic, women are given some information on breast self-examination and yet the practice of breast self-examination is poor. Oluwatosin and Oladepo, (2006) stated that the diagnosis of breast cancer is an issue that is not freely discussed and hence lack of knowledge prevails and in support, Bause, (2007) stated that the basic understanding about any cancer was that once diagnosed, there was no treatment and the person would eventually die and in that setting the women do not practice breast self-examination. Contrary to Altchasawneh's study findings

where, 85% of the respondents who had high levels of knowledge reported doing breast self-examination in the past 12 months but only 17.7% were examining their breast monthly. In the study, all the breast pathology that the women knew was reporting a rash 60%, and pain 75.3% to the health care provider. Pain and rash are associated with pathology. Of great concern, the women would not report swelling of the breast 56.5%, nipple discharge 57.6%, redness 63.5%, dimpling and puckering of the skin 69.4%, swelling of the armpit 70.6%, change in shape and size of the breast 70.6%, breast lump 72.9%, and nipple discharge or change of nipple position 85.9%. Those are obvious symptoms the women, should have been concerned about but they did not report them to a nurse or doctor.

In the study, knowledge of risks for breast cancer was very low except for knowledge of family history of breast cancer 52.9%, alcohol or smoking 56.5%, having no children or having children after the age of 30 years 58.8%, being overweight 58.8%. The most widely known risk factor for breast cancer by the women was, genes 68.2%. This is an indication that the women were aware that breast cancer is associated with genetic factors which is a positive factor in health promoting behaviour. Masqsood et al, (2009) concur in their study of knowledge and practices regarding breast self-examination in Pakistan. The results showed that 84% of the subjects had heard about breast cancer, 35% knew about one or two major risks of breast cancer and 65% knew at least one major sign or symptom of breast cancer. At least 85% of the women believed that early detection of breast cancer through breast self-examination improved survival. This demonstrates that there is a need for health education programmes among the study population (Pender, 1996).

#### Practice of breast self-examination

The study findings showed that the practice of breast self-examination among the subjects was poor, 53(62.4%) of the women had never practiced breast self-examination.

These findings concurred with the study findings by Maqsood et al, (2009) which revealed poor practice regarding breast self-examination by women in Pakistan where the majority 63.1% of the respondents had never heard of screening tests or did not feel any need to perform breast self-examination. In this study, the majority 45 (53%) of the respondents scored below the mean and 40(47%) of the respondents scored above the mean for practice of breast self-examination. Most respondents 83 (97.6%) said the practice of breast self-examination was important in order to detect breast problems, 2(2.4%) of the respondents did not think breast self-examination was important. These results concur with a similar study in Nigeria by Alkhasawn, (2010) in which 92% of the respondents considered breast self-examination to be effective. In this study, 69 (81.2%) of the respondents had never observed breast self-examination being performed and 16 (18.8%) of the respondents had observed breast self-examination from nurses and doctors. This concurs with Sewell's study (1997) which showed that the majority of the women had not been taught the specific technique of breast self-examination. This also identifies the importance of the nurses' role in facilitating health promoting behavior to the women in breast self-examination. The health care givers have a central role in the improvement of practices of breast self-examination.

The American Cancer Society encourages women to start breast self-examination at the age of 20 (Brandau, 2004). The incidence of breast cancer in Zimbabwe starts from approximately the age of 18 (Chokunonga, Borok, Chirenje, Nyakabau and Rukainga, 2009). The women are therefore advised to start breast self-examination at 18 years in Zimbabwe. Combined literature findings have revealed the age 18years as the minimum age for risk of breast cancer. McCready et al, (2005) support the view and encourage the women in the United Kingdom to be breast aware at the age of 18 years. Among the respondents 53(62.4%)

never practiced breast self-examination. Thirty two (37.6%) of the respondents practiced breast self-examination and only 8 (25%) of those who practiced breast self-examination practiced it effectively once a month. This view is supported by Mandere, (2009) who stated that teaching women how to examine their breasts every month and encouraging them to do so helps in maintaining good health.

Eighteen of the respondents practiced breast self-examination twice or three times in the previous three months. This view is supported by Oluwole's, (2008) study in Nigeria which revealed that 80% of the subjects practiced breast self-examination and 20% did not practice breast self-examination. Of those who practiced breast self-examination only 50% of the respondents practiced breast self-examination monthly as recommended, 11.25% of the respondents practiced breast self-examination quarterly, 22.5% of the respondents practiced breast self-examination every six months and the remaining 6.25% of the respondents performed their breast self-examination annually. This indicates that the subjects like those in the study were not consistent in their breast self-examination practices (Alkhasawn, 2010). The barrier to practice was identified as lack of information. Similarly in the study, the 32 (37.6%) of the respondents who practiced breast self-examination said it was effective. This therefore shows that there is need for one to have information about breast self-examination in order for the practice to be effective.

