

## Health Beliefs of Women about Performing Mammography among Clients Referred to Health Centers in Sari / Iran

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**Abstract:** Breast cancer is one of the non-communicable diseases that lead to the death of large numbers of people in human societies. The most prevalent cancer reported among the Iranian women is breast cancer which includes 18.9 % of all cancers in women. Screening procedure in early detection of breast cancer is important. This study was performed to assess the health beliefs of women about mammography. This descriptive study was conducted on 400 women over 40 years old referred to Sari Health Centers and were selected by random sampling and their health beliefs about mammography was evaluated through questionnaires by Champion-based health model. Data were analyzed using descriptive and inferential statistics. Majority of the studied women (69.5 %) did not undergo mammography and 13.9 % had family members who had a mammography (Grade A). 55.8 % women completely agreed that mammography assures breast health. 41.6 % of women completely agreed that early detection of breast cancer prevents breast operation or mastectomy and the most prevalent barrier of mammography was that for many women, self-breast examination for finding breast mass was sufficient in their thoughts and will not need mammography. 34.7% of them were agreed with performing mastectomy. Between the educational level of women and their opinions regarding the benefits and barriers of mammography, there was a statistical significant correlation ( $P < 0.05$ ). Despite the positive health beliefs about mammography, the rate of mammography performance is very low. Therefore, it is recommended for researches to identify the factors that increase breast cancer screening methods to encourage women to use them. Also, it is suggested that routine and free mammography as a screening test in women over 40 years old be implemented in health centers.

**Key words:** Mammography · Health beliefs · Breast cancer

### INTRODUCTION

Cancer is the leading non-communicable cause of death in many societies. In the United States, it has been reported that cancer is the second cause of death after cardiovascular disease. Currently, more than seven million people lost their lives due to cancer around the world and it is estimated that a number of new cases of cancer will be increased from 10 million to 15 million in 2020 annually [1]. Among the all cancers, breast cancer ranks number ten among the causes of death [2]. In 2000, it is estimated that over 175,000 women in the United

States had had breast cancer and more than 43,000 of them died of the disease [3]. In 2003, 211000 new cases of breast cancer were diagnosed and 39000 women died from the disease [4]. About the prevalence of the disease in our country, there were no exact available statistics but studies showed the prevalence of the disease increased from 7.5 % in 1982 to 5.7 % in 1986. According to the statistical report of Disease Combat Office, the most commonly reported cancer among Iranian women is breast cancer which is composed of 18.9 % of all cancers. The most common age group of women with breast cancer is 35-54 years [5].

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According to previous studies, prevention and early detection of cancer are critical factors in controlling of the disease and increasing survival of the patients. Thus, mortality rate will be reduced by prevention and screening programs [7, 6]. Regarding breast cancer, the secondary prevention is very important and leads to the diagnosis of the cancer in the early stages and prevents the disease progression. Participation in screening tests is part of this level of prevention [8]. The American Cancer Society recommends breast self-examination (BSE), mammography and clinical breast examination (CBE) as three effective methods of secondary prevention of breast cancer [9-12]. Mammography examination is said to be the most sensitive and specific test accompanied with clinical examination for early detection of breast cancer should be done. This test is capable of detecting mass with a diameter of less than 0.5 cm. Thus, regular and routine mammogram is recommended annually after age 40 [13]. It should be noted that the accuracy of mammography to detect the concealed tumors (at early stages) considerably is more reliable than clinical examination [14]. Mammography can be identified 85 to 90% of breast cancer even before physical change has occurred in the breast [15]. Research indicates that the performance of mammography decreases mortality rate from breast cancer. Thus, the death of one percent of women age 50-70 years old can be delayed with this screening test [16]. At present, the only practical way to recognize the mass at the early limited stage is through the screening test. Although there is favorable efficacy of diagnosis of breast cancer screening test, the availability of appropriate screening programs, its free and low cost, many women do not use these facilities [17]. Despite the effectiveness of this method, a limited group of women do breast self-examination (BSE) and some of them resort to mammogram [18]. Thus, because of the high incidence of breast cancer among Iranian women and specificity in mammography in detecting breast cancer, it seems necessary to encourage women to have mammogram. Encouraging women to mammography requires a change in their attitude and behavior to change their ways and understand their motivations and beliefs that are essential [19], considering the importance of beliefs in the performance and necessity of mammography in women over 35 years old as the most effective method available for the early detection of breast cancer and also because it is directly related to women's health. Hence in this study, the health beliefs of women who had referred to Sari health centers with mammography were investigated.

## **MATERIALS AND METHODS**

This cross-sectional study was conducted on 400 women over 40 years old who referred to Sari health centers. Random sampling method was used to collect data according to the population covered by selected health centers and the sample size was selected based on research background and statistical consul.

