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Barriers of breast self-examination: A review study from Iranian researchers



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ABSTRACT

Introduction: Breast cancer is the most common cancer and the second leading cause of cancer death among women. Breast self-examination (BSE) is a valuable technique for the detection of this cancer. Despite the relative benefit of BSE, its use remains low. This study aimed to investigate and discover the barriers of breast self-examination.

Materials and Methods: In this review study, an online search among articles published from 2000 to 2016 was conducted through CINAHL, PubMed, Science Direct, Elsevier, SID, Iran Medex, Magiran and Google Scholar. Databases using keywords; "Breast self-examination", "Barriers of breast self-examination", "Breast Cancer" and "Examination". The protocol of York University Guide was used to select the articles.

Results: In total, 15 articles were used from 35 articles that were initially obtained from the search, from which, 8 were Iranian articles, and the rest were non-Iranian articles. The articles indicated that barriers of BSE could be divided into the factors related to knowledge, cultural factors (shame), psychological factors (fear and anxiety), and demographic and environmental factors, which according to the articles, the share of lack of knowledge was much higher than the rest.

Conclusion: The analysis of articles showed that the prevalence of breast self-examination was low and self-examination of the breast was not done properly, which was related to the lack of knowledge. Therefore, choosing an appropriate method of education could eliminate the barriers to best supportive care (BSC). In this regard, mass media have an important and essential role.

Keywords: breast self-examination, breast cancer, barrier of breast self-examination

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INTRODUCTION

Breast cancer is one of the most frequently detected cancers and is the major cause of death among women worldwide and also breast cancer remains the most common cancer among women in the United States¹ and is the second leading cause of cancer death among women.² More than 230 thousand new cases of breast cancer and 39 thousand breast cancer-related deaths were estimated in 2013. Previous studies have shown that 35-38% of all breast cancer patients experience a significant emotional distress, anxiety or depression after diagnosis.³ Concurrent psychological problems lead to cancer progression and reduce the survival rate in patients with breast cancer.¹ Each year, more than one million new cases of breast cancer are diagnosed worldwide, and over 600 thousand deaths occur due to the disease. Breast cancer accounts for 22% of all cancers. Breast cancer is a growing public health problem worldwide, particularly in developing regions, where its incidence has been increased at a rate of 5% per year. The most common age of death in developed countries is the post-menopause age, while in developing countries including Iran, is between 40 to 49 years.³ Breast cancer is the third leading cause of cancer death among Iranian women, and in general, it is the second most

common cancer after lung cancer.⁴ Today, breast cancer is preventable because of its good prognosis. With an overall estimation, today, 4.4 million women who were diagnosed with breast cancer in the last five years are still alive.⁵

Prevention is the basis for the fight against breast cancer worldwide.⁶ Screening for early detection and diagnosis of the disease is a significant public health agenda⁷ and is one of the important strategies in reducing breast cancer mortality.⁸ A variety of screening tests is used to detect breast cancer including mammography, ultrasound, MRI, clinical examination, and breast self-examination (BSE). Early detection of breast cancer is not only essential for the survival of patients, but it also maintains the quality of life of patients.⁹ There are only three ways for early detection of breast cancer: mammography, clinical examination, and breast self-examination. According to the American Cancer Society, clinical breast examination is one of the effective methods in the secondary prevention of breast cancer. Among all breast cancer cases, 1.3% occurs in women under 50 years of age. But, the mammography is not effective at this age,⁴ as it is expensive and difficult.¹⁰ Thus, breast self-examination becomes more important and relevant and

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can be considered as a method of improving the health of young women.⁴

BSE is a method used by women at home to search for changes in the breast tissue. American Cancer Society recommended that women should start getting trained on monthly BSE at the age of 20.⁷

BSE is a unique method because it is inexpensive, noninvasive, takes the least time and physical energy⁸ and is the only way of breast cancer screening for women who do not have adequate access to health care.¹¹ BSE allows the successful detection and treatment of cancer.⁹ A study in China on 267,040 women who were performing breast self-examination showed that after 10 years of follow-up the women were enabled to detect cancer earlier.¹² Overall, 70-80% of breast cancer cases are detected by self-examination, So, BSE is one of the ways of breast cancer prevention.⁴ BSE is a valuable technique for the detection of breast cancer. However, despite the relative merits of BSE, its use remains low.¹³

Considering the above statements and the fact that breast cancer is the most common cancer and second leading cause of cancer death among women, and also taking into account that BSE

is considered a valuable screening method for early detection of breast cancer, this study was conducted to identify and explore the barriers of breast self-examination.