In the study, a quick demonstration of breast self-examination was a measure to evaluate the women's efficacy in breast self-examination. A checklist with nine items was constructed by the investigator and it revealed that 24(28.2%) of the respondents were partially correct in their practice of breast self-examination and only 8(9.4%) of the respondents correctly and effectively examined their breasts. The rest of the respondents did

not palpate their breasts. This is in contrast with Alkhighbe and Omuemu's, (2009) study in urban Nigeria which revealed that 77.6% of the respondents performed breast self-examination because the city environment provides a reasonable location to educate women on the importance of breast self-examination and how the women should examine their breasts. Participants in the study who live in the city of Harare had poor inappropriate breast self-examination practices. The correct palpation during the demonstration should have involved the correct use of part of the hand, mirror to observe any breast changes, rise and fall for free movements of the breasts, dimples or reactions of the skin, checking for nipple discharge. The subjects were expected to know about palpating the axilla and tail of spence but only 4(4.7%) of the respondents palpated the axilla and only 1(1.2%) respondent palpated the tail of spence. According to the studies of Maqsood et al, (2009) Only 36.9% practiced breast self-examination and the rest of the women did not feel any need to perform breast self-examination. It is also noted that in Mahmood's et al, (2002) study revealed that even health workers who know how to perform the breast self-examination did not practice it monthly and hence the increase of breast cancer among all classes of women. In Zimbabwe, Curado et al, (2009) supported the studies and stated that the proportion of women dying of breast cancer is 1 in 28 and breast cancer rates are higher than those for any other cancers besides lung cancer. Sanjeeva, (2008) stated that by a proper breast self-examination, cancers can be detected at an early stage and can be cured by modern treatment. In Zimbabwe most breast lumps are detected by the women themselves (Shodu, et al, 2001).

#### Relationship between knowledge and practice of breast self-examination

The knowledge was positively correlated and significant to breast self-examination ( $r = 0.668$ ;  $p = < 0.001$ ) This indicates a positive linear relationship that means as knowledge

improves the practice of breast self-examination also increases. The regression analysis  $R^2$  was 0.446 expressed as a percentage is 44.6%.  $R^2$  shows the effect of knowledge on the practice of breast self-examination that is 44.6% of changes in the practice of breast self examination are as a result of the knowledge of breast self-examination. The T test for the unstandardised regression coefficient was ( $b = 0.743$ ;  $p = < 0.001$ ). The regression coefficient represents a change in the practice of breast self-examination with every unit change in the knowledge. The standardized coefficient B is 0.668  $p < 0.001$  indicating the relative importance of knowledge. In this study, the importance of knowledge was 66.8% in terms of contribution to practice, therefore knowledge has a positive influence on practices of breast self-examination. These findings support those of [Sadler et al (2007); Hyums, (2003); Alam, (2006); Nour & Ragheb, 2007); Nihal, Demet & Yakup, 2009] who stated that women who lacked sufficient knowledge about breast self-examination avoided the practice.

#### Theoretical Framework

Pender's Health Promotion Model (1996) was utilized to guide the conceptualization and analysis of this study. The results of the study revealed that there was a significant relationship between knowledge and practice of breast self-examination. Pender's concepts of determinants of health promoting behavior, modifying factors and cognitive factors leading to likelihood of engaging in breast self-examination were used to guide the study. Demographic characteristics such as age, education of the women, personal and family history of breast cancer were assumed to have a contribution towards behavior specific cognition. Pender's assumption which suggests that interpersonal influences such as support from spouse and relatives, family patterns of health and interaction with health professionals have a likelihood of engaging in breast self-examination confirming health promoting practices in this study among eight (10%) of the respondents who practiced breast self-examination monthly.

Importance of health and valuing health, perceived self efficacy, perceived benefits of health promoting behavior confirmed Pender's theory. The eight (10%) of the women who practiced breast self-examination monthly valued health and were seeking more information on breast cancer and those 8 (10%) who were confident adhered to breast self-examination. The eight women valued the benefits of breast self-examination in the prevention of breast cancer by early detection of breast lumps. The women who practiced breast self-examination were aware of how their breasts looked like and would report any changes to the health professionals.

Pender's assumptions that interpersonal influences such as information and education from health workers and situational factors like access to the clinic have a likelihood of the women engaging in health promotion were confirmed by the fact that the women lacked knowledge and in the perceived barriers and benefits to health promoting behavior, had low scores and hence the poor practices of breast self-examination. Perceived barriers were lack of education, fear and worries of discovering breast cancer during breast self-examination.