The data collection instrument was a questionnaire divided into two parts. The first part of the questionnaire was demographic characteristics of studied population including personal, social and economic status. The second part was outlined into four sections: mammography benefits, barriers to mammography, breast cancer severity and susceptibility to breast cancer. The health belief questions were adjusted based on health belief Champion model and Likert five option scales. In champion model, the aim of health beliefs about the benefits of mammography is: individual's opinions and attitudes on issues such as the impact of mammography on health, increasing long life and the possibility of development of cancer treatment and etc. The purpose of health beliefs about mammography barriers were opinions and attitudes of individual cases, such as high cost of mammography, fear of the outcome of mammography and the pain while doing the procedure and so on. The meaning of disease severity was opinion and individual attitudes about the impact of cancer in women's lifestyle such as losing one or both breasts and the meaning of susceptibility with disease was old age, family history of this disease and etc. compared with other diseases. To determine the scientific validity for data collection, content validity was used to determine the reliability of this test using Cronbach's alpha and  $\alpha = 0.95$  was achieved. For the data collection, first, women aging above 40 years old referred to the health centers were selected according to the inclusion criteria for the admission of research and then the purpose of research, how to complete the questionnaire and confidentiality of information were explained to them. After the participants' approval to participate in the study, questionnaires were completed through interviews. All the questionnaires were collected within six months at once. SPSS statistical program was used in order to analyze the information in this study. Descriptive statistical techniques including: tables, charts and central and distribution statistical indices were used.

**RESULTS**

The mean age of each participant was 44.93 years old. The majority of subjects (95.3 %) were married. Most of the women participants (28.7 %) had a second pregnancy. In terms of educational level, most of them were (33.9 percent) high school graduates and (48.2 %) were housewives. The majority of women's spouses (53.3%) were employees. The majority of the participants (52.4 %) were homeowners and 35.3 % had no insurance coverage. 69.5 % of subjects had any mammography yet and 3.7 % have had twice. The majority of women (11.1%) through a midwife's recommendation had mammography. About 77.6% of women had no feeling of breast mass. There was no family history of any cancer in 90.8 % of the women. 2.9 % of women had sisters who experienced cancer. 25.5 % of women mentioned breast cancer among their friends. 13.9% of women mentioned that some of their family members (first rank) had mammography. 19.2 % of women also mentioned the experience of mammography in their neighborhood. Women's health beliefs about the benefits of mammography was as follows: 212 women (55.8 %) agreed completely that mammography assures breast health. 170 of women (44.7%) completely agreed that mammography can prolong one's life. 164 women (43.2 %) fully agreed that mammography helps to detect non-palpable mass in the breast. 157 women (41.3%) fully agreed that mammography is a good diagnostic device for the early detection of breast cancer.

158 (6 / 41.6 %) completely agreed that early detection helps the possible treatment of breast cancer. 140 (36.8%) fully agreed that early detection of cancer prevents mastectomy. The most common barrier to mammography was that BSE for them is enough not to undergo mammography or perform mammogram (Table 1).

The most common belief of women about breast cancer susceptibility (38.9%) was that breast cancer is inherited (Table 2).

Women's beliefs in terms of severity of breast cancer have been such that 37.6 % women were against the idea of the disease being dangerous and fatal. 22.9 % percent of them opposed that breast cancer could endanger an individual's health. 23.4% percent of women agreed that imagining of having breast cancer causes anxiety. 6.31% percent of women completely agreed on the effect of breast cancer in the process of life. 32.1 % percent agreed on reducing that breast cancer lessens one's physical features. 34.5% agreed that breast cancer affects one's job. 34.7 % agreed on the removal of one breast due to the cancer. 35.5 % completely agreed that the lack of early detection can lead to death. Between the beliefs of the women and their jobs related to benefits, barriers to mammography and susceptibility to breast cancer had no significant relationship. However, there was a significant statistical relationship between the educational level of the women and their beliefs regarding the benefits and barriers to mammography (P<05).

Table 1: Distribution of health beliefs of women about mammography barriers referred to health centers in Sari 2004

Cases related to barriers to mammography	Completely agree No. (%)	Agree No. (%)	Disagree No. (%)	Completely disagree No. (%)
Mammography as a cause of anxiety in breast cancer	114(30%)	123(32.4%)	131(34.5%)	12(3.2%)
BSE is sufficient to find breast	21(5.5%)	154(40.5%)	109(28.7%)	96(25.3%)
No doctor's advice about mammography	19(5%)	166(43.7)	103(27.1%)	92(24.2%)
Lack of precise knowledge about mammography	22(5.8%)	160(42.1%)	114(30%)	84(22.1%)
Fear of radiation risks in mammography	24(6.3%)	165(43.4%)	117(30.8%)	74(19.5%)
BSE suffices in finding mass	25(6.6%)	182(47.9%)	99(26.1%)	74 (19.5%)
Mammography is time-consuming	31(8.2%)	165(43.4%)	102(26.8%)	82(21.6%)
Mammography is painful	33(8.7%)	166(43.7%)	103(27.1%)	78(20.5%)
Mammography is costly	33(8.75%)	146(38.4%)	110(28.9%)	91(23.9%)

