Original Article

Barriers to Breast Self-examination among Iranian Women

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Abstract

Background: Breast cancer is a very common cancer in women which is diagnosable using inexpensive, accessible, and easy screening programs in the early stages of the disease. Culture, beliefs, and opinions of women affect adoption of screening techniques. Nursing professionals are supposed to be aware of such influencing factors. Therefore, this study was conducted to investigate barriers to breast self-examination (BSE) among women in Isfahan province. **Materials and Methods:** During a cross-sectional descriptive and correlational study in 2017, 1509 women in rural and urban areas of Isfahan province were selected using multistage sampling method. Data were collected by visiting homes, using a questionnaire, and conducting interviews and were analyzed using descriptive and analytical statistics. **Results:** The results showed that barriers consisted of lack of awareness about breast examination ($p = 0.006$), lack of awareness about BSE techniques ($p < 0.001$), and lack of training by personnel of healthcare centers ($p = 0.016$), which were significantly associated with residency areas (i.e., urban and rural areas). Moreover, women's educational level was significantly associated with 5 of 10 barriers and their occupation was significantly associated with 2 of 10 barriers to BSE. **Conclusions:** Among the several factors that may affect BSE, a part of them in Isfahan women act as obstacle that they are moderated by some demographic factors such as residency areas, education level, and occupation. Therefore, nursing plans and interventions aimed at developing BSE should be tailored to suit the unique demographic characteristics of women.

Keywords: *Barriers, breast self-examination, women*

Introduction

Breast cancer is one of the most important health problems. It is the most common cancer among women in developed and developing countries. However, its incidence is highly variable in different geographical regions in the world.[1] In Iran, breast cancer has the highest rate of incidence in women, compared with other malignancies. Because of an increase in life expectancy of Iranian population, the incidence of this disease among Iranian women will increase in the coming years.[2] Besides, an increased trend of breast cancer mortality in Iran has challenged the health system,[3] which indicates a need for prevention and early detection of disease. Health professionals and particularly nurses have a great role in promoting women's health by enhancing prevention and early detection of breast cancer.[4]

The relationships between early detection (i.e., screening) and outcomes of disease have been highlighted in the literature.[5,6] Evidences suggested that standard screening techniques including mammography and clinical breast examination can be effective in reducing the death rates.[7,8] In addition, breast self-examination (BSE) has also been suggested as a valuable technique for early diagnosis of breast cancer.[9] However, evidences suggested a weakness in screening and early detection of this disease particularly in Iran.[10,11] Therefore, identifying barriers to breast cancer screening is significantly important in preventing the disease progression,[12] through shedding more insight into essential activities by nursing and other health professionals.[13] This study was conducted to determine barriers to BSE and their associations with some related demographic factors among women living in urban and rural areas of Isfahan province.

Materials and Methods

This cross-sectional descriptive study was conducted from January 2016 to

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December 2017. The study population consisted of women between 20 and 65 years of age, living in Isfahan province. Krejcie and Morgan's[14] formula based on population size up to 500,000, confidence of 95%, and margin of error of 2.5% was used to determine the required sample size. More than 1500 subjects were required. Hence, in this study, 1509 women were enrolled. Inclusion criteria included willingness to participate in the study, Iranian nationality, living in Isfahan province, and aging between 20 and 65 years. Based on the number of cities in Isfahan province and the population of 20–65 years old women living in each city, initially the share of each city was determined using multistage sampling method in which the number of clusters in each city was determined using random number table and based on the serial number of the list of health centers. Cluster heads were also randomly selected using numbers registered in the Cancer Prevention Services Office in selected villages' health houses and health centers in each city and the first address was selected as the reference of each cluster. Then, based on the right-hand rule, 10 families were interviewed. The first family was the reference family and the other nine families had a member who had a woman between 20 and 69 years old.

Data were collected using a questionnaire and through conducting interviews to fill the questionnaire. The questionnaire consisted of two parts: (1) demographic characteristics including education level, occupation, residency areas (i.e., urban or rural), and age and (2) barriers to cancer screening including forgetfulness and negligence, lack of awareness about breast examination techniques, lack of awareness about BSE techniques, lack of time (being too much busy), lack of training by personnel of healthcare centers, fear of doing a biopsy to diagnosis the disease, fear of diagnosis, lack of enough time to perform the examination, touching a lot of lumps during examination, and worrying and fear of feeling pain during examination. The instrument was developed through literature review and reviewing the existing documents. It contained 10 items and a dummy response options (i.e., yes and no). The content validity was censured by the experts and the reliability was supported through a 2-week test–retest examination with a pilot sample (n = 20) drawn from the study population (r coefficient ≥0.7 for all items).

