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Original Article

Performed a Qualitative and Quantitative of Breast Self-Examination: a Checklist Approach

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Abstract

Introduction: Breast neoplasia is the most common cancer among women in both developed and developing countries. Over 1.15 million women in the world detecting with breast neoplasia each year and the mortality rate is 502,000 cases from this cancer. The purpose of this study was to describe how Iranian women perform breast self-examination.

Materials and Methods: In this cross-sectional study 447 participants referred to five health center of Shahid Sadoughi University of Medical Sciences were chosen. The questionnaire and checklist were completed by all participants through a face-to-face interview. If she obtains 0-6 total score, she has weak performance, if she obtains 7-12 total score, she has acceptable performance and if she obtains 13-18 total score, she has good performance of breast self-examination. Statistical analysis carried out using Statistical Analysis Software (SAS) version 16. A P-value of <0.05 was considered statistically significant. Non-parametric tests such as Mann–Whitney were adopted.

Results: In our study, 92% of women heard about breast self-examination, but only 17.4% of them performed it monthly. Of 447 participants, 348 (77.9%) had poor, 78 (17.4%) moderate and only 21 (4.7%) had good performance. From all participants, 189(42%) by health worker, 36(8.1%) by family and 70(15.7%) by media learned how to perform breast self-examination.

Conclusion: The study showed that although most of women heard about breast self-examination but it was not a routine screening in developing country. This study confirmed that Iranian women have poor knowledge about how to perform breast self-examination. There is need for adequate health education on breast cancer and breast self-examination among Iranian women.

Keywords: Breast Self-Examination; Breast; Breast Neoplasms; Women; Neoplasms

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Introduction

Breast neoplasia is the most common cancer among women in developed and developing countries [1]. Over 1.15 million women in the world detecting with breast neoplasia each year and the mortality rate is 502,000 cases from this cancer [2]. It is the second cause of female death in the world [3]. According to IARC Globocan reported (2008) nearly 1.38 million new cases of breast cancer and 458 000 deaths from malignant breast cancer each year in the world [4]. Breast cancer is the most common malignant neoplasia in Iranian women [5]. Unfortunately, the incidence of the breast cancer rising in Iran and patients who are about 10 years younger than their western counterparts presenting with high stage of disease [6-7]. WHO promotes breast cancer control within the perspective of national cancer control programs. It is expected that the results of this study provide evidences for shaping adequate breast cancer policies in less developed countries [8]. In early diagnosis, there is a good chance for its care [9]. Awareness programs to educate women about breast cancer could promote early detection of breast cancer [10]. Mammography is the most sensitive available method for early diagnosis of breast cancer. Clinical breast examination and breast self-examination suggesting for diagnosis of breast cancer without the expense of a mammography facility [11]. The American Cancer Society guidelines for early diagnosis of breast tumors in intermediate risk, asymptomatic women were clinical breast examination at least every three years and breast self-examination (optional) [12]. Mammography screening should be recommended at least biennially to 50-74 years old women. For 40-49 years old women, the risks and benefits of mammography screening should be debated [13]. Health care providers should increase women's awareness about breast cancer and report them any unusual changes in their breasts [14]. The rate of breast self-examination practice and knowledge among Iranian women are insufficient. In Godazandeh study, it was reported that only 17% of women do it monthly. In Nafisi study only 12% and in Mojahed study only 14% of nurses and midwifes do breast self-examination regularly [15-17].

There are some controversy to perform breast self-examination in developed and developing countries, but according to WHO report, as a screening tool of breast cancer in low- and middle-income countries, the breast self-examination is still relevant [8]. Many studies require knowledge and practice about breast self-examination but none of them use checklist to show how women perform it correctly. This study conducted to describe how Iranian women perform breast self-examination.

Materials and Methods

In the present cross-sectional study, we investigated how Iranian women perform breast self-examination. The participants were 447 female referred to five health center of Shahid Sadoughi University of Medical Sciences. Ethical committee of Shahid

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Sadoughi University of Medical Sciences approved the study (code: 1190). Informed consent was obtained from all participants. The systemic random sampling was applied and information gathered through guided interview by using a questionnaire. The questionnaire and checklist were completed by the participant through a face-to-face interview.

Inclusion criteria: over 20 years old women, refered to health center of Shahid Sadoughi University of Medical Sciences. There were no exclusion criteria.