The study finding revealed a positive significant linear relationship ( $r = 0.668$ ;  $p < 0.1$ ) between knowledge and practices of breast self-examination. The findings imply that as knowledge increases, breast self-examination increases. The regression analyses implies that the effect of the knowledge accounts for 44.6% of the variance in the dependent variable practice of breast self-examination. The regression coefficient was ( $b = 0.743$ ;  $p < 0.001$ ) which represents a change in the practices for every unit change in the knowledge.

Ougwahanaphaisan, (2006) used the health promotion model in a study on factors affecting health promoting behavior among officers working at the Bureau of the Royal Household in six areas, health responsibility, exercise, nutrition, interpersonal relationships, self actualization and stress management. The findings indicated that perceived health status,

perceived benefits of action, perceived self-efficacy, interpersonal influence and environmental influence to practice health promotion behaviors were positively related to health promoting behavior while perceived barriers of action to perform health promoting behavior were negatively significant. Those findings illustrated poor practices of health promoting behavior to maintain good health by the officers.

#### Implications to Medical Surgical Nursing Practice

The study results revealed that the practice of breast self-examination was poor. The mean score for practice of breast self-examination was 6.22 and the lowest score was 0 and the highest score was 18 out of a total of 25. Forty seven (53%) of the respondents scored below the mean for practice of breast self-examination and forty (47%) of the respondents scored above the mean for breast self-examination indicating that the practice of breast self-examination was poor. Medical surgical nurses need to strengthen and promote health education programmes targeted at the women on breast self-examination through pamphlets, awareness campaigns, demonstrations on breast self-examination and return demonstrations. Medical surgical nurses should continue to strengthen breast self-examination practices using the health Promotion Model as a guiding conceptual framework for practice.

The Ministry of Health and Child Welfare should actively encourage all nurses to promote awareness along with clear guidelines for doing so. A cancer plan should be developed which encourages preventative care, information giving, communicating health behavior as well as evidence based practice. Health workers should intensify health education on the importance of breast self-examination when they come into contact with women at various levels like antenatal clinic and immunization sessions.

### Implications to Nursing Education

All nurses should have adequate knowledge of breast cancer and practice of breast self-examination in order to contribute effectively to primary health care among women. The Royal College of Nursing in the United Kingdom is encouraging all nurses to promote breast awareness along with clear guidelines for doing so. An effective and specifically tailored in-service education programme which involve all nurses is necessary. There is a need for continuing education programmes and emphasis should be on breast self-examination. Health education programmes on breast self-examination should be targeted at major hospitals where breast awareness education may be integrated into already existing health education programmes.

### Implications to Nursing Research

Knowledge of nursing practice is developed through nursing research that in turn is used either to test existing theories or generate new theory (Schlotfeldt, 1975) and that transforms nursing practice. In the study, the findings revealed that the subjects had poor breast self-examination practices and reported lack of knowledge as a barrier to breast self-examination practices. The regression analysis revealed that the effect of knowledge of breast self-examination on the practice of breast self-examination was 44.6%. The other 55.4% is explained by other factors. Therefore there is a need for further studies that will examine the other possible factors besides knowledge. There is also a need to develop positive attitudes by young adults to breast self-examination and a need to carryout studies on how the barriers to breast self-examination can be alleviated. Although standard information leaflets have been developed in Zimbabwe to educate women on the practice of breast self-examination, there are still gaps. Lifetime risks of developing breast cancer are given but survival with or without

breast self-examination screening have not been addressed to assist women in making informed decisions about engaging in breast self-examination.

#### Implications to Administration

Policy makers should target those who may not be as well informed like women in the rural areas and perhaps encourage use of other channels like the media, out reach programmes or creativity to disseminate information about breast self-examination. Nurse administrators should ensure that the environment for teaching the practice of breast self-examination is conducive for the nurses to interact with the women using recommended guidelines. The nurse administrators should lobby for reduction of user fees for the women attending health services at various institutions. High costs act as perceived barriers to health promoting behaviour.

#### Recommendations

1. Considering that 53% of the participants did not perform breast self-examination and that among those who performed breast self-examination some were partially correct and others were incorrect and taking into account that a lack of knowledge on how to perform breast self-examination was the main reason why most of the non-performers did not examine their breasts, establishing educational programmes to teach the women especially those at risk may help in the early detection of breast cancer leading to reduced breast cancer mortality in Zimbabwe on first contact with the women. There is need for demonstrations and return demonstrations by the health personnel because psychomotor skills are better learnt through actual demonstrations.

