**Introduction**

Breast cancer is one of the most common types of cancer affecting women today. It is a major cause of morbidity and mortality among women worldwide. It does not only threaten woman's life but also affects her gender identity and body image (1). The incidence rates are high in more developed countries are low in less developed countries. In the United States of America (USA) each year more than 180, 000 women are diagnosed with breast cancer. If current rates of increase remain constant, a woman born today has a 1 in 10 chance of developing breast cancer (2). According to the International Agency for research on Cancer database, there were over 1000.000 new cases in the world in the year 2004, furthermore, the rates in women living in developing countries are rising (3). In Egypt, breast cancer represents 18.9% of total cancer cases. It is the most common malignant neoplasm among women in Alexandria and more than 1000 were diagnosed with breast cancer in 1997, 40.3% of all cancers were diagnosed in women (4,5). While very little can be done to limit the main causative risk factors which have been documented in epidemiological studies such as being female, over the age of 50, having a first degree relative with breast disease with hyperplasia , menarche before age twelve, nulli- parity, or delayed child birth after the age of fifty- five. Modifiable risk factors include: eating a diet high in fat, oral contraceptive use, moderate alcoholic intake, hormonal replacement therapy, smoking and leading a sedentary lifestyle. Important advances have been made in strategies for early detection and in therapeutic interventions which may contribute to more favorable outcomes for breast cancer patients (5).

Breast cancer cannot be prevented but can be successfully treated if detected early. Considering the different levels of prevention , no primary prevention currently exists, and although the detection of breast cancer genes (e.g., BRCA1) is now technically possible, it is time consuming, expensive(6), and useful only for small percentage of women with a family history of breast cancer. Whereas the long-term benefits and accuracy of breast screening have been questioned, secondary prevention through early detection methods such as mammography, clinical breast examinations, and breast self-examination (BSE) remain important in attempting to improve the diagnosis and prognosis for women with breast cancer. Early detection can improve the prognosis of breast cancer because the outcome of the disease is directly related to the size of the primary tumor (7) (Specifically, when a tumor is found to be less than 2 cm and confined to the breast).

Because breast cancer cannot be prevented, the greatest defense to reduce fatalities from this disease is early detection which includes education of breast self examination techniques and timing guidelines for clinical breast exams and mammograms (6)**.** The American Cancer Society feels very strongly that early detection is the best opportunity to reduce deaths associated with breast cancer (1). Breast self examination remains the most controversial of community recommended Strategies for breast cancer screening. Breast self examination is an easy, safe, and effective measure that all women can perform for themselves (8).

The objective of BSE is to get women not only to become proficient at performing BSE but also to become familiar with the usual appearance and feel of their breast. It should also be noted that approximately 70% of all breast masses are self detected (9). Research has shown that, Egyptian women are less likely to perform BSE on a regular basis and although breast cancer is a major threat to those women’s health, these remains an overwhelming majority of women who don’t perform breast self examination for early detection of breast cancer. The behaviour of breast self examination is different in that it is a personal behaviour and beliefs and doesn’t always depend on health care professionals.

**Graham (2001)** reported a relationship between health beliefs and the practice of BSE among African American women (10). The health belief frame of reference was much stronger in determining BSE performance for a given individual than his background characteristics (11). Frequency of BSE was related to increased perceived seriousness of breast cancer, benefits of BSE and health motivation.(12) In other words, a person will take a health-related action if he/she feels that a negative health condition such as breast cancer can be avoided, or if he/she has a positive expectation that the recommended action (performance of BSE) will avoid a negative health condition, for example, performing BSE will be effective to prevent breast cancer, or she believes that she can successfully perform BSE with confidence(10 , 13) **.**

**Aim of the Study:**

This study aims to identify the relationship between health beliefs and performance of breast self examination among women.

**Research Questions**

1. What is the relationship between health beliefs and the frequency of Breast self examination among Egyptian women?

2. What is the relationship between educational levels, age, self history of breast disease, family history of breast cancer, and frequency of breast self examination among Egyptian women?

3. What is the relationship between a health care provider recommending BSE and frequency of BSE performance among Egyptian women?

**Materials and Methods**

**Materials**

**Design:**

This is a descriptive correlation design

**Settings:**

The study was conducted in two of the Faculty of Nursing affiliated to Alexandria and BenhaUniversities.

**Subjects:**

A convenient sample of 100 employee and worker women who were working in the above mentioned settings and available at time of data collection .Those who completed the study form were 64 women from Alexandria faculty of nursing and 26 from Benha faculty of nursing. A total 10 women declined and refused to participate or did not meet the inclusion criteria. Data were collected from the participants who fulfill the following criteria: No personal history of breast cancer, not pregnant or breast-feeding, and willing to participate in the study.

**Tools:**

**Tool I**: A structured interview questionnaire .This questionnaire was utilized to assess the socio demographic Characteristics of the employee and worker and their perception toward breast cancer and risk factors.