The questionnaire had three sections: socio-demographic characteristics, quantity of breast self-examination, and a checklist. The checklist had three major parts including: 1) by what means did she observe her breasts? (A: changes in size or shape of the breast B: puckering, swelling, warmth of the breast and C: color change and redness or darkening of skin, 2) in which position did she perform the breast self-examination A: standing, B: use tip of finger C: hands above head (A: and which place of her body did she touch in breast self-examination. A: breast tissue, B: nipple pressure, C: auxiliary. As we describe each part divided into three sub groups, If she do correct method for breast self-examination she obtains two point, if she do incomplete she obtains 1 point and if she cannot do or performs incorrect, she obtain 0 point. In each part, she could obtain 6 point and total score was 18. If she obtains 0-6 total score, she has weak performance, if she obtains 7-12 total score, she has acceptable performance and if she obtains 13-18 total score, she has good performance. All participants were received adequate privacy to perform breast self-examination.

Statistical analysis The statistical analysis was carried out using Statistical Analysis Software (SAS) version 16. A P-value of <0.05 was considered statistically significant. Non-parametric tests such as Mann–Whitney were adopted. Mean differences of continuous parametric data were analyzed using paired t-test.

Results

Table 1 describes the socio-demographic characteristics of the participants; age range from 20-60, mean age of 32.33±8.60. From all participants, 92% heard about breast self-examination. The mean age of starting breast self-examination was 26.50±9.57 and median was 22.00. The minimum age of starting breast self-examination was 18 and the maximum age was 57 and the mean age obtained 26.50±9.57. All of the participants were married. About 41.6% of them had primary level of education and 30.6% had diploma while 4.7 % of women were illiterate and 23% had academic degree. Only 18.3% of the participants were health work employed while the 81.7% were housewives. Family history of breast cancer was reported by 40 (8.9%) of the participants while 192 (43%) had history of hormone usage. From all, 189 of the participants (42%) by health worker 36(8.1%) by family and 70(15.7%) by media learned how to perform breast self-examination, also 152(34%) have not any training of breast self-examination. We

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asked how often they perform breast self-examination. About 17.5% performed it monthly and 7.6% never did it but 72.3% often performed breast self-examination.

Table 1. Mean score of performance of breast self examination

	Groups	N (%)	Mean (SD)	median	P value
Age	20-39	325 (73.7)	3.86 (±3.74)	4	.0147
	40-60	116 (26.3)	4.54 (±4.51)	3	
Education	nonacademic degree	344(77)	3.16 (±3.64)	3	0.0001
	academic degree	103(23)	7.24 (±3.37)	6	
history of breast cancer	positive	40(8.9)	3.85 (±5.02)	3	0.676
	negative	407(91.9)	4.13 (±3.86)	4	
history of hormone usage	positive	192(43)	4.02 (±3.43)	4	0.704
	negative	255(57)	4.16 (±4.34)	4	
Number of delivery	Nulipara	105(23.5)	5.31 (±3.68)	5	0.001
	Multipara	342(16.5)	3.72 (±3.99)	3	

We had three parts in checklist (observation= six score, position= six score and place= six and total score were 18). The mean score obtained in their observation were 1.17±1.52 from six, in position 1.30±1.55 from six and in place 1.63±1.37 from 6 and totally, they obtain 4.10±3.97 from 18. Of 447 participants, 348 (77.9%) had poor, 78 (17.4%) had moderate and only 21 (4.7%) had good performance.

The total mean score in 20-39 years old women were 3.86(±3.74) and in 40-60 years old women were 4.54 (±4.51). There was no significant differences between the two groups (p=0.147).

The mean score in nonacademic degree obtained 3.16 (±3.64) and in academic degree obtained 7.24 (±3.37) .There was significant differences between the two groups (p=0.0001).

The mean score in women with positive history of breast cancer in her family obtained 3.85 (±5.02) and in negative history of breast cancer in her family obtained 4.13 (±3.86) .There was no significant differences between the two groups (p=0.676). The mean score in women with positive history of hormone usage was 4.02 (±3.43) and in negative history of hormone usage was 4.16 (±4.34) .There was no significant differences between the two groups (p=0.704).

The mean score in nulipara women obtained 5.31 (±3.68) and in multipara women obtained 3.72 (±3.99) .There was significant differences between the two groups (p=0.001).

