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Barriers of Breast Cancer Screening from The Viewpoint of Women in Khorramabad (West of Iran).

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ABSTRACT

The most common cancer and the most common malignancy among women is the breast cancer which is the first cancer-related cause of death among them. Hence we are trying to investigate the barriers of breast cancer screening in Khorramabad, a city in west of Iran and suggest our strategic insights. For the current cross-sectional research, total number of 457 women in the ages of 20 to 65 years referred to health centers and hospitals of Khorramabad during the second half of year 2015 to get health care services were studied. So they were sampled through the method multistage random-cluster. A multi-part questionnaire were used. The main source of suggestion for SBE was specialists (28.9%) followed by friends and midwives (26.9 and 19.2%). The main source of suggestion for CBE was specialists (45%) followed by friends and books (each one 15%). The main source of suggestion for mammography was specialists (42.1%) followed by books and midwives (21.1 and 15.8%). All the barriers in all the methods had the averages of more than 2 based on Likert scale. Lack of breast problems was the most important barrier against both SBE and CBE. The most important barrier against mammography was fearing of having the disease. Specialist was the main source of screening method suggestion. Lack of breast problems and fearing of having the disease were the most important barriers. Notification in deprived areas is necessary and should be programmed by governments.

Keywords: women, breast cancer, screening, community medicine.

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INTRODUCTION

The most common cancer and the most common malignancy among women is the breast cancer which is the first cancer-related cause of death among them [1-9]. Most of the breast cancer mortalities occur in developing countries and a lot of the cases can be treated by early diagnosis[10-12]. In metastatic conditions, the cancer cells can involve other parts of body like uterus as melanoma is so [13]. However, there are some barriers impeding women from its screening methods. The methods are mainly clinical breast examination (CBE) self-breast examination (SBE) and mammography [3, 4, 14]. SBE is performed monthly at 7th day of menstruation cycle and is a test in which all eminent parts of the breasts should be investigated for signs like bloody discharges, painless lump and retraction of nipple [15]. Mammography is a method extremely suggested be performed from age of 35[16]. In addition, there are some molecular technics such as cancerous antigen (CA) biomarkers assaying like CA 15-3 [17], although assaying CA biomarkers like CA 125 and CA 19 are more common in other malignancies [18]. Of course all women's tumors are not malignant as leiomyoma is not so [19].

Familial history, age, the age of the first pregnancy, the age of menarche and menopause, radiation, previous benign disease, oral contraceptives, hormone replacement therapies and life style are the risk factors of breast cancer[20] as well as genetic variations in highly polymorphic genes like human leukocyte antigens and killer-cell immunoglobulin-like receptors[21, 22]. Of the protective factors, pregnancy could be named [23] because of the protective effect of the hormone human chorionic gonadotropin [24, 25]. The treatment is usually by chemotherapeutic medicines such as asexemestane[10] and other platinum compounds [26], immunoradiotherapy based on monoclonal antibodies [27] and the traditional radiation therapy [28].

Both proto-oncogenes and tumor suppressor genes can be involved breast cancer. For example, the tumor suppressor gene TP53 is mutated in about 30% of breast cancer cases[29]. Also the proto-oncogene ERBB2 is also involved in breast cancer which is over-expressed in about 30% of the patients and is associated with the failure of the endocrine and chemotherapy. Such patients can be treated by the monoclonal antibodies mentioned above[27].

Iran is a big country with a variety of ethnicities having cultural and biological variations from the viewpoint of immunological anthropology[30]. Because of importance for the Iran government, we are trying to investigate the barriers of breast cancer screening in Khorramabad, a city in west of Iran[31-36], and suggest our strategic insight.