MATERIALS AND METHODS

In this review study, an online search among articles published from 2000 to 2016 was conducted through CINAHL, PubMed, Science Direct, Elsevier, SID, Iran Medex, Magiran and Google Scholar databases using keywords of “Breast self-examination”, “Barriers to breast self-examination”, “Breast Cancer” and “Examination”. Finally, 15 articles were selected and their results were analyzed. The protocol of York University Guide was used to select the articles. In this protocol, criteria for inclusion included; the review question, inclusion and exclusion criteria, articles search strategies, selection of articles, data extraction, quality assessment of the articles, data analysis, and the use of articles. Studies were evaluated in terms of study design, data collection tools, information sources, causes and barriers of BSE and their results (Table 1).

Table 1 Evaluated in terms of study design, data collection tools, information sources, causes and barriers of BSE and their results

Author(s) and title	Target population	Type of study and tools	Causes and barriers	Information resources	Conclusion
Kadam et al (2016). Barriers for early detection of cancer amongst Urban Indian women: a cross sectional study ²¹	599 married, 25-90 years old women	Cross-sectional Semi self-made questionnaire	Lack of knowledge on how to do BSE. 13-67% of them were not doing BSE. 6-15% and 16-16% of them were stated yes always and yes sometimes, respectively.		Lack of knowledge was the main barrier to screening and early detection of cancer. There was a need for an affective educational program.
Godfery et al (2016). Breast cancer knowledge and breast self-examination practices among female university students in Kampala, Uganda: a descriptive study ²²	204 female students of McRier University	Cross-sectional Questionnaire	Lack of knowledge and awareness about risk factors of breast cancer	Mass media	In this study, knowledge and awareness about BSE were high, the level of BSE performance was low which was related to lack of adequate knowledge about risk factors and symptoms of breast cancer (BC).
Akhtari-Zavare et al (2015). Barriers to breast self examination practice among Malaysian female students: a cross sectional study ²³	810 twenty or more years old female students with no history of breast cancer, breastfeeding or pregnancy.	Cross-sectional. Self-made questionnaire	Not knowing how to do it (5-70%), not having any symptoms (7, 64%), concerned about discovering BC (5-61%), time consuming (1-54%), lack of adequate privacy for BSE (2-53%)	Printed publications such as; newspapers, brochures, and healthcare personnel and media	Majority of the participants were aware about BC but were not performing BSE. Knowledge, cultural factors, and social and environmental factors were identified as barriers of BSE. Increasing the knowledge about BC and promoting public knowledge about breast health through media must be implemented. Provision of educational programs on breast health for young women can help to reduce and eliminate barriers of BSE.

Table 1 (Continued)

Author(s) and title	Target population	Type of study and tools	Causes and barriers	Information resources	Conclusion
Oladimeji et al (2015). Knowledge and beliefs of breast self-examination and breast cancer among market women in Ibadan, South West, Nigeria ⁷	603 women	Cross-sectional-descriptive study. Semi self-made questionnaire	Discovering any symptoms of BC, the need for adequate knowledge to perform BSE, not knowing how to do BSE, lack of knowledge on the frequency of BSE.		Lack of knowledge can have a negative effect on screening education and women's attitude in accepting the training of early detection of BC. The results showed that studied women had a low knowledge about how to perform BSE and the frequency of BSE, particularly in single and less educated women.
Al-Dubai et al (2012). Exploration of barriers to breast-self examination among urban women in Shah Alam, Malaysia: a cross sectional study ¹⁹	222 eighteen and above years old literate Malaysian women	Cross-sectional study. Self-made questionnaire	Not knowing how to do BSE, (8-79%), lack of detectable symptoms (6-62%), fear of cancer diagnosis (6-60%), concern about BC (6-59%), and believed that BSE is embarrassing (4-44%), lack of adequate privacy for BSE (4-36%), time consuming (3-29%), being unpleasant (3-28%), and 2-20% thought BSE was not important.	Media such as newspaper, magazine (7-34%), healthcare personnel (7-28%), and electronic media such Radio and TV	Knowledge, perception, and environmental/cultural/psychological factors were among barriers of BSE. BSE is related to social and demographic factors as well as social and economic conditions. It is essential to increase the knowledge and include BSE in curriculums of schools and universities.
Al-Naggar et al (2011). Practice and barriers toward breast self-examination among young malaysian women ⁸	251 eighteen years old and over young female students at University of Science and Management in Malaysia	Cross-sectional study. Self-made questionnaire (two parts)	Lack of knowledge, lack of any symptoms, and fear of cancer diagnosis	Radio and TV (4-55%), family member (1-21%), friends (7-14%), and newspapers (4-12%).	Immediate need in promotion of awareness among students about the importance of BSE.
Seif et al (2000). Effect of breast self-examination training program on knowledge, attitude and practice of a group of working women ¹⁶	122 employed 20-59 years old women who never had cancer, chemotherapy or radiotherapy treatments.	A semi-experimental study including pre-intervention program and post-intervention follow-up program to examine the effect of the educational program. Self-made three parts questionnaire	Lack of knowledge on BSE and its importance (8-91%), half of applicants' responds were related to the concern following the discovery of tumor. Forgetting (2-35%). Lack of time, cultural and health beliefs (1-31%). Hate touching own breast (22%). Lack of access to specialized centers (5-20%). After the intervention, 3-12% and 1-13% were still complaining about cultural and health beliefs and fear of BC discovery, respectively.	(8-47%) peer group, (4-30%) media such as TV, newspaper and magazine, (1-13%) books, and 9% healthcare team such as nurses and physicians.	The participants' level of knowledge showed that satisfactory knowledge about BSE and BC were (5-11%) and (6-10%) respectively. After the intervention, the level of knowledge increased significantly. The advanced BSE educational program had a substantial effect on the participants' level of knowledge, positive attitude, and improvement in BSE performance.