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Discussion

In our study, 92% of women heard about breast self-examination, but only 17.4% of them performed it monthly. The results of Erbil study in Turkey (2012) showed that 67.7% of women had knowledge about breast cancer and 55.8% did breast self-examination, however 60.6% of those who implied breast self-examination, did so at irregular intervals [18]. Shu (2012) reported that 70.83% of the participant completed high school. Almost three quarters of them heard about breast self-examination; however, 40% had never done breast self-examination. Although 95% of the participants believed that breast cancer could be prevented but only 36.67% identified breast examination as a prevention technique [3]. Al-Naggar (2012) reported that the majority of the participants (88.8%) heard about breast neoplasia and 78.4% of them heard about breast self-examination [19]. Alwan in his study (2012) on 18-62 years old academic Iraqi women in 6 major Iraqi universities reported that 93.9% of the women heard about breast self-examination [20]. Al-Dubai in his cross-sectional study (2012) reported that 81.1% of women heard about breast cancer and 55% practiced breast self-examination [21]. Isara (2011) conducted a descriptive, cross-sectional study in Nigeria. Most of them (75.6%) had poor knowledge about breast self-examination. Only 29 (10.1%) of the respondents performed breast self-examination. Knowledge of breast self-examination was significantly related to breast self-examination practice [22]. In Al-Negar study in Malasia (2012), 47.2% of the participants performed breast self-examination monthly [19]. In Dahlui (2011) study, 98.7% of the participants having awareness about breast cancer. Near 85% of the respondents performed breast self-examination in their lifetime. Conversely, only 41% of the participant performed it regularly at suggested time. There was a significant relationship between clinical breast examination and breast self-examination [23]. Despite a high level of awareness about breast self-examination, only a small group of women do breast self-examination in Korea [24].

Yadollahie reported that 474 (30.9%) participants did not know how to do breast self-examination; the remaining women did not do breast self-examination for fear of being found positive for cancer or did not care about it. The level of breast self-examination practice and knowledge among Iranian women is unsatisfactory. They emphasized on appropriate education of Iranian women [25]. These studies showed that although most of women heard about breast self-examination but it was not a routine screening in developing country.

In our study, health care providers (42.3%) were the main source of training breast self-examination. Tirano (2013) reported that as majority of the participants stated they learned breast self-examination from the mass media. women should be conscious of any changes in their breasts and report them rapidly [13]. In Alwan study (2012) the major source of information was mass media (39.9%), health care professional (18.4%) and the awareness

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campaign of the Iraqi National Breast Cancer Research Program [11.6%) [20].

Alwan (2012) in the other study showed that the most important source of information was television [26]. Cubas (2012) analyzed the information about breast self-examination available on 68 sites on the Internet. The results showed 61% did not have link details, 52.94% think over breast self-examination as part of a set of measures and 26.47% had truthful and absolute evidence-based content. The information about breast self-examination is varied. Only a small number of websites were worried about quality criteria, in terms of both construction and component. The mass of the information available is not evidence-based and there is potentially dangerous information for the patient. It is necessary to improve the quality of websites dealing with breast self-examination [27]. In Yoo study (2012), among Korean women, the most common source of information on breast self-examination was the media such as TV, radio and newspapers (87.0%) [24]. Yadollahie (2011) reported more than three-quarters of participant learned about breast self-examination from a health care provider [25]. Only 17.2% of recommendations were acquired from medical health care reached. The general proportions of regular and irregular breast self-examination were 13.2% and 16.1%, respectively. The main barrier of doing breast self-examination was lack of knowledge about how to perform the examination [24]. In Isara (2011) study, only 114 (39.7%) of the participant knew that being a female was a risk factor for breast cancer. The major source of information for breast cancer and breast self-examination among the respondents was the mass media [22]. Media were their most important sources of information (38.2%) [5]. Ozkan (2011) in his study reported the majority (106, 91.3%) of nursing and midwifery students in Turkey taught breast self-examination to their mother and sisters, and 42.6% [48] to relatives, 6.2% [7] to friends, and 5.4% [6] to patients. He confirmed that knowledge about breast cancer and breast self-examination repetition training programs should be designed for nursing/midwifery students, to enlarge their sensitivity, beliefs and attitudes, and medical motivation for breast self-examination [28]. As these studies showed mass media was the main source of breast self-examination for women, but in Iran, the major source was healthcare provider. It seems health programs in mass media about cancer prevention must be improved.

