Sociocultural Factors Associated with Breast Self-Examination among Iranian Women

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Abstract- Of the ways to fight breast cancer and reduce deaths hazard due to early detection is one of early detection programs in women's breast self- examination. Examining breast by oneself increase individuals knowledge of her breast health that helps in detecting breast cancer early. Different cultural, social, family and individual factors play roles in women's behavior about breast self- examination applying PEN-3 model in this study is to analyze factors influencing on breast self-examination. The research is a descriptive-analytical, cross-sectional type. Research community consists of women at fertility age of 20-49 in sari. Sample volume is 415 individuals and sampling method is cluster method. In this study, a 50-item questionnaire based on PEN-3 was used. Avestions were answered by Likert scoring method. Questionnaire was gathered by personal presence of questioners. Data was analyzed via descriptive statistics and logistic regression methods. Based on the study findings, the most significant positive behaviors related to perceptual factors included effectiveness of disease background in family and relatives (73%), believing in breast self-examination for pursuing health (93%) and the most important negative behaviors were shyness and modesty (83.9%) and increased worry (78.9%). The most remarkable positive behaviors regarding enabling factors covered the skill to do breast examination oneself (35.2%), the availability of health and therapeutic centers (80.7%) and the most significant negative behavior was being busy and lack of time (85.3%). The most important positive behavior about nurturing factors included family consent (68.9%) and the most significant negative one was the inappropriate treatment of health andtherapeutic personnel (61.8%). In this study, there is a meaningful difference between employment ages, education with PEN-3 model constituents. Since behaviors due to enabling and nurturing perceptual factors have been important in doing or not doing breast self- examination; thus its worth to take measures to plan some educational and administrative intervention programs about women breast cancer early detection through sufficient knowledge of influential sociocultural factors.

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Keywords: Breast cancer; Self- examination; PEN-3 model; Sociocultural factors

Introduction

Breast cancer is the most common malignancy and the second leading cause of cancer-related death among women in the U.S. Despite improvements in the detection and treatment of breast cancer, this disease still accounted for over 40,000 deaths in the U.S. in 2009.27 Therefore, breast cancer prevention is a major public health issue. Lack of access to health care and lack of information may be one of the problems which can lead to such deterioration. Because, early detection, behavioral factors and timely adherence to

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recommended guidelines in particular, may serve as an important contributor to differences in breast cancer survival (1-4). Though breast cancer incidence has risen, deaths rate due to this has remained stable in the last 40 years, assumed to be as a result of early detection and available treatments. Alarming reports about women breast cancer imply that a woman with breast cancer is diagnosed every 3 minutes, and a woman dies due to the cancer every 12 minutes (5). The worldwide rising incidence of breast cancer give an prospective view that 15 million new cases and 9 million deaths will occurred in 2015 (1). This phenomena is also seen in Iranian women, as how the incidence rate ASR (age-specific rate) and raw incidence rate are 2715 and 2042, respectively (6). According to the reports of Iran Health Ministry, 6975 cases of breast cancer were diagnosed among Iranian women in 2007. In Mazandaran province, breast cancer is considered to be the first prevalent cancer with incidence rate of 24.90 per 100000 women (9,10).

Recommended screening guidelines are important disparity that have been thought to be integral to early-stage detection and survival. The recommended screenings include mammography, clinical breast examination and breast self- examination. Unfortunately, there are lower rates of adherence to follow-up for abnormal screening, and greater times to diagnostic resolution (13,14), which have been linked to disparities in late-stage detection (15,105), that lead to delays in initiation of treatment (16,17) (11). The reports showed that Breast self- examination (BSE) have a major role in early detection of breast cancer (48%), compared with annual mammography and clinical breast examination (41% and 11%, respectively). In addition, breast self- examination is an inexpensive, cost-effective and easy screening method, which can be used for diagnosis of 95% of malignant breast tumors by monthly self- examination (4,10). Therefore, US Cancer Institute recommended that breast self- examination should be initiated from age 20 years to improve the health condition and early diagnosis of breast cancer among women. Self- examination is not at all a diagnostic method, at the moment, it's simply used as a contribution to screening though B.S.E, it doesn't result in reduced death rate and there are uncertainties about its effectiveness (11,12), assuring support and training can encourage women to overcome the existing obstacles to do B.S.E (11). However in our country B.S.E has a special position due to increasing women's knowledge and preventing cancer emerging in higher stages and its training is strongly recommended (1). Various studies show that women's knowledge and performance is very different about this method. In diverse studies, Iranian women's performance has been mentioned low about early detection and screening (12). In the study by Montazeri *et al*., on Iranian women only 17% have pursued regular B.S.E (13). In a study in Mazandaran, doing B.S.E was only 26.2% (14) and in Tabriz, it was 18.8% (15) and also in Yazd, it was 14.64% (16).