2. There is need to intensify education on breast self-examination in health institution, schools of nursing and the media. Use of models to enhance understanding is recommended. Vernacular should be used to enhance understanding.
3. Further studies are recommended for those women under the age of 40 with a family history of breast cancer. Comprehensive health promoting activities of practice regarding breast self-examination can be assured through considering the women's environmental life style, occupation, belief systems, baseline health maintenance and social networks so as to give individualized education to improve the practices of breast self-examination.
4. Further research is recommended to replicate the study at different settings to assess knowledge with regard to breast self-examination in other cultures in Zimbabwe using larger samples in order for the results to be generalisable and also to reduce breast mortality.
5. Efforts must be made to raise awareness of the pros and cons of breast self-examination to assist the women to make informed decisions. Nurses should place more emphases on breast self-examination among the women during routine health assessments in order to promote breast self-examination.
6. A country wide campaign should be organized by nurses to teach women on breast self-examination using methods which will improve the technique of breast self-examination with return demonstrations made available in order to empower the women in terms of being responsible for their health and to seek assistance when necessary.
7. Undergraduate and Postgraduate Courses in Oncology especially on breast cancer are proposed for nurses. The nurses are the most involved cadres in health implementation than other health professionals. Currently in Zimbabwe, there is no Oncology Course for the nurses.

8. Health education programmes should be targeted at women through various channels including leaflets, Television, Radio and women friendly agencies, antenatal, post natal clinics, religious organization, ferminist organization, governmental organization and other charitable organizations who may assist with sponsoring health talks, symposia and workshops. These act like cues to action leading to likelihood of engaging in breast self-examination Pender's Health Promotion Model (Pender, 1996).

#### Limitations

1. The study was conducted in Harare, the capital city of Zimbabwe at one of the many city health services clinics among women age 25 to 49 years. The study findings therefore cannot be generalized beyond the sample because the study was undertaken only in one site and the results may not be applicable to other cities in Zimbabwe. Secondly, the sample size was relatively small (85) and the results cannot be generalized to the larger population in Zimbabwe. However the response rate was 100% and this allowed for comparisons to be made.
2. The data was self reported and the demonstration was not an objective measure to evaluate the accuracy of the information from the subjects. Most information could have been forgotten by the respondents resulting in a possible recall bias.
3. The instrument in the study was developed by the investigator and revised with the guidance of the supervisor at the College of Health Sciences to ensure content validity. The instrument was pretested in a pilot study at Marlborough Clinic. The validity and reliability of the instrument has not been tested through repeated use elsewhere.

## Summary

This chapter presented and analysed the major findings to answer the research questions on breast self-examination. The study consisted of eighty five women aged 25 to 49 years who were attending Mbare Family Services Clinic in Harare, Zimbabwe. The sample was selected through a simple random sampling method. The purpose of the study was to determine the relationship between knowledge and practices regarding breast self-examination among women aged 25 to 49 years. The study utilized the Pender's Health Promotion Model (Pender, 1996). A descriptive correlation design was used to examine the relationship between the variables. Data was collected using face to face interview schedule and the instrument consisted of three sections. Section A was demographic data, interview schedule, Section B practice of breast self-examination interview schedule and Section C knowledge of breast self-examination interview schedule. Data was coded and analysed using the Statistical Package of Social Sciences (SPSS) and Microsoft Excel Programme. Data was analysed using descriptive statistics and inferential statistics. The Pearson's Correlation Coefficient was used to examine the relationship between knowledge and practice of breast self-examination. A regression analysis was also done. The study findings indicated a significant positive linear relationship ( $r = 0.668$ ;  $p < 0.01$ ) indicating that as knowledge improves breast self-examination, practices increase. The Regression Analysis results were ( $R^2 = 0.446$ ) and revealed that 44.6% of the variance observed in practice was a result of knowledge. Regression coefficient ( $b = 0.743$ ;  $p < 0.001$ ) representing a change in the practice of breast self-examination with every unit change in the knowledge. The significant standardized coefficient B was  $0.668$ ;  $p < 0.001$ ) indicating that the importance of knowledge of breast self-examination contributes 66.8% to practice of breast self-examination. Knowledge has therefore a positive influence on the

rate of practices of breast self-examination. The results supported the assumption by the investigator that knowledge increases the practice of breast self-examination among women at Mbare Family Services Clinic in Harare, Zimbabwe. The study was generated through the problem of women who present with breast cancer at advanced stages T3 and T4 (Mandere, 2009). Women if taught to practice breast self-examination proficiently may present with early breast cancer with an increased possibility of cure leading to a reduction in breast cancer mortality. Until circumstances change in favour for routine mammography in Zimbabwe emphasis should be on encouraging women to practice breast self-examination.