In our study, 8.9% of the participants had positive history of breast cancer and 43% had positive history of hormone usage. Al-Naggar (2012) reported about 32% of the participants reported positive family history of malignancy and about 20% of them reported positive family history of breast neoplasia. Race, marital status, dwelling place, exercise, knowledge about breast cancer, belief that breast cancer can be discerned early, belief that early diagnosis give the chance of survival, positive family history of cancer, and breast cancer, awareness about breast self-

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examination, and opinion that breast self-examination is needed, significantly influenced the practice of breast self-examination among women [19]. Al-Dubai (2012) reported socio-cultural factors were identified as barriers for performing it [21]. Age, positive family history of cancer significantly affected the breast self-examination. poor knowledge and fear of cancer diagnosis were the main barriers for performing breast self-examination [5].

In the present study, women with academic degree of knowledge and medical-related job and nuuliparous women perform breast self examination better than muliparous women and age, positive history of breast cancer and positive history of hormone usage did not affect the breast self-examination. It shows that educated young women were more sensitive on her health, but unfortunately women with positive history of breast cancer did not obtain the more score on it.

In our study, we used a checklist to evaluate how they perform breast self-examination and they obtain 4.10±3.97 score from 18. From all participants, 348 (77.9%) had poor, 78 (17.4%) moderate and only 21 (4.7%) had good performance. It showed they had weak performance of breast self-examination. As we found in our survey, little study used checklist to evaluate how women perform breast self-examination. Yadollahie in his cross-sectional multi-center study in Iran (2011) showed 1496 (49.4%) women performed breast self-examination, 290(19.4%) of performers and 9.6% of all studied women did it using a correct method and at an appropriate time [25]. Rosmawati study (2010) conducted to determine the knowledge, attitude and practice towards breast self-examination among women aged 15 years old and above. The total score was 9.56 (34.1%) for the practice. The proportions of respondents with good score for knowledge, attitude and practice were 38.4%, 73.3% and 7.0%, respectively. Inadequate knowledge about correct technique of breast self-examination, lack of information on breast cancer signs and lack of motivational support from relatives lead to poor practices. [29]. The purpose of Parsa (2011) study was to investigate factors associated to breast self-examination among 425 female teachers in Malaysia. Only 19% of them performed it on a regular period. Good knowledge about breast cancer, greater confidence in performing breast self-examination and regular visits to a physician were significant predictors for performing breast self-examination [30]. These studies showed that lack of knowledge is the most important barrier in developing countries to perform correct technique of breast self-examination.

Finally, we found the difference between doing and not doing breast self-examination in developing and developed countries. Maheu in his study (2012) showed 47.2% of the French women do breast self-examination. He declared performing breast self-examination is neither compulsory nor suggested [31]. In countries where breast cancer is diagnosed at a progressive stage, screening by clinical breast examination along with teaching breast self-examination as an essential factor will

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probably be useful in reducing mortality. On the other hand, in technically developed countries where adequate treatment is given, no screening condition is likely to be adequately advantageous to be more important than the harms of screening, especially false positives and over-diagnosis [32].

In Dahlui it is reported that breast self-examination as a screening tool of breast cancer is still relevant because those who detect breast lump by breast self-examination will most probably go for further check up. Clinical breast examination should be done for all women, especially for those with highest risk of breast cancer, to encourage and train them for breast self-examination [23]. Loh findings showed that 80% of the breast malignancy survivors detected the breast tumors themselves whereas 85% of them reported they were never educated about breast self-examination [33].

The study in Shanghai suggests that even public training and a high level of conformance with breast self-examination may not lead to any noticeable degree of early diagnosis of breast cancer. Women who are skillful at self-examination could collectively take some benefit from this activity. The findings suggest there is little chance that resources expended to develop a program of breast self-examination will give up much if any return [11].

We assert that lack of knowledge about how to perform breast self-examination was the key barrier for a more regular breast self-examination practice in Iranian women and it means breast self-examination is useful for women familiar with her body and changes.

The limitations of the study were some participants' unwillingness to perform breast self-examination in the public center and shamed to do it.

Conclusion

The practice of breast self-examination while distinguished as being important is not frequent in these women. Health education programs are very important to clarify the risk factors and prevention of breast cancer. This study exposed that Iranian women have poor knowledge about how to do breast self-examination. There is need for adequate health education on breast cancer and breast self-examination among Iranian women.

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