Theoretical framework

The aim of the study is to evaluate the effectiveness of self-examination to produce positive and early screening of breast cancer in subgroups of Iranian women in Mazandaran province. The PEN-3 model was used to provide the framework for the study. The PEN-3 is a conceptual model for health promotion and disease prevention that was adapted for use among Iranian women. The method has potential application for anthropologists and other social and behavioral scientists working within biomedical and health arenas for the analysis of ethnographic findings. It consists of three interrelated and interdependent dimensions of health beliefs and behaviors: health education, educational diagnosis of health behavior, and cultural appropriateness of health behavior. As shown in Fig. 1, each dimension has three components that form the PEN acronym: Person, Extended Family, Neighborhood (Educational Diagnosis of Health Behavior domain); Perceptions, Enablers, Nurturers (Relationships and Expectations domain); Positive, Exotic, Negative (Health Education domain) (34,35).

The dimension of the health education assists in defining the target audience. The dimension of the educational diagnosis of health behavior focuses on determining the factors that influence the person, family, and/or community actions. Perceptions include the values, attitudes, and beliefs that may facilitate or hinder engagement to take recommended health care or influence decisions about treatment. Enablers are sociocultural factors such as availability of resources, accessibility, referrals, skills, and types of services that may enhance or be barriers to make treatment decisions. Nurturers refer to reinforcing factors that the target audience receives from their social networks. The third dimension, the cultural appropriateness of a health behavior is crucial in the development of culturally sensitive interventions and instruments to assess the target health behavior of ethnic minority cultures. The positive/negative components refer to perceptions, enablers, and nurturers that lead the target audience to engage/not to engage in the health behavior. The exotic

component refers to practices that have no harmful health consequences and should not be changed but incorporated in the intervention or instrument.

In the research by Vanessa B.sheppard *et al*., on breast cancer in the form of PEN-3 model, the most important perceptual factors have been agreeability, relying on god, fear, religious belief, other ones experiences, cancer legend, and the most significant enabling factors included accessibility, skill, ignorance and negligence of service providers and the most important nurturing factors have been family members, family negative reactions, family and society members unawareness (17).

Materials and Methods

In the descriptive analytical, cross-sectional study, a total of 415 women between the ages of 20 and 49 in 12 health centers in Sari, Mazandaran province of Iran. In this study, a 50- item questionnaire has been used. The subjects were administered questionnaire has been compiled through collective consultation with a body of specialists related and its validity has been verified via content method. Its reliability has been figured out using halving method and internal stability was calculated through α Cronbach coefficient (79%).

The demographic and sociocultural data that influence on breast self- examination were collected and scored by Likert method. The subjects were explained the purpose of the focus groups. If they agreed to participate, they completed a one-page demographic sheet. The questionnaire was chosen and completed by personal reference of questioners to houses for collecting selected samples; data was analyzed through descriptive statistics, and logistic regression methods.

Results

Based on the results gained by this study the age mean of study women has been 33-14 years, marriage age mean 22.35, pregnancy number mean 1.59 cases and delivery number mean 1.35 case, menstruation age starting mean 12.84 years old. Among samples, 15.2% had under diploma education, 40.2% diploma, 41.9 bachelors and 2.7% master and higher level education, the education level of samples husbands had 11.6% under diploma education, 41.2% diploma, 35.9% bachelor and 11.3% master or higher education level. About samples jobs, 34.5% were office workers, 6.5% workers, 2.9% university students, 50.4% unemployed, 3.9% drivers and 19% retired and about samples husbands careers, 48.4% were office workers, 25.3% laborers, 2.4% university students, 7% jobless, 18.8% drivers and 4.3% retired. Based on the study findings, 85.8% haven't had breast cancer background in themselves and 14.5% have had it. 69.9% were without family record of the disease, 4.3% had breast cancer record in their immediate relatives, 25% in their second-grade relatives (Table 1).