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APPENDIX A  
INFORMED CONSENT FORM

My name is Muriel Nontando Mothobi. I am undertaking a Masters Degree at the University of Zimbabwe, College of Health Sciences. As a requirement for partial fulfillment of the Degree, I am required to conduct a research study concerning knowledge with regard to practice of breast self examination.

The information obtained will be treated as confidential information. The use of codes instead of names will be used to ensure anonymity. Only the investigator will have access to information which will be kept under lock and key and will be destroyed when the investigation is completed to ensure confidentiality. The interview will be conducted in a private room to ensure privacy. The interview will take about twenty to thirty minutes and you are free to withdraw at any time or at any point if you feel you no longer want to continue with the interview and there will be no penalty for withdrawing. You are also free to choose not to participate in this interview and your decision will not affect the quality of care or treatment given to you in the department.

Participation in this study might help in gaining more knowledge in breast self-examination or it may have no obvious benefit to you. The results of the study will influence the improvement of the health education and nursing care given about breast self-examination which will contribute to improvement of the practices of breast self-examination techniques, leading to early detection of breast lumps.

The information will also positively influence breast self-examination programmes in the prevention of breast cancer in Zimbabwe. There are no anticipated risks in participation in this study and there will be no manipulation done.

For any queries pertaining the study, do not hesitate to contact me during weekdays through to University of Zimbabwe, College of Health Sciences, Department of Nursing Science. Telephone 04 – 79163 ext 2221 or P O Box A178, Avondale, Harare.

I have read and understood this consent form and I voluntarily consent to participate.

\_\_\_\_\_  
Subject Signature

\_\_\_\_\_  
Date

OR

This consent form has been read to me and the contents of which I understand and therefore hereby voluntarily consent to participate.

\_\_\_\_\_  
Subject Sign

\_\_\_\_\_  
Date

Appendix B  
STRUCTURED INTERVIEW SCHEDULE

Date of Interview \_\_\_\_\_

Serial Number \_\_\_\_\_

Section A

Demographic Data

Instructions: I will ask you questions about your personal information, please answer them to the best of your knowledge.

<u>Code</u>	<u>Scores</u>
1. What is your age?	<input type="text"/>
2. What is your level of educational?	<input type="text"/>
1. Did not attend school	<input type="text"/>
2. Primary	<input type="text"/>
3. Secondary	<input type="text"/>
4. Tertiary Education	<input type="text"/>
3. What is your marital status?	
1. Single	<input type="text"/>
2. Married	<input type="text"/>
3. Separated	<input type="text"/>
4. Divorced	<input type="text"/>
5. Widowed	<input type="text"/>
6. Co-habiting	<input type="text"/>

4. What is your religion?
- 1. Christian
  - 2. Traditionalist
  - 3. Moslem
  - 4. None
  - 5. Other (specify)
5. What is your employment status?
- 1. Unemployed
  - 2. Self employed
  - 3. Formal employment
6. Which of the following categories best describes your total family monthly income?
- 1. None
  - 2. Below USD50.00
  - 3. USD51.00 to USD100.00
  - 4. USD101.00 to USD150.00
  - 5. USD151.00 to USD200.00
  - 6. Above USD200.00
7. How did you first hear about breast self examination?
- 1. From your spouse
  - 2. From the television or radio
  - 3. From the newspaper
  - 4. From your nurse / doctor
  - 5. Others, please specify

8. Is there any history of breast cancer in your family?

1. Don't Know

2. Yes

3. No

9. How many children, if any do you have?

1. None

2. One

3. Two

4. Three

5. Four

6. Above four

10. Previous history of breast problems

1. Yes

2. No

Section B

Practice of Breast Self-Examination

11. Do you think breast self-examination is important?      Yes  1  
No  0
12. Have you ever observed a demonstration on breast self-examination?      Yes  1  
No  0
13. If the response is yes to question 12, then: Whom have you observed demonstrating a breast self-examination?
1. None  0
2. Friends/relatives or others specify  1
3. On television/book  2
4. A Doctor or a Nurse  3
14. At what age did you first practice breast self-examination?
1. I do not remember  0
2. After 20 years of age  1
3. 20 years  2
4. 18 years  3
15. How often do you examine your breasts?
1. Never  0
2. Sometimes  1
3. Once a month  2