The interviewers were trained to complete the questionnaire. Fifteen interviewers were selected among people with associate and bachelor's degree in family health and midwifery. To coordinate and monitor the data collection process, a supervisor was selected in each city to organize the interviewers, to monitor data collection process, and to review and send questionnaires to the provincial health centers. ID cards were issued for interviewers, and after conducting coordination with the police chief and provincial police intelligence (Agahi police), the names and information of interviewers were declared to these organizations. Interviewers visited families, and after obtaining verbal consent of participation in the study, they completed the questionnaire by conducting structured interviews using instrument.

Data were analyzed using descriptive (i.e., mean and standard deviation) and analytical (i.e., chi-squire test) statistics using SPSS software version 19 (SPSS Inc., Chicago, IL, USA) and considering the significance level of less than 0.05.

Ethical considerations

Approval of the ethics of the study was obtained by regional committee of ethics in medical studies in Isfahan University of Medical Sciences. The major ethical considerations of this study included obtaining the subjects' informed consents and ensuring their anonymity and their right to withdraw from the study at any time.

Results

In this study, 1509 women, including 1307 women living in urban areas and 202 women living in rural areas, were enrolled. The frequency distribution of age, education, and occupation in rural and urban areas among women in Isfahan province is presented and compared in Table 1. The frequency distribution of barriers to BSE among women in Isfahan province in urban and rural areas is presented and compared in Table 2. As shown in Table 2, forgetfulness and negligence, lack of awareness about breast examination techniques, lack of awareness about BSE techniques and lack of time were above the first quartile (i.e., 25%) and considered as being important barriers to the BSE. Moreover, the relationships among barriers to BSE and some other demographic and characteristics (i.e., age, education level, and occupation) were investigated and presented in Table 3. It was revealed that 5 of 10 barriers to BSE had significant relationship with education level ($p < 0.01$), and 2 of 10 barriers had significant relationship with the subjects' occupation ($p < 0.5$).

Table 1: Frequency distribution of age, education, and occupation in rural and urban areas among women in Isfahan province

Demographic characteristics	Rural areas, *n*=202	Urban areas, *n*=1307	*p*
Age mean(SD) (years)	50.14 (9.50)	51.79 (8.22)	0.009
Education, *n* (%)			
Illiterate	80 (5.30)	302 (20.00)	<0.001
Primary	113 (6.70)	648 (30.80)	
High school	3 (0.20)	63 (4.20)	
Diploma	6 (0.40)	201 (13.30)	
University	0 (0)	93 (6.20)	
Occupation, *n* (%)			
Housewife	191 (12.70)	1210 (8.20)	0.013
Employee	2 (0.10)	61 (4.00)	
Self-employed	9 (0.60)	36 (2.40)	

Table 2: Frequency distribution and comparison of barriers to BSE based on residing areas (i.e., urban and rural areas)

Barriers to BSE	Total rating		Rural area		Urban areas		*p*
	Yes, (*n*/%)	No (*n*/%)	No (*n*/%)	Yes (*n*/%)	No (*n*/%)	Yes (*n*/%)	
Forgetfulness and negligence	543 (35.98)	966 (64.02)	126 (62.40)	76 (37.60)	840 (64.30)	467 (35.70)	0.64
Lack of awareness about breast examination techniques	444 (29.42)	1065 (70.58)	159 (78.70)	43 (21.30)	906 (69.30)	401 (30.70)	0.006
Lack of awareness about breast self-examination techniques	387 (25.65)	1122 (74.35)	172 (85.10)	30 (14.90)	951 (72.80)	356 (27.20)	<0.001
Lack of time (being too much busy)	386 (25.58)	1123 (74.42)	150 (74.30)	52 (25.70)	972 (74.40)	335 (25.60)	0.97
Lack of training by personnel of healthcare centers	316 (20.94)	1193 (79.06)	175 (86.60)	27 (13.40)	1018 (77.90)	289 (22.10)	0.016
Fear of doing a biopsy to diagnosis the disease	300 (19.88)	1209 (80.12)	152 (75.20)	50 (24.80)	1057 (80.90)	250 (19.10)	0.062
Fear of diagnosis	283 (18.75)	1226 (81.25)	161 (79.70)	41 (20.30)	1065 (81.50)	242 (18.50)	0.55
Lack of enough time to perform the examination	209 (13.85)	1300 (86.15)	171 (84.70)	31 (15.30)	1129 (86.40)	178 (13.60)	0.51
Touching a lot of lumps during examination and worrying	174 (11.53)	1335 (88.47)	184 (91.10)	18 (8.90)	1151 (88.10)	156 (11.90)	0.21
Fear of feeling pain during examination	164 (10.87)	1345 (89.13)	185 (91.60)	17 (8.40)	1160 (88.80)	147 (11.20)	0.23