Table 1 (Continued)

Author(s) and title	Target population	Type of study and tools	Causes and barriers	Information resources	Conclusion
Eyvanbagha et al (2015). Knowledge, attitude and practice of female employees in Khalkhal Faculty of Medical Sciences of breast self-examination and its relationship with some individual characteristics. <i>Depiction of Health</i> ¹⁴	300 women working in Khalkhal University of Medical Sciences.	Descriptive analysis. Two parts questionnaire		Printed resources	Awareness, attitude and performance of women working in Khalkhal University of Medical Sciences were relatively good, but there was a need for further training and education. The results showed that high awareness and positive attitude lead to better BSE performance.
Ghodsi et al (2014). Breast self examination and mammography in cancer screening: women health protective behavior ⁹	358 thirty-five years old or more women with no history of BC.	Cross-sectional descriptive study. Self-made two parts questionnaire and BSE checklist.	Lack of knowledge		The need for informative interventions for early detection of BC.
Firoozeh et al (2011). The effect of instruction on students' knowledge and attitude towards breast self-examination ¹⁰	174 female students living in dormitories of Azad University except social science students.	Clinical self-examination before and after the intervention. Questionnaire	Before the education: (3-50%) of students thought BSE was necessary, and (1-26%) did not anything about such method. After the intervention: the most common reason was forgetting to perform BSE (6-54%).		Inadequate knowledge of students about BSE due to lack of formal education program for this group of women, or not going to health center due to being single and young. The necessity for adding BSE education program to female students' university curriculum.
Nourizadeh et al (2010). Knowledge, health beliefs and breast cancer screening behaviors of women referring to health centers of Tabriz, 2010 ¹⁷	219 young and middle age women in city of Tabriz	Descriptive and cross-sectional study. Self-made questionnaire, questions about health beliefs derived from champion health belief model.	Not knowing the correct way of performance, not having any issue in the breasts.	Physicians, healthcare personnel and clinical posters (6-35%), newspaper, magazine and book (1-19%), Television (2-18%), and friends and family (15%).	The low level of knowledge and screening behavior in studied women indicates the need for education on screening techniques and periodic emphasis on their importance in early detection of breast cancer. Educational programs also must be designed in such way that, have impact factors related to early diagnosis process.
Tavafian et al (2009). Prediction of breast self-examination in a sample of Iranian women: an application of the Health Belief Model. <i>BMC Women's Health</i> ¹³	540 thirty years old or above women capable of reading and writing. Those who had a history of cancer or were pregnant or breastfeeding were excluded.	Cross-sectional. Self-made questionnaire on the scale of health belief model.	Shame, time consuming, lack of privacy for BSE, not recognizing BSE as important, breasts being too large for BSE, and having other problems which are more important than BSE.		Small numbers of the participants were performing BSE on a regular basis. Educational programs on BSE would improve self-efficacy and reduce barriers to BSE. The findings of the study showed that perceived barriers and self-efficacy could predict BSE behaviors among women.

Table 1 (Continued)