Table 1. Study samples demographic features

Mean	Age (33.14), marriage age (22.32), pregnancy number (1.59) birth number (1.35) menstruation starting age (12.8)
Education	Under- diploma (15.2) diploma (40.2) master and higher (2.7)
Career	Office worker (34.5) worker (6.5) university student (2.4) jobless (50.4) driver (3.9) retired (1.9)
Family disease history	Without family history (69.9%) immediate relatives (4.3%) second-grade relatives (25%)

Study findings based on PEN-3 model constituents include perceptual factors, enabling factors and nurturing factors and also positive and negative and neutral behaviors related to the mentioned factors have been extracted and analyzed. According to the study findings, there is a meaningful relationship between PEN-3 model factors constituents and independent t-test in people above 20 years old, P=0.0012, T= 2/5 and also nurturing factors constituent of the model, T=3/2 and PEN-3 P=0.002. Menstruation starting age with correlation coefficient 0.3, P=0.001 had a meaningful relationship with PEN-3 model nurturing factors constituent. Career had a meaning relationship with perceptual factors T= 9/16, P=0.001 with t-test and also with enabling factors constituent of PEN-3, T= 3.55, P=0.001 and nurturing factors constituent P=0.001, T=3/76 in employed people compared with the unemployed. Education in individuals with academic studies had a meaningful relationship with perceptual factors constituent T= 10/97, P=0.001 with T=test and also with enabling factors constituent P=0.001, T= 4/71 and with nurturing factors constituent P=0.001, T= 4/12. Breast cancer family background had a significant association with perceptual factors constituent, T= 3/92, P=0.001 and enabling factors constituent T= 2/8, P=0.005 and nurturing ones P=0.001, T= 4/8. In this study, positive behaviors related to perceptual factors constituent include: adequate knowledge of breast self-examination 35.5%, the presence of feeling able to do self- examination by the person 42.2%, the disease

family record being effective in encoding self-examination 73%, breast cancer record in the person being effective to motivate and induce her to do breast self- examination 39.5%, believing that self-examination increases health 93%, doing self-examination can help to detect breast cancer early 77.4% and believing that woman alone is capable to do self-examination 65.2%. The negative behaviors related to perceptual factors constituent cover: persons low sensitivity to self- examination 42.2%, resistance against self- examination 73%, the fear of detecting breast cancer via self- examination 69.9%, being shy and modest to do self- examination 83.9% and increased worry due to self- examination 78.9%. the positive behaviors related to enabling factors include: highly skilled health- therapeutic personnel to educate self-examination 34.9%, being covered by an appropriate insurance 83.1%, skilled at doing self- examination 32.5%, the ability to pay examination expenses and doing self- examination 85.5% and availability of health- therapeutic centers to receive training about self-examination 80.7%. Negative behaviors associated with enabling factors are lack and unavailability of qualified personnel to train self- examination 53.8%, being busy too much and lack of time for individuals to receive training required for self- examination 85.3%. the positive behaviors about nurturing factors constituent include: husband consent to do self- examination 65.6%, women's family consent (mother, sister, …) to do self-examination 68.9%, husbands family agreement (mother- in- law, …) to do self- examination 39.8%, friends and peer groups opinion about self- examination 41.2%, encouragement by family members that themselves have already done self- examination to do it 58.6%. Negative behavior related to nurturing factors constituent cover: unpleasant treatment from health-therapeutic staff side 61.8 %(table2).

Table 2. Sociocultural Factors Associated with Breast Self-examination by PEN-3among Iranian Women

	Positive behaviors	Negative behaviors
Perceptions	- Knowledge of B.S.C - Feeling capable to practice self- examination individually - Self-examination increases women's health - Persons suffering record of breast maladies (other than cancers) - Motivate to practice - Self-examination. - Doing self-examination leads to early detection of cancer	- Fear of breast cancer diagnosis by self- examination - Shyness to do self-examination - Increased worry due to self-examination practice - Low sensitivity of the person to do self- examination -Resistance against doing self-examination- fear
Enablers	- The presence of qualified health- therapeutic staff - Having access to proper insurance coverage - Easy access to health therapeutic centers - Skilled at self- examination practice	- Lack of or not accessing skilled personnel to examine - Being too much busy and lacking time and chance to attend health care centers
Nurturers	- Husbands consent about self-examination - My own family members (sister, mother . . .) encouraging and inducing self - Examination my husband's family members (mother- in-law, sister- in- law) - Encouraging and motivation to do it	- Health care centers personnel's bad treatment blocks referring and doing examination

Discussion

In this study, factors affecting breast self-examination in women based on PEN-3 model have been analyzed. In the present research, mean score of perceptual factors was 71.86, that of enabling factors was 53.42 and nurturing factors mean score was 55.98. In perceptual factors part, study samples knowledge score had 35.7% decent knowledge. In most studies done on women's knowledge, attitude and performance regarding self- examination, women's knowledge was generally average and in some, it was reported poor (3,16,20-27).

