Breast self examination and mammography in cancer screening: women health protective behavior

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Summary

Background. *Breast cancer (BC) is one of the leading causes of death among women. Secondary prevention may enable early detection, but this is suboptimal among all Iranian women.*
Methods. *This was a descriptive, analytic cross sectional study on 385 women 35 years old or more with no history of BC. Participants were selected by simple randomized method and were assessed through a two-part self-administered questionnaire and a self-examination checklist with content validity and test-re-test reliability.*
Results. *14.8% of women carried out breast self examination (BSE). Among them 5.7% was done in adequate timing and 9.4% performed it on a regular basis. The average age of BSE onset was 20.1 ± 7.6 and mean of Score was 6.25 ± 2.26 (2-11). 2.3%*

of participants performed BSE poorly, 7.5% fairly and 1.6% performed it well. 25.84% of samples had a history of mammography that 13% of whom received it as a result of prescription. The average age for mammography was 36 ± 7.2 (20-50) years and the frequency of mammography was 1.8 ± 1.4 (1-8) of times. Due to the low percentage of breast cancer preventive behaviors, in this study knowledge towards breast cancer was also measured because they are factors that are crucial in performance.
Conclusion. *The results highlight the need to educate Iranian women to recognize the risk factors to promote early detection of breast cancer. Creation of health behavioral by focused educational programs might cause decrease of breast cancer prevalence.*

Introduction and background

Breast cancer is the second common cancer in women [1]. The incidence of breast cancer in women is about 15% in the UK [2]. In the United States about 230,480 new cases of invasive breast cancer was diagnosed in women [3]. Based on the latest statistics, the statistics of cancer incidence is increasing in Iran [4]. A variety of screening tests are used to detect breast cancer e.g., mammography, ultrasound, MRI, clinical breast examination, and BSE [5].There are only three methods for early detection of breast cancer including mammography, clinical examination, and breast self-examination (BSE) [6].
Early detection of breast cancer is crucial not only to the survivorship of a patient, but to her quality of life while treating the cancer, and thereafter [7]. Breast self-exam or a clinical exam allowed many breast cancers to be diagnosed and successfully treated. They with an annual mammogram starting at age 40 can help to early detection of breast cancer, when it's most treatable [8]. A study in China on 267,040 women, who did BSE, revealed that after about 10 years of follow-up, BSE enabled women to find their cancers earlier [9]. Another study in Canada on 290,000 women showed that screening included both a clinical exam and a mammogram was 95% effective at detecting breast cancer [8]. Despite efficacy of these

methods, only 49.5% of women act in accordance with these guidelines [10] and women do not perform them on a regular basis [11,12]. One of the factors influencing the success of these programmes is women's acceptance, their motivations and attitudes [13].
There are many risk factors that affect the chance of developing cancer. Some of them like a person's age or race have a great impact and can't be changed. Others are related personal behaviors and may be controllable [14]. Understanding probably affecting factors can help develop a breast health plan [1, 15]. Considering the high prevalence of breast cancer in Iran, and considering that improving women's knowledge can be a base for improving their motivation and performance, present study aimed to assess women's knowledge, and their health behaviors about breast cancer.

Methods

Study design and Subjects

Present study was a descriptive, analytic cross sectional. By using simple randomized method and after approving of the Research Ethic Committee of Islamic Azad University of Hamedan, 358 women were selected from Gynecology clinics in Hamedan city from April 10 to July 10, 2012. The including criteria were 35 years of

age or more who were eligible to take part in the study, and without any history for breast cancer. The excluding criteria were unwillingness to attend the research during the study, and having a series of diseases.

Procedure and data analysis

Data collection tools included a two-part self-administered questionnaire and a self examination checklist. The first part of the questionnaire included some socio-demographic data (age, marital status, parity, etc); and the second section included questions relating to practices of Mammography, knowledge of breast cancer signs and relative risk factors, and the attitude of the participant toward BSE.