METHODS

For the current cross-sectional research, total number of 457 women in the ages of 20 to 65 years referred to health centers and hospitals of Khorramabad during the second half of year 2015 to get health care services. So they were sampled through the method multistage random-cluster. Other than the age range, of our including criteria was living in Khorramabad. This study was confirmed by the ethic committee of Lorestan University of Medical Sciences. Also we had oral consent from the individuals participated. The sample size was calculated as below if the P be the outbreak of screening.

$$n = \frac{Z \left(1 - \frac{\alpha}{2}\right)^2 P(1 - P)}{d^2} \simeq 460$$

$$Z \left(1 - \frac{\alpha}{2}\right)^2 = 1.96$$

P=19.1%; Q=1-P=80.9%; d=0.04

A multi-part researcher-designed questionnaire was used as our tool of data collection. This questionnaire was validated content-wise through consulting with a number of our faculty members and the reliability was calculated as 0.78 through Cronbach's alpha. The first part of this questionnaire included was about socio-demographic characteristics of the participating individuals and another part of this questionnaire was about the insights of the participants about the barriers existing ahead of breast cancer screening. This part of the questionnaire was based on Likert scale with respectively the selection switches not at all (1 point),

a little (2 points), intermediately (3 points), approximately a lot (4 points) and very (5 points); the more points, the more importance of the barrier.

RESULTS

The average age of the participants was 35.9 ± 9.7 years in which the youngest woman was 20 and the oldest woman was 64. On average, the participants had three number of children and the most child number was 10. Also on average, the primagravidae age was 24. The least and the most ages of primagravidae were respectively 14 and 40. The mean of the menarche age was 13.5 ± 1.3 that the minimum and the maximum ages of this range were respectively 10 and 18. The average of menopause age was 50.1 ± 6.4 that the minimum and the maximum ages of this range were respectively 29 and 56.

Among the three methods of breast cancer screening, SBE was the mostly used (52 individuals) followed by CBE and mammography (respectively 20 and 19 individuals). The main source of suggestion for SBE was specialists (28.9%) followed by friends and midwives (26.9 and 19.2%). The main source of suggestion for CBE was specialists (45%) followed by friends and books (each one 15%). The main source of suggestion for mammography was specialists (42.1%) followed by books and midwives (21.1 and 15.8%) (Table 1).

Table 1: Sources of suggestion in the screening methods

Source of suggestion	Frequency in SBE	Frequency in CBE	Frequency in mammography
General practitioners	2 (3.8)	2 (10)	0 (0)
Specialists	15 (28.9)	9 (45)	8 (42.1)
Midwives	10 (19.2)	1 (5)	3 (15.8)
Family	3 (5.8)	1 (5)	2 (10.5)
Friends	14 (26.9)	3 (15)	1 (5.3)
The Radio and TV	7 (13.5)	1 (5)	1 (5.3)
Books	1 (1.9)	3 (15)	4 (21.1)
Overall	52 (100)	20 (100)	19 (100)

Table 2: Reasons of avoiding screening

Reason of avoiding screening	Importance degree of each method (Likert scale)		
	SBE	CBE	Mammography
Lack of awareness	3.55±1.14		
Lack of breast problems	3.59±1.19	3.61±1.24	3.64±1.18
Postponing	2.78±1.11		
Indolence	2.5±1.04	2.71±1.09	
Assignment to practitioners	2.99±1.08		
Unwillingness	3.2±1.09		
Fear of mass finding	3.44±1.15	3.34±1.14	
Lack of mass finding by SBE	3.07±1.14		
Lack of self-care	3.21±1.05		
Lack of cancer in 1 st & 2 nd degree relatives	3.55±1.15		3.59±1.10
Lack of skill in SBE	3.6±1.08		
Lack of felt the necessity		3.54±1.09	3.62±1.06
Lack of presence of the practitioner in the center		3.24±1.14	
High cost		3.11±1.15	3.26±1.15
Shame		2.79±1.12	3.01±1.21
Lingering in the center		2.8±1.04	
Inability to go to the center		2.97±1.16	
Lack of time		2.58±1.01	
Religious beliefs		2.76±1.07	3.08±1.15
Lack of female practitioner		3.23±1.13	
Lack of demand by practitioners			3.57±0.98
Lack of indication			3.4±1.07
Fear of pain			3.23±1.10
Fear of having the disease			3.72±1.14

The barriers against the screening methods has been evaluated through our researcher-designed questionnaire based on Likert scale with respectively the selection switches not at all (1 point), a little (2 points), intermediately (3 points), approximately a lot (4 points) and very (5 points). All the barriers in all the methods had the averages of more than 2. It means that all the questions can play roles as barriers existing against breast cancer screening. Lack of breast problems was the most important barrier against both SBE and CBE. The most important barrier against mammography was fearing of having the disease (Table 2).