16. How many times in the last three month have you practiced breast self-examination?

1. 0 times

2. 1 time

3. 2 times

4. 3 times

5. more than 3 times

17. When palpating your breasts, what part of the hand do you use?

1. Not done

2. Partially correct

3. correct

18. Please may you demonstrate how you examine your breasts.

Yes      No

1. Goes in front of a mirror.	<input type="checkbox"/>	<input type="checkbox"/>
2. Checks for breast changes	<input type="checkbox"/>	<input type="checkbox"/>
3. Observes rise and fall for free movement of breasts, dimples or reactions of the skin.	<input type="checkbox"/>	<input type="checkbox"/>
4. Checks for discharge from the nipples.	<input type="checkbox"/>	<input type="checkbox"/>
5. Lies down supine position with support under shoulder.	<input type="checkbox"/>	<input type="checkbox"/>
6. Palpates using pads of fingers.	<input type="checkbox"/>	<input type="checkbox"/>
7. Palpation correct and effective.	<input type="checkbox"/>	<input type="checkbox"/>
8. Palpates axilla.	<input type="checkbox"/>	<input type="checkbox"/>
9. Palpates tail of spence	<input type="checkbox"/>	<input type="checkbox"/>

Score: Minimum = 0

Maximum = 25

Section C

Knowledge of practice of breast self-examination

19. Have you ever received information about breast self-examination?

Yes

No

If the response is yes to question 19,

20. From whom did you receive information about breast self-examination?

1. Not applicable

2. Friends or relatives

3. Public media

4. Health Personnel

21. At what age should women start examining their breasts?

1. Do not know

2. 18 to 20 years

3. Others, specify

22. When should you time the practice of breast self-examination?

1. I don't know

2. Before your menstrual period

3. 5-7 days after your menstrual period

23. What is the best position for a woman to examine their breasts?

- 1. Do not know.
- 2. In front of a mirror
- 3. Others, specify

24. Which part of your hand do you use for palpating breasts?

- 1. Do not know
- 2. Pads of the hand
- 3. Others, specify

25. What do you feel for when you are palpating your breasts?

- 1. Do not know
- 2. Thickening of breasts
- 3. Breast lumps
- 4. Others, specify

26. What changes should one report to the health care-giver when doing a breast self-examination?

Yes No

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 1. Change in size or shape of the breasts?                | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Dimpling, puckering or bulging of the skin?            | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. A nipple that has changed position or is now inverted? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Redness?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Rash?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Swelling in surrounding area?                          | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Any persistent unusual pain of the breasts?            | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Nipple discharge?                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Swelling of upper arm or lump in armpit?               | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Breast lump?  | <input type="checkbox"/> | <input type="checkbox"/> |

27. What are the risks of developing breast cancer?

Yes No

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 1. When one gets older?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. When one has a family history of breast cancer?                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. When monthly periods began before 12 years of age?                  | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. When one consumes alcohol or smokes?                                | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. When one has no children or had children after the age of 30 years? | <input type="checkbox"/> | <input type="checkbox"/> |

6. When one is over weight?

7. Previous breast condition or breast diseases?

8. Some people have genes that make them  
prone to developing breast cancer.

Score:      Minimum = 0, Maximum = 29

## Appendix C

### GWARO ROKUBVUMA KUVA MUMWE WE VACHABVUNZWA

Zita rangu ndi Muriel Nontando Mothobi. Ndiri kuita zvidzidzo zve pamusoro zvinonzi Masters Degree kuUniversity ye Zimbabwe, College ye zveutano. Kuti ndizadzise zvinodikanwa padzidzo iyi ndino fanirwa kuita tsvakiridzo maererano neruzivo rwoku zviongorora mazamu.

Zvichabuda muongororo iyi zvichange zvakachengetedzwa, hapana achazviona. Kushandiswa kwemanamba akavandika zvichabatsira kuchengetedzwa kwezvichabuda paongororo iyi. Hurukuro ichaitirwa muimba yakavandika pasina anonzwa. Hurukuro iyi ichatora maminiti angave makumi maviri kana makumi matatu. Makasununguka kusiira hurukuro iyi panzira kana manzwa kuti hamusisiri kuda kuenderera mberi nayo. Hapana mhosva yamuchapiwa pakudimbudzira hurukuro iyi. Munekodzero yokuramba kuva mumwe we vachaita hurukuro iyi. Izvi hazvizokonzera kuchinjwa kwemabatirwo amuchaitwa pakurapwa.

Kuva mumwe weavo vachapinda muhurukuro idzi kuno gona kubatsira kuti kuve neruzivo rwakawedzera paongororo yemazamu. Zvingangoita kuti imi hapana chamuchawana kubva muhurukuro iyi. Zvichabuda muongororo iyi zvichabatsira kuwedzera ruzivo maererano nezve kuzviongorora mazamu, zvakare zvichabatsira kuti avo vanechirwere chegomarara remazamu vagokasika kuonekwa mapundu anenge ari mumazamu.

Ruzivo urwu ruchabatsira zvakare chirongwa chokuzviongorora mazamu senzira yekudzivirira chirwere chegomarara remazamu muZimbabwe.