The knowledge questions were asked in three parts. Part 1) general question about knowledge of breast cancer in women and preventive behaviors were included: the prevalence of breast cancer in Iran, the kind of disease, easiest and cheapest way to detect, the onset of self-examination, breast self-examination in breast cancer prevention, breast self-examination time, the frequency of breast self-examination, mammography onset age, annual mammography information, the role of mammography in preventing breast cancer, the most common site of breast cancer, the most common age of breast cancer, symptoms (10 cases) and risk factors for breast cancer (9 cases). Part 2) knowledge about the symptoms of breast cancer were measured with ten questions including sinking part of the breast, orange peel form part of the breast, touching the wall and movable painless lump found in the breast, breast deformity, breast pain, bloody or watery discharge from the nipple, nipple of a breast sinking, sinking and breast skin lesions, breast enlargement, an enlarged auxiliary lymph nodes. Part 3) Knowledge about risk factors for breast cancer in women was measured by 9 items including a history of cancer in one breast, low fat diet, onset of menstruation at the age of 12 years, women who have not had children, women with first pregnancy before age 30, obesity, a history of cancer in a mother or sister or a close relative, history of benign breast tumors, menopause before 50 years of age. The questionnaire was set based on questions mean and sample score on three levels: poor, moderate and good. Participants received self-administered questionnaire. Answers were "correct" or "incorrect". If participant ticked "correct" she got 1 score (suitable) and if she ticked "incorrect", 0 score was considered (unsuitable). Total number of knowledge questions was 30. Mean of score was 12 ± 4.7. Total number of questions about cancer signs and risk factors were following 30 and 9. Mean of score for breast cancer symptoms was 2.39 ± 4.76 and for risk factors was 1.39 ± 4.2.

Check list also included how to do BSE. Initially, all subjects were taught breast self-examination technique by a physician. Then to each person was given a self examination check list. Checklists were controlled by trained researchers. If the person did the examination correctly, she got "1" score, and otherwise she got "0" score.

Content validity and test re-test reliability was done for the questionnaire and check list. To determine the validity of research tool, they were reviewed by 10 experts in this field. The reliability was determined by the measurement carried out by two researchers. Finally, the results were analyzed using the SPSS version 17.0. The level of $p \leq 0.05$ was considered for all statistical analyses. Chi-square test, Fischer's exact & V Cramer test were used to determine Knowledge.

Results

83.8% of participants were married; 56.8% were housewife. 64.3% had a diploma degree or more. 51% of participants belonged to middle-class and had average family income. Popularity of prior information about breast cancer was 72.4%. 13% of all samples reported a family history of breast tumors.

14.8% of participants stated that they carry out BSE. Among them, 5.7% started in adequate time and only 9.4% had done it monthly. 25.84% of samples had a history of mammography that in 13% was done as a result of prescription. The average age of BSE onset was 20.17 ± 7.6. Mean of Score was 6.25 ± 2.26 with a ranged of 2-11. Among them, 1.6% carried out BSE correctly, 2.3% poor and 7.5% quite correctly. 25.84% of samples had a history of mammography that was done as prescribed in 13%. The mean age onset of mammography was 36 ± 2.7 (20-50) years and the frequency of mammography was 8.1 ± 4.1 (1-8) of times. Tab. I shows some demographic characteristics.

64.9% of participants did not have previous information about BSE and 62.2% had information about mammography.

Fig. 1 shows knowledge level of participants about breast cancer in women and preventive behaviors, breast cancer signs and risk factors. There was specific statistical relationship between: knowledge and participant's age (PV < 0.002), family history (PV < 0.009), prior information about mammography, BSE or breast cancer (PV < 0.005), Knowledge and mammogram doing (PV < 0.001). However there was not specific statistical relationship between knowledge and BSE practice.

Conclusion and discussion

In this study few women had undergone breast screening, so that most participants did not perform BSE and mammography. Moreover, most participants did not per-

Tab. I. Some demographic characteristics of participants.

Variable	Ranged	Mean ± SD
Age pregnancy	35-80	45.63 ± 9.04
First age pregnancy	14-29	22 ± 3.36
Number living child	1-13	3.5 ± 2.1
Number abortion	1-9	3 ± 1.7
Number night work	1-4	1.5 ± 0.8
History	1-14	6.33 ± 3.7