DISCUSSION

Some studies on screening of breast cancer in different cities of Iran has been done before. In study of Hadi et al (2002) in Shiraz, a program for breast cancer screening was evaluated for 67 cases of breast cancer among approximately about 10,000 women aged 35 years and older. The rate of detection by SBE was similar to that by health personnel examination. Positive cases were most commonplace among the high socioeconomic class because of their awareness to screening[37].

As investigated on an Iranian population in Tehran (2008), although about 44% of affected women found a painless mass as a breast cancer symptom, only 17% of them announced that they were conducting regular SBE. The main reason for the women not doing SBE was because of this fact that they did not know how to do it (64%). They found that performing SBE is significantly related to age, marital status, education and their insight to breast cancer and the programs [15].

As described by Khalili and Shahnazi (2010) in Tabriz[38], only 18.8% of women had done SBE. Statistical analyses in that study showed a significant relationship between performing SBE and educational level, number of children, employment, income, breastfeeding history and family history of breast cancer.

CONCLUSION

Specialist was the main source of screening method suggestion in Khorramabad followed by midwives. It is unfortunate and shows the deprivation this city; because women are and should be in more contact with midwives rather than specialists. Lack of breast problems and fearing of having the disease were the most important barriers. Notification in deprived areas is necessary and should be programmed by governments.

REFERENCES

- [1] Eftekhari Z, Yarandi F, Izadi-Mood N, Rahimi-Moghaddam P. Malignant mixed mullerian tumor of the uterus associated with tamoxifen therapy in a patient with a history of breast cancer. *Iranian Journal of Pharmacology & Therapeutics*. 2006;5(1):81-2.
- [2] Farshbaf-Khalili A, Shahnazi M, Vahed L, Javadi L. Status of Breast Self-Examination Performance among Women Referring to Health Centers of Tabriz, Iran. *Crescent Journal of Medical and Biological Sciences*. 2014;1(3):90-6.
- [3] Asghari E, Nahamin M, Khoshtarash M, Ghanbari A, Parizad N, Mahdavi N, et al. The Relationship Between Health Belief and Breast Self-examination Among Iranian University Students. *International Journal of Women's Health and Reproduction Sciences*. 2016;4(3):110-3.
- [4] Shafaie FS, Nagizadeh S, Valizadeh S. Breast Cancer Screening Tests in Tabriz Behbood Hospital. *International Journal of Women's Health and Reproduction Sciences*. 2016;4(3):134-40.
- [5] Atashkoei S, Fakhari S. Management of Breast Cancer Related Lymphoedema. *Crescent Journal of Medical and Biological Sciences*. 2016;3(4):111-2.
- [6] Hajian Tilaki K, Auladi S. Awareness, Attitude, and Practice of Breast Cancer Screening Women, and the Associated Socio-Demographic Characteristics, in Northern Iran. *Iranian journal of cancer prevention*. 2015;8(4):e3429.
- [7] Rastegar H, Ashtiani HA, Anjarani S, Bokae S, Khaki A, Javadi L. The role of milk thistle extract in breast carcinoma cell line (MCF-7) apoptosis with doxorubicin. *Acta Medica Iranica*. 2013;51(9):591.
- [8] Rondet C, Lapostolle A, Soler M, Grillo F, Parizot I, Chauvin P. Are immigrants and nationals born to immigrants at higher risk for delayed or no lifetime breast and cervical cancer screening? The results from a population-based survey in Paris metropolitan area in 2010. *PloS one*. 2014;9(1):e87046.
- [9] Choi E, Lee YY, Yoon HJ, Lee S, Suh M, Park B, et al. Relationship between Cancer Worry and Stages of Adoption for Breast Cancer Screening among Korean Women. *PloS one*. 2015;10(7):e0132351.