Socio-demographic variables included age, current marital status, education level, academic degree. Information about the number of births, the age of first pregnancy were collected from women. Other variables included perception of breast cancer risk, history of breast cancer among family, personal history of breast problems, BSE practice and frequency in the previous year, recommendation of BSE by health professional,

**Tool II: Champion’s Breast Cancer Screening Instrument Scale** (11).

Health beliefs were assessed using the Champion’s revised Health Belief Model Scale (HBMS) (Champion, 1997). This scale was modified to assess the health beliefs of Egyptian women towards breast self examination. It consisted of 38 items to which the women were asked to respond to one of the choices. These statements were clustered into six subscales: susceptibility (three items), seriousness (seven items), motivation (six items), benefits of BSE (six items), barriers to BSE (six items) and confidence of BSE (ten items).

A scoring system for health beliefs of women towards breast self examination. The scale items have a 3 point Likert-like format with the following coding: strongly disagree (1), neutral (2), and strongly agree (3). Higher scores indicate stronger feelings related to that construct. The total score of the questionnaire was 114 marks**.** Susceptibility Scores (9) , Seriousness Scores (21), Benefits of BSE Scores (18),Barriers to BSE Scores(18),Confidence of BSE (ten items)Scores(30), Motivation Scores (18). All subscales are positively related to BSE practice except for barriers which are negatively associated. Reported Cranach's alpha for reliability the HBMS ranged from 0.69–0.83. Cronbach’s alpha coefficient for the current study ranged from 0.720.91. In this study, Cronbach’s alpha coefficients were 0.72 for susceptibility, 0.72 for seriousness, 0.77 for health motivation, 0.77 for barriers-BSE, 0.86 for benefits-BSE, 0.91 for BSE self efficacy, indicating adequate reliability the scale.

**Method**

**1-** AnOfficial letter clarifying the purpose of the study was obtained from the Faculty of Nursing to conduct the study and collect the necessary data.

**2-** An interview schedule was developed by the researcher after extensive review of the related and recent literature. The tool was revised for content validity by 5 juries, who were experts in the related field.

**3-** The purpose of the study was explained to each women and an oral consent to participate in the study was obtained from the participants.

**4-** A pilot study was carried out on 10 women excluded from the study subjects. It was done to test the clarity of the study tools. The necessary modification was done.

**5-** The average time needed to complete the questionnaire rangedbetween 20 to 25 minutes. Data were collected by using a self administration questionnaire prepared by researchers and the Egyptian version of Champion’s Health Belief Model Scale. Technique of data was collected in face to face interviews from the illiterate participants. The participants were invited to participate after an explanation by the investigator. Potential participants were informed that participation was voluntary. Collection of data covered a period of 2 months (August-September 2009).

**Statistical analysis:**

**-** Data entry was done using computer software package. (SPSS).A descriptive measure included number, percentage, for the demographic data.

**-** A scoring system for women's Health Beliefs regarding The Performance of Breast Self examination was adopted. The total score of beliefs ranged according to each subscale scores. It was expressed as a mean and standard deviation (S.D).

- Correlation of demographic data and frequency of breast self examination (BSE ) using Pearson’s Correlation.

- Correlation of Health Beliefs model Scale Concepts and BSE Frequency using Pearson’s Correlation.

**-** P-value considered significant if it is < 0.05, highly significant if it is <0.01

**Results**

Table (I) shows the demographic characteristics of the study subjects. It reveals that 32.2% of the study subjects were 30 to less than 40 years and only 14.5% of them were 50 years or above.

As regards their level of education more than half (53.3 %) of the studied sample had a University degree. The majority of the women were married represent 67.8% and 20% were single.

Table (II) shows the obstetric history and risk factors for breast cancer. According to the risk factors of the family and physical history of breast problems, more than two thirds of them (66.7%) had no family history and the rest 33.3% had a positive family history of breast cancer, either the mother or sister 8.9% for each, or the mother's sister 13.4% or grandma 2.2%.

Regarding history of the previous breast problem occurring to the study subjects, the table shows for 79% no problem was encountered, the rest (21.0%) reported previous problems, such as inflammation 11.1% benign tumor 4.4% abscess 3.3 % cyst 2.2 % .

Concerning breast cancer risk factors reported by women, table II shows that from the 90 participants 27.8% reported that the age of menarche was greater than 12 years and 72.2% was less than 12years.

The age of first pregnancy was less than 30 years for 20% and more than 30 years for 64.4% and 14.5% reported no pregnancy.

Regarding age of menopause 75.5 % of women reported that they still menstruating. 15.6% reported that they were less than age 55 years at the onset of menopause. 5.6 % of the studied sample had hysterectomy. And 24.4% of them take hormonal replacement .When ask about smoking, 94.4% reported they had never smoked.