Author(s) and title	Target population	Type of study and tools	Causes and barriers	Information resources	Conclusion
Karimi et al (2009). The relationship of breast self-examination with self-esteem and perceived benefits/barriers of self-efficacy in health volunteers of Zaranjeh city. Iranian Journal of Breast Diseases ²⁰	106 clinical coordinators in Zaranjeh town.	Descriptive and cross-sectional study. Questionnaire consisted of multiple parts including; demographic data, self-confidence structures, perceived benefits and barriers, and questions about BSE performance.	Fear of finding a tumor (59%), fear of having BC (54%), lack of knowledge on correct performance of BSE (38%), lack of knowledge about risk factors and symptoms (35%), cultural issues such as shyness, etc (27%).	Mass media such as TV, radio, newspapers (48%), healthcare personnel (40%), books (19%), and family and friend (3-1%).	Relationship between self-confidence, and perceived benefit and barriers, and BSE performance and very low BSE performance among studied women, and also there was a significant relationship between self-confidence, perceived benefits, barriers and self-efficacy, and BSE behaviors.
Zangiabadizade (2012). Comparing The effect of peer education to health care personnel's on knowledge of breast self-examination and the obstacles among undergraduate students of Shiraz University of Medical Sciences. Iranian Journal of Medical Education ²⁴	112 female students of selected schools of Shiraz University of Medical Sciences.	Semi-experimental. A test to measure Knowledge and barriers of BSE performance.	Low knowledge, shame, anxiety, efficacy and effectiveness, mentality, forgetfulness, denial, and awareness		Education by peers on increasing the knowledge of students about BC and effective BSE was more effective than education by healthcare workers as it led to reduction of anxiety and positive mentality towards BSE performance. The results showed that BSE education reduces shame, anxiety and forgetfulness, and increases trust in its effectiveness and positive mentality. It also created correct awareness and reduced denial among samples soon after the education. Finding appropriate and effective methods of education to reduce forgetfulness and increase continuity of BSE performance is essential.
Yavari et al (2005). Knowledge and practice of women toward breast self-examination: a case-control study ¹⁵	303 women with BC and 303 women without BC as control group.	A case-control study. Hospital records and questionnaire.	In each of the two groups: not prioritizing BSE method, not trusting BSE, lack of time, forgetting to do it, fear of finding a tumor, and spouse's disagreement.		Low knowledge and performance of studied sample about BSE and regular doctor visit. The necessity for the use of education and prevention strategies, the necessity for the use of educational programs on monthly BSE performance and training to increase the knowledge of women about early diagnosis of BC and correct and regular BSE performance.

RESULTS

The results of literature review showed that, lack of awareness, lack of knowledge, lack of physical symptoms. Fear of being diagnosed with breast cancer, fear of finding a tumor, lack of knowledge on correct self-examination. Ignoring symptoms and risk factors, cultural issues such as shyness, no need for breast self-examination, lack of awareness about BSE. Forgetting to perform breast self-examination, not prioritizing BSE, not believing in BSE, lack of

time and consent of spouse, lack of knowledge about how to perform BSE. Being worried to find out breast cancer, not having enough privacy and time to perform BSE were the barriers to BSE.

Considering the above factors, the barriers of BSE can be divided into factors related to knowledge, factors related to culture (shame), psychological factors (fear and anxiety), and demographic and Environmental factors, in which the lack of knowledge, according to studies, is the most important factor that prevents BSE.

According to the literature review, various information sources have a crucial role in the acquisition of knowledge about breast cancer and BSE. Including mass media (TV and radio), printed media (newspapers, magazines, brochures, clinical posters) printed sources (book), family members/friends and relatives, peers, and healthcare professionals (nurses and doctors). (Table 1).

DISCUSSION

The analysis of article review showed that the level of breast self-examination was low and BSE performance was incorrect, which was related to the lack of knowledge and awareness in this area. This issue highlights the importance of breast self-examination as a screening method for early diagnosis of breast cancer. However, no plan or programs have been developed to promote this important procedure. Many studies that have examined the level of women's knowledge about BSE showed a necessity for BSE education in the fields of knowledge (transfer of knowledge on breast cancer, its risk factors, and screening methods).^{10,14,15}

Attitude (reforming women's beliefs and attitudes about breast cancer and the necessity of BSE),^{10,14,16} and behavior (skills, correct timing, accurate breast self-examination by women, the ability to detect breast tumors, and regular performance of BSE).¹⁷ And Despite evidence that BSE may not reduce mortality rate, it clearly have benefits on early detection which contribute to saving lives. The role of BSE is critical especially in less developed countries around Asia Pacific region, as even mammography is costly and may not be within the access of those with lower socio-economic status.^{16,14}

The results of other study showed that participants had rather poor knowledge of breast cancer and BSE. This may be one of the reason of late reporting and diagnosis of breast cancer patients. Poor practice of BSE seen (1.3% to 2.9%) in over 70% of women attended a well person's clinic program.¹⁸

Articles analysis revealed that different sources help people to acquire knowledge and information. In this regard, printed sources like newspapers and mass media such as TV have the greater role^{19,20} and the contribution of all healthcare workers are rarely seen.¹⁶

CONCLUSION

The results of studies showed that the level of breast self-examination was low, even in women who had a high level of awareness about breast cancer and BSE. In the cases where women were performing BSE, their performance was mostly incorrect,

which indicated low level of knowledge and awareness among women. Therefore, considering the importance of screening methods especially the use of BSE in detecting breast cancer, it seems necessary to promote BSE continuous education program among young women about how and when to do BSE and symptoms of breast cancer in order to increase their knowledge and create a positive attitude in them.

More awareness about breast cancer and breast self-examination can reduce the barriers to BSE and creates appropriate health behavior. Therefore, choosing an appropriate method of training would remove the barriers to BSE.

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