- [10] Hashemi-Meshkini A, Keshavarz K, Gharibnaseri Z, Kheirandish M, Kebriaeezadeh A, Nikfar S, et al. Cost-effectiveness analysis review of exemestane in the treatment of primary and advanced breast cancer. *Arch Med Sci.* 2013;9(3):472-8.
- [11] Fouladi N, Pourfarzi F, Mazaheri E, Asl HA, Rezaie M, Amani F, et al. Beliefs and behaviors of breast cancer screening in women referring to health care centers in northwest Iran according to the champion health belief model scale. *Asian Pacific journal of cancer prevention : APJCP.* 2013;14(11):6857-62.
- [12] Vilapriyo E, Forne C, Carles M, Sala M, Pla R, Castells X, et al. Cost-effectiveness and harm-benefit analyses of risk-based screening strategies for breast cancer. *PLoS One.* 2014;9(2):e86858.
- [13] Venyo LKG, Fatola CO, Venyo AKG. Melanoma of the uterus: A review of the literature. *International Journal of Women's Health and Reproduction Sciences.* 2015;3(1):2-12.
- [14] Cesario SK, Liu F, Gilroy H, Koci A, McFarlane J, Maddoux J. Preventative Health Screening Amongst Women Who Have Experienced Intimate Partner Violence. *international journal of women's health and reproduction sciences.* 2015;3(4):184-9.
- [15] Montazeri A, Vahdaninia M, Harirchi I, Harirchi AM, Sajadian A, Khaleghi F, et al. Breast cancer in Iran: need for greater women awareness of warning signs and effective screening methods. *Asia Pacific family medicine.* 2008;7(1):6.
- [16] Jafari M, Nakhaee N, Goudarzi R, Zehtab N, Barouni M. Participation of the Women Covered by Family Physicians in Breast Cancer Screening Program in Kerman, Iran. *Asian Pacific journal of cancer prevention : APJCP.* 2015;16(11):4555-61.
- [17] Lee C-S, Taib NAM, Ashrafzadeh A, Fadzli F, Harun F, Rahmat K, et al. Unmasking Heavily O-Glycosylated Serum Proteins Using Perchloric Acid: Identification of Serum Proteoglycan 4 and Protease C1 Inhibitor as Molecular Indicators for Screening of Breast Cancer. *PloS one.* 2016;11(2):e0149551.
- [18] Guler I, Turp A, Taskiran C, Onan A, Tatli H, Guner H, et al. Is it necessary to perform surgical staging in patients with giant immature ovarian teratomas mimicking mature cystic teratoma at frozen section. *International Journal of Women's Health and Reproduction Sciences.* 2013;1(3):105-10.
- [19] Bani S, Hasanpour S, Chaychi SJ, Ebrahimi H, Mamaghani ME. Leiomyoma and Nutrition, a Case-Control Study. *International Journal of Women's Health and Reproduction Sciences.* 2013;1(1):5-13.
- [20] McPherson K, Steel C, Dixon J. Breast cancer—epidemiology, risk factors, and genetics. *Bmj.* 2000;321(7261):624-8.
- [21] Shayanrad B, Ahmadi SAY, Shahsavari F. Breast cancer is protected by the KIR gene 2DL1 and affected by 2DL2: A systematic review. *Der Pharmacia Lettre.* 2016;8(15):22-5.
- [22] Shahsavari F, Mapar S, Ahmadi SAY. Multiple sclerosis is accompanied by lack of KIR2DS1 gene: A meta-analysis. *Genomics data.* 2016;10:75-8.
- [23] Gutierrez C, Mills D, Love S, Lakshmanaswamy R. Abstract P2-06-14: Utilizing Human Breast Tissue and Blood to Discern Novel Protective Properties of Early Pregnancy in Reducing Breast Cancer Risk. *Cancer Research.* 2010;70(24 Supplement):P2-06-14-P2-06-14.
- [24] Janssens JP, Russo J, Russo I, Michiels L, Donders G, Verjans M, et al. Human chorionic gonadotropin (hCG) and prevention of breast cancer. *Molecular and cellular endocrinology.* 2007;269(1):93-8.
- [25] Boroujeni MB, Boroujeni NB, Salehnia M, Marandi E, Boroujeni MB. Ultrastructural changes of corpus luteum after ovarian stimulation at implantation period. *Iranian Biomedical Journal.* 2012;16(1):33-7.
- [26] Shahsavari F, Bozorgmehr M, Mirzadegan E, Abedi A, Lighvan ZM, Mohammadi F, et al. A novel platinum-based compound with preferential cytotoxic activity against a panel of cancer cell lines. *Anti-Cancer Agents in Medicinal Chemistry.* 2016;16(3):393-403.
- [27] Smellie WJB, Dean CJ, Sacks NP, Zalutsky MR, Garg PK, Carnochan P, et al. Radioimmunotherapy of breast cancer xenografts with monoclonal antibody ICR12 against c-erbB2 p185: comparison of iodogen and N-succinimidyl 4-methyl-3-(tri-n-butylstannyl) benzoate radioiodination methods. *Cancer research.* 1995;55(23 Supplement):5842s-6s.
- [28] Akan Z. Boron neutron capture therapy for breast cancer. *International Journal of Women's Health and Reproduction Sciences.* 2015;3(2):77.
- [29] Chitralla KN, Yeguvapalli S. Computational screening and molecular dynamic simulation of breast cancer associated deleterious non-synonymous single nucleotide polymorphisms in TP53 gene. *PloS one.* 2014;9(8):e104242.
- [30] Varzi AM, Shahsavari F, Tarrahi MJ. Distribution of HLA-DRB1 and HLA-DQB1 alleles in Lak population of Iran. *Human Immunology.* 2016;77(7):580-3.