Table 2: Frequency of distribution of health beliefs of women about breast cancer susceptibility cases referred to health centers in Sari in 200

Potential cases of breast cancer	Completely agree No. (%)	Agree No. (%)	Disagree No. (%)	Completely disagree No. (%)
Increasing age	28(7.4%)	147(38.7%)	110(28.9%)	95(25 %)
If one's mother or sister suffered from breast cancer	24(6.3%)	148(38.9%)	122(32.1%)	86(22.6 %)
Breast cancer as a divine intervention	23(6.1%)	132(34.7%)	126(33.2%)	99(26.1)
Presence of mass in each breast	22(5.8%)	126(33.2%)	134(35.3%)	98 (25.8%)
Obesity	19(5%)	127(33.4%)	129(33.7%)	106 (27.9%)
Unmarried women	24(6.3%)	109(28.7%)	124(32.6%)	123 (4 / 32.4%)

## DISCUSSION

In this study, it was shown that there was significant statistical relationship ( $P < 0.05$ ) between the educational level and their positive beliefs about the benefits of mammography. These findings matched with Mohammadi *et al.* [20] study. In their research, it was clear that as the women's educational level increases, recognizing the possibility of cancer and breast self-examination process increases. But, the process of this increase is not the same on the different educational levels. When educational level increases, from illiteracy to high school, their knowledge increases as well. But, among the high school graduates and higher levels, a considerable increase was not shown. In other studies, the result was opposite, namely women who had higher education levels were more willing to do cancer screening and those with lower education levels were more willing to participate in medical examination [13, 19, 21, 22]. Another significant finding of this study was that 182 women (47.9%) agreed that BSE suffices for the mass detection and mammography is not necessary so this belief can endanger women's health in our society. Thus, providing information on the benefits of mammography and its importance and accuracy in early detection of health beliefs and doing breast cancer mammography is more necessary than breast self-examination.

Harris [11] in his research concluded that those who do not participate in breast cancer screening are the people with less information about the benefits and importance of these actions [11]. One of the barriers of mammography, 7.43% of women do not get advice from doctors about mammography. Modest [23] and Miok [24] in their research reported that the advice of health practitioners, helped especially in encouraging people to do mammography and other breast cancer screening methods. Other important barriers in mammography expressed by the women are its being time-consuming (8.26%), painful (27.1%) and expensive (28.9%), respectively. Frank *et al.* [25] found in their research that for those women who believe in more barriers of mammography, the less they participate. These barriers include pain, anxiety, fear of radiation and mammography being unnecessary if there is lack of clinical symptoms of breast cancer. Other research studies, mentioned that the pain during the examination prevented mammography [26, 27], that can be explained by the role of caregivers in the field of health on how mammography is performed and how it is going to be tolerated. Another important result of the research was that 135 (35.5% percent) of studied

women completely agreed on late detection of breast cancer can be fatal. Women's health beliefs about severity of breast cancer increases mammography. Smith *et al.* [28] Also expressed that speaking about the severity of the illness make women willing to follow medical orders and care and do preventive measures. 124 (32.6%) women opposed that single women are more at risk of breast cancer than married women. Motamed *et al.* [29] also expressed in his research that there is no significant relationship between the susceptibility of breast cancer and the women's marital condition. The importance of screening in the diagnosis of breast cancer is necessary. Because of this, there is a need to aware the media of the importance of early detection of breast cancer and mammography should be introduced as the best available test for early detection of breast cancer. The general public, especially the women should be encouraged to participate in screening test through the use of educational pamphlets which is cheap and simple. Sakura [30] also thought that informing the general community in an effective way to increase the screening rate [30]. Professional organizations recommend that women of 40-50 years old, should undergo mammography screening every one or two years [31,32] and mammography increased life expectancy from 77 to 97% for local breast cancer in 1940 and if screening has high specificity, it is more effective and it is lower in cost of treatment [33]. Kelly [32] also stated in his research that providing mobilized free facilities in different parts of the community increases breast cancer screening in women.

We should wait and see what administrators and health care providers will do. Is there anything effective done about the barriers of mammography especially for those susceptible of breast cancer? To answer this question, we depend upon the next generation to judge about these efforts. People should have the beliefs that healthy behaviors protect their health against diseases, in addition to having knowledge about these behaviors. It is important to understand why the patients do not use preventive behaviors against diseases and observe health care.

Therefore, it is recommended that the authorities should try to provide the available facilities free at least for cases recommended by professional organizations, provide the possibility of screening in this case. The administrators should determine with the use of research why the general public does not pay attention to health recommendations on the breast health and they should determine the factors which are involved in people's decision-making for using breast cancer screening methods.

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