BSE: Breast self-examination

Table 3: Relationships among barriers to BSE and education level as well as occupation

Barriers to BSE	Education level		Occupation		Age
	Chi-square (df)	*p*	Chi-square (df)	*p*	*p*
Forgetfulness and negligence	3.87 (5)	0.57	7.54 (2)	0.023	0.37
Lack of awareness about breast examination techniques	29.51 (5)	<0.001	4.72 (2)	0.094	0.41
Lack of awareness about breast self-examination techniques	27.87 (5)	<0.001	1.49 (2)	0.47	0.42
Lack of time (being too much busy)	15.25 (5)	0.009	0.81 (2)	0.67	0.44
Lack of training by personnel of healthcare centers	29.28 (5)	<0.001	1.92 (2)	0.38	0.80
Fear of doing a biopsy to diagnosis the disease	0.73 (5)	0.98	3.29 (2)	0.19	0.48
Fear of diagnosis	6.76 (5)	0.24	0.21 (2)	0.9	0.52
Lack of enough time to perform the examination	15.27 (5)	0.009	6.21 (2)	0.045	0.61
Touching a lot of lumps during examination and worrying	10.69 (5)	0.058	1.89 (2)	0.39	0.63
Fear of feeling pain during examination	4.35 (4)	0.50	1.61 (2)	0.45	0.67

BSE: Breast self-examination

Discussion

This study was conducted to investigate barriers to BSE among women in Isfahan province. The results showed that forgetfulness and negligence, lack of awareness about breast examination techniques, lack of awareness about BSE techniques, and lack of time are the main barriers to BSE in Isfahan province.

Some other studies also support the results of this study. For example, in a study by Ferrat *et al.*,[15] negligence was identified as a barrier to breast cancer screening in France. In line with our study results, much attention has internationally been paid to lack of awareness about breast examination and self-examination techniques as the main barriers to BSE.[16-19] Moreover, this study revealed that lack of time is another barrier to BSE among Iranian women living in Isfahan. This finding is consistent with Tavafian *et al.* that they found that from the perspective of women requiring too much time to do regular self-examination was a main barrier to BSE.[20] Some other studies have reported inconsistent results. For example, in some other studies, the main barriers to BSE were reported as observing no clinical symptom,[21] considering oneself not at risk and the absence of doctor advice,[18] perceived benefits, self-efficacy, and the perceived barriers as the predictors of BSE.[22]

Despite inconsistencies about the main barriers to BSE in the world, lack of awareness stands at the top of the barriers indicating a need for improving the community awareness of importance and techniques of BSE by nurses and other health professionals.[13]

The study results also showed that women's educational level, residency areas, and their occupation were significantly associated with some kinds of barriers to BSE. Such findings were supported by Al-Dubai *et al.*, who reported that having a high education level was more likely to practice BSE,[23] and by Yavari and Pourhoseingholi[24] who suggested that the knowledge and practices of women toward breast cancer early detection were inadequate in women with a lower level of education. Moreover, they are consistent with the results from Madubogwu *et al.* who reported that the level of education and occupation had significant correlations with the knowledge and practice of breast cancer screening methods.[25]

Among demographic variables, age had no significant relationship with barriers to BSE. This finding is inconsistent with that of Akhtari-Zavare *et al*.[26] who found a significant relationship between age and practice of BSE.

This study has shed more insight into the barriers to BSE in Iranian women living in Isfahan province. Moreover, it sheds more insights into essential nursing professional activities and may help health managers and nursing professionals to consider significant barriers at the time of planning and practicing relevant interventions.[13] In addition, the findings have noticed nursing and other health professionals about the potential modifying role of demographic variables in obstacles to BSE.

Findings of the study need to be considered along with its limitations. Few personal characteristics and demographic variables included in the study limit the strong inferences from the results of the study. Future researches are needed to include most of the personal characteristics and demographic variables to capture the complexities as well as interactions among barriers and other determinants of health behaviors.

Conclusion

BSE in Isfahan women was faced with some kinds of obstacles that they further were moderated by some demographic factors such as residency areas, education level, and occupation. Therefore, nursing plans and interventions aimed at developing BSE should be tailored to suit the unique demographic characteristics of women. Moreover, training the personnel of healthcare centers and improving women's readiness (i.e., knowledge and attitudes) to BSE is suggested.

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Conflicts of interest

Nothing to declare.

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