- [31] Amiri A, Ghaderi N, Obeidavi Z, Khorramabadi S, Torkashvand J, Sheikhi E, et al. RISK FACTORS OF CHILDREN'S ASTHMA (6-12 YEARS OLD) IN KHORRAMABAD, IRAN: A CASE CONTROL STUDY. *iiob journal*. 2016;7(8):1-5.
- [32] Ghanadi K, Valizadeh J, Hasanvand A. Epidemiological and clinical aspects of ulcerative colitis in west of Iran: a cross sectional study. *SpringerPlus*. 2016;5(1).
- [33] Ghanadi K, Anbari K, Obeidavi Z, Pournia Y. Characteristics of colorectal cancer in Khorramabad, Iran during 2013. *Middle East journal of digestive diseases*. 2014;6(2):81.
- [34] Anbari K, Gholami M. Evaluation of trends in the use of complementary and alternative medicine in health centers in Khorramabad (West of Iran). *Global journal of health science*. 2016;8(2):72.
- [35] Kheirandish F, Kayedi MH, Ezatpour B, Anbari K, Rouzbahani HRK, Sharafi AC, et al. Seroprevalence of Human Fasciolosis in Pirabad, Lorestan Province, Western Iran. *Iranian journal of parasitology*. 2016;11(1):24.
- [36] Kheirandish F, Kayedi MH, Ezatpour B, Anbari K, Karimi Rouzbahani HR, Chegeni Sharafi A, et al. Seroprevalence of human fasciolosis in Pirabad, Lorestan province, Western Iran. *Iranian Journal of Parasitology*. 2016;11(1):24-9.
- [37] Hadi N, Sadeghi-Hassanabadi A, Talei AR, Arasteh MM, Kazerooni T. Assessment of a breast cancer screening programme in Shiraz, Islamic Republic of Iran. *Eastern Mediterranean health journal = La revue de sante de la Mediterranee orientale = al-Majallah al-sihhiyah li-sharq al-mutawassit*. 2002;8(2-3):386-92.
- [38] Khalili AF, Shahnazi M. Breast cancer screening (breast self-examination, clinical breast exam, and mammography) in women referred to health centers in Tabriz, Iran. *Indian journal of medical sciences*. 2010;64(4):149-62.