Hapana dambudziko ririkutarisirwa kuvapo paongororo iyi. Hapana njodzi irikutarisirwa kana kubiridzirwa kuchaitwa.

Kana muine mibvunzo paongororo iyi musazeze kundibata nguva ipi zvayo pakati pesvondo kuUniversity ye Zimbabwe kubazi rezveutano. Namba dzerunhare ndedzidzi 04 – 79163 ext 2221 kana kero P O Box A178, Avondale, Harare.

Ndaverenga ndikanzwisisa tsanangudzo yokubvuma kuva mumwe weavo vachabvunzwa muongororo iyi.

---

Sayina

---

Zuva

Ndaverengerwa rugwaro uru ndikarunzwisisa saka ndirikubvuma pasina kumanikidzwa kuti ndibvunzwe

---

Sayina

---

Zuva

## Appendix D

### Marongerwo Ehurukuro

Zuva reongororo \_\_\_\_\_

Serial numba \_\_\_\_\_

### Chikamu Chekutanga

#### Mibvunzo maererano netsika nemagariro neupenyu hwenyu

Zvekuita: Ndichakubvunzai mibvunzo maererano nehupenyu hwenyu, ndinokumbira kuti mupindure semaziviro amunoita.

Code	Scores
1. Mune makore mangani?	<input type="text"/>
2. Makadzidza kusvika papi?	
(a) Handina kuenda kuchikoro?	<input type="text"/>
(b) Gwaro rekutanga? (primary)	<input type="text"/>
(c) Rugwaro rwepiri? (secondary)	<input type="text"/>
(d) Dzidzo yepamusoro (tertiary)	<input type="text"/>
3. Makamira sei panyaya dzewanano?	
(a) Hamuna kuwanikwa.	<input type="text"/>
(b) Makawanikwa.	<input type="text"/>
(c) Makasiyana.	<input type="text"/>
(d) Makarambana.	<input type="text"/>
(e) Makafirwa.	<input type="text"/>
(f) Murikungogara mese.	<input type="text"/>

4. Munonamata chitendero chipi?

- (a) Murimakristu.
- (b) Zvinamato zvechivanhu.
- (c) Moslems.
- (d) Hamuna chitendero.
- (e) Mamwewo (tsanangura).

5. Munoita basa rei?

- (a) Handishandi.
- (b) Ndinozvishandira.
- (c) Ndine basa randakadzidzira.

6. Pamari dzinotevera, ndeipi inotambirwa nemhuri yenyu

pamwedzi?

- (a) Hapana.
- (b) Iripasi pe USD50.00
- (c) USD51.00 to USD100.00
- (d) USD101.00 to USD150.00
- (e) USD151.00 to USD200.00
- (f) Iripamusoro peUSD200.00

7. Makatanga kuzvinzwa nani nezvegomarara remazamu?

- (a) Nemurume wenyu.
- (b) Kubva kuRadio kana TV.
- (c) Kubva mumapepa enhepfenyuro.
- (d) Kubva kuna mukoti kana kuti chiremba wenyu.
- (e) kune vamwewo / tsanangurai.

8. Pane akamborwara here negomarara remazamu

mumhuri yenyu?

(a) Handizivi.

(b) Hongu.

(c) Kwete.

9. Munevana vangani?

(a) Handina.

(b) Mumwe chete.

(c) Vaviri.

(d) Vatatu.

(e) Vana.

(f) Vano pfuura vana.

10. Makambova nedambudziko remazamu here?

(a) Hongu

(b) Kwete

## Chikamu Chepiri

### Maitirwo ekuzviongorora mazamu

11. Munofunga kuti kuzviongorora mazamu kwakakosha here?

(a) Hongu.

(b) Kwete.

12. Makamboona here panenge pachiratidzwa maitirwo ewongororo yegomarara remazamu?

(a) Hongu.

(b) Kwete.

13. Kana mati hongu pamubvunzo watabva ndiani wamakaona achiratidza maitiro ewongororo yegomarara remazamu?

(a) Hapana.

(b) Hama neshamwari.

(c) Pa Television kana bhuku.

(d) Chiremba kana mukoti.

14. Maive nemakore mangani pamakatanga kuzviongorora mazamu?

(a) Handichaziva.

(b) Ndapfuura Makore makumi maviri (After 20 years).

(c) Makore makumi maviri (20 years).

(d) Makore gumi nemasere (18 years).

15. Munoongorora mazamu enyu kangani?

(a) Handisati ndambozviita.

0

(b) Dzimwe nguva.

1

(c) Kamwe chete pamwedzi.

2

16. Makazviongorora mazamu kangani pamwedzi mitatu yapfuura?

(a) Handina.

