RESEARCH ARTICLE

Factors Affecting Preferences of Iranian Women for Breast Cancer Screening Based on Marketing Mix Components

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Abstract

Background: According to recent statistics, the breast cancer rate is growing fast in developing countries. In North West of Iran, the incidence of breast cancer after esophageal and gastric cancers has the highest rate. Previous studies have also indicated that women in this region show reluctance to do breast cancer screening. There is a great need for change to promote breast cancer screening among women. Social marketing is a discipline that uses the systematic application of commercial marketing techniques to promote the adoption of behavior by the target audience. Materials and Methods: In the present qualitative study, thirty-two women with breast cancer were interviewed about their experiences of breast cancer screening. A semi-structured interview guide was designed to elicit information specific to the 4 P's in social marketing. Results: Three main categories emerged from