Fig. 1. Knowledge of a: breast cancer and preventive behaviors, b: signs and c: risk factors.
a: Poor = 10 or less, Average= 10-20, Good=20 or more.
b: Poor = 3 or less, Average= 3-6, Good=6 or more.
c: Poor = 3 or less, Average= 3-6, Good=6 or more.
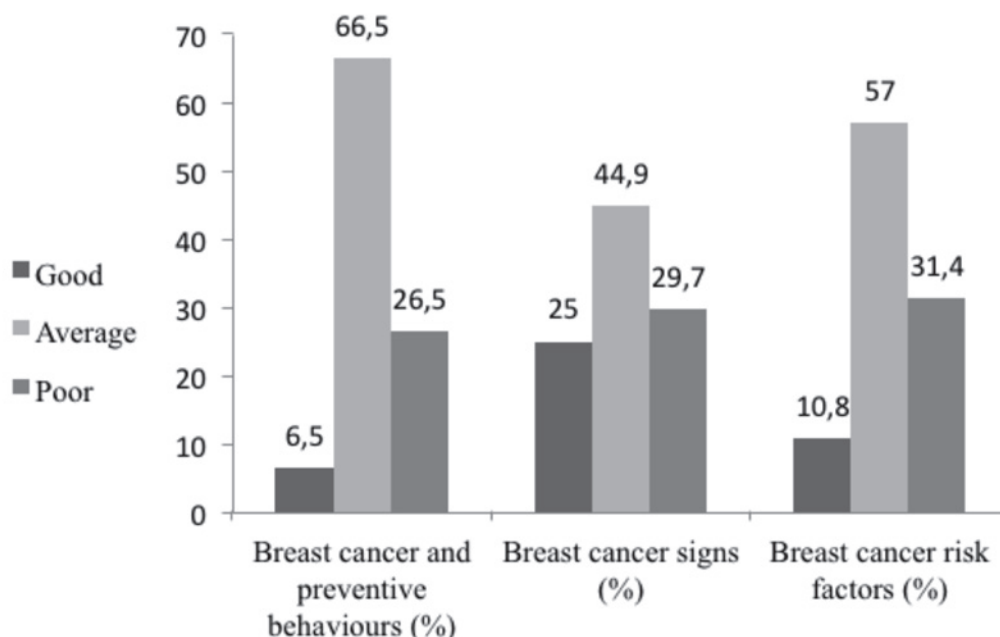
form BSE and mammography on the timing and regular basis. It can was affected by the low prior information about BSE and breast cancer. These results are in line with Radi study that found only 20.5% of participants had undergone breast screening, and 47.5% knew how to perform BSE [16]. In Yurdakos et al. study on 500 health personnel from 7 public hospitals with a mean age of 32 years old, only 22.2% of the health personnel had undergone mammographic evaluation [17].

At present study most participants did not have any prior information about breast self examinations. However, prior information about mammography was widespread. In Radi study 79% of participants heard about BSE [16]. Mean of awareness for breast cancer recognition, breast cancer signs and its risk factors among participants were low. A study in Egypt showed that total breast cancer knowledge scores had an average of 13.318 [18]. Moreover, only 44% of participants recognized the concept of breast self examination and 60% of them did not recognize mammography as an early detection method [18]. Another study on 45 breast cancer patients in Saudi indicated that Saudi women level of knowledge about breast cancer is very inadequate [16]. In contrast, in a survey, breast cancer and BSE awareness among nurses was relatively high [19]. This may be because of the key role they played in cancer information. It seems essential to increase women's awareness about benefits of breast cancer early detection.

Findings of present study highlight high educational need about breast cancer in Iran. Public awareness interventions are needed in order to promote early detection of breast cancer and overcome an ever-increasing burden breast cancer with emphasis on prevention and screening. In a program known as "Circle of Sisters", a breast cancer education initiative of free mammography was performed on 37 American Indian women. As a result, percentage of those expressing an intention to get a mammogram annually grew from 81.1% to 94.6% [20]. An educational program should be considered for health care providers in order to train BSE effectively to women and mammograms guidelines. Physicians, health providers, health pamphlets, and other information sources should assist in clarifying the benefits [21]. Such training can lead to an increased awareness so that in a survey in Iran significant increases were observed after the educational program [22].

Implications for practice

Government should design women education programs by health care professionals in order to recognize the role of them in cancer preventing. El-Shinawi et al. in their study found that 97% of breast cancer patients were willing to participate in spreading awareness among their community and their own families [18]. Programs should be augmented in daily living pattern of women, as Sadler et al. found that program initiation time is the most important factor in participation in cancer education programs among Korean people [23]. It seems to be effective if the cultural factors are considered
Because of low prevalence of self-care interventions for early detection of breast cancer, and high prevalence of breast cancer in Iranian society, increasing the awareness

about it is a necessity and using this type of interventions based on the costs versus benefits may be of special interest in health care system. The data were collected from one geographic region. It is recommended other studies in other regions, countries and with larger samples.

Acknowledgments

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