0

(b) Kamwe chete.

1

(c) Kaviri.

2

(d) Katatu.

3

(e) Kanopfuura katatu.

4

17. Ndiratidze nzvimbo yeruoko yaunoshandisa kana uchipfanyapfanya mazamu?

(a) Handiite.

0

(b) Kugonekwa kushoma.

1

(c) Kugona.

2

18. Mungatiratidzawo kuti munoongorora sei mazamu enyu?

Hongu Kwete

(a) Kumira pamberi pechionioni.

1

0

(b) Kuongorora kana pava nemutsauko mumazamu.

1

0

(c) Kuongorora kusimukira nokudzika kwamazamu nekufovera nekunge paine zvachinja paganda.

1

0

1

0

(d) Kuongorora kana paine zvinobuda munyatso.

1

0

(e) Kurara wakatsamira piro wakatarisa mudenga.

1

0

(f) Kupfanyapfanya neminwe.

1

0

(g) Kupfanyapfanya zvakakodzera.

1	0
---	---

(h) Kupfanyapfanya muhapwa.

1	0
---	---

(i) Kupfanyapfanya kubva pamazamu kusvika kuhapwa.

1	0
---	---

Chikamu Chechitatu

Ruzivo rwegomarara remazamu ne kuzviongorora mazamu.

19. Wakambodzidziswa nezvekuzviongorora mazamu here?

(a) Hongu.

1

(b) Kwete.

0

20. Kana mati hongu pamubvunzo watabva, ndiani akakupai ruzivo urwu?

(a) Hapana.

0

(b) Shamwari kana hama.

1

(c) Nhepfenyuro dzeruzhinji.

2

(d) Vezveutano.

3

21. Madzimai anodzidziswa kutanga kuzviongorora ava nemakore mangani?

(a) Handizivi.

0

(b) Makore gumi nemasere kusvika makumi maviri

1

(18-20 yrs)

(c) Zvimwewo / tsanangurai.

0

22. Inguva ipi yakafanira kuzviongorora mazamu?

(a) Handizivi.

0

(b) Musati matevera.

1

(c) Mazuva mashanu kusvika kumanomwe mabva

2

pakutevera (5 – 7 days )

23. Ndeapi mamiriro akakodzera kuti mudzimai azviongorore

mazamu?

(a) Handizivi.

0

(b) Pamberi pechionioni.

1

(c) Zvimwewo / tsanangura.

1

24. Munoshandisa sei ruoko rwenyu pakuongorora mazamu?

(a) Handizivi.

0

(b) Mukati meruoko.

1

(c) Zvimwewo / tsanangura.

0

25. Chii chamunotsvaga pakupfanyapfanya mazamu?

(a) Handizivi.

0

(b) Kuomarara kwemazamu.

1

(c) Mapundu mumazamu.

2

(d) Zvimwewo / tsanangurai.

1

26. Ndezvipi zvamungazivisa veutano kana masangananzvo

pakuongorora mazamu?

Hongu Kwete

(a) Kusiyana kwechimiro nekutarisika kwemazamu.

1

0

(b) Kufovera, kuhunyana kana kuzvimba kweganda

1

0

(c) Kana nyatso yachinja mamiriro ayo kana kunyura

1

0

mukati.

(d) Kutsvukuruka.

1

0

(e) Tumapundu.

1

0

- (f) Kuzvimba kwenzvimbo yakatenderedza nyatso.  1  0
- (g) Kungo rwadza kunoramba kuripo mumazamu.  1  0
- (h) Zvinobuda munyatso.  1  0
- (i) Kuzvimba kweruoko kubvira pagokora kusvika muhapwa.  1  0
- (j) Bundu riri muzamu.  1  0

27. Ndezvipi zviitiko zvinogona kukonzera kuti mudzimai ave negomarara remazamu?

	Hongu	Kwete			
(a) Ndokunge munhu avakuchembera?	1	0			
(b) Kana kune vamwe mumhuri yako vakamborwara nechirwere chegomarara?	1	0			
(c) Kana munhu akatangisa kutevera asati asvitsa makore gumi nemaviri (12yrs)?	1	0			
(d) Kana kuti munhu anonwa hwahwa kana kuputa fodya?	1	0			
(e) Kana munhu asina kumboita mwana kana kuti munhu akaita mwana asvitsa makore makumi matatu (30yrs)?	1	0			
(f) Kana munhu ane muviri muhombe wakadarika mwero?	1	0			
(g) Kana munhu akamborwara nezvimwe zvirwere zvemazamu?	1	0			
(h) Vamwe vanhu vanenhodzerwa dzingakonzera kuti vave nechirwere chegomarara remazamu?	1	0			