In this study, in addition to knowledge factor, the most important perceptual factors about self-examination involve: the fear of detecting breast cancer, increased worry due to breast self- examination, shyness and modesty about practicing breast self- examination, the effectiveness of breast cancer record in the person to create the motive and incentive to do breast self-examination, the effectiveness of disease record presence in family and relative to motivate doing breast self- examination, helping to diagnose breast cancer tumor early through self- examination and confidence and assurance to do B.S.E. in the study by soltan ahmadi, the most significant factors to do breast self-examination related to perceptual factors were mentioned knowledge about self- examination plan significant 91.3%, helping in early detection 89.1%,

observing the disease in relatives 50%, family disease record 41.3% being shy to do examination 43.1%, the fear of breast cancer diagnosis 28.9%, not trusting self-examination 43.8% (28). In the research by lana sua kaopua and linda, the most important positive behaviors about perceptual factors were pointed out breast cancer early detection, plan importance despite not being easy, and the most significant negative behaviors of perceptual factors were mentioned treatment being disgusting and loath some, the fear, stress and anxiety due to breast cancer diagnosis (29). In the study by farshbaf khalili, the most common factors influencing not to do breast self- examination related to perceptual factors include: inadequate knowledge about breast self-examination 53.2%, self- examination being unnecessary because of not suffering from breast malady 18.5%, unwilling to do self- examination 2.5%, the fear of the presence of tumor (mass) by self- examination 1.8% (15). In the study by baradaran, some reasons behind not doing self- examination include the fear of detection 39.3%, unpreventability of breast cancer 15.5% (30). In the research by *et al*., forgetting and unnecessity to do were mentioned (31). In this study, there was a meaningful relation between age, marriage age job, education and breast disease family record and perceptual factors. Different studies have shown the relation between knowledge and attitude and the mentioned variables. The study by et al, farshbaf, soltan mohammadi indicated the significant relationship between self- examination practice and job (15, 28, 33, 32). In the research by farshbaf, aydin avci, breast cancer family record had a meaningful relationship with self- examination practice (15, 34). In many studies, there was a significant relationship between participating in self- examination practice and education level (35-38). In this research, in enabling factors section, 67.5% of women lacked the skill to practice self- examination and 85.3% didn't do it due to being busy and lack of time. In the study by soltan ahmadi, 59.7% lacked skill, 32.3% didn't have enough time, and 7.7% were far away from health and therapeutic centers and 14% had problem to do self- examination (28). In the research by farshbaf, 53.2% lacked skill required to practice self- examination (15). In the study by banaian, 39.8% didn't have the skill to do self- examination properly (25). In the research by kaopua and linda, the in adequate access to health and therapeutic facilities, the presence of law abiding and committed doctors and personnel and suitable health therapeutic insurance were mentioned (29).in the study done by soltan ahmadi, the reason for not practicing self- examination were pointed as financial problems 14%, being away from health care centers 7.7% (28). This study stated some other enabling factors as the proper insurance coverage 83.1%, the presence of skilled health therapeutic personnel and the availability of such centers 80.7% and having the expense to attend health care centers and expertise for doing self- examination 85.5%. In the present study, a meaningful relationship existed between job, education and breast cancer family record and enablers of the enabling factors to practice breast self- examination in women, fertility age, families and husbands consent and encouragement by family members who previously performed self- examination had the highest frequency. Following that, friends and peer groups opinion 41.2%, health service providers' treatment background 61.8% were include. In the research by kaopua and Linda, enabling factors with positive behavior were mentioned as family co operation and encouragement, church leader's approval and enabling factors with negative behavior as lack of family co operation and support (29). In farshbaf study, the recommendation by health care doctor, midwife and staff and other ones were the reasons for participating in self- examination practice (15). In the research by baradaran, 30.8% was recommended by doctors to practice clinical breast examination (30). In this study, there was a meaningful relation between ages, menstruation starting age. Job, education, breast cancer family record and nurturing factors. These results were compatible with those of farshbaf and mahouris study (15, 39).

Since breast cancer is the most prevalent one in women and the best preventive and control strategies of this malady are timely diagnosis. Because breast self-examination (B.S.E) is the most effective, easiest and cheapest method to help breast cancer screening. This study results have revealed that behaviors due to perceptual factors, enablers and nurturers (whether positive or negative) have been effective in practicing or not practicing breast self- examination by women at fertility ages. Therefore, women health project planners and administrators are recommended to take measures to design educational programs and to implement women breast cancer screening intervention projects through sufficient knowledge of influential factors and positive and negative behaviors due to practicing BSE congruent with cultural and social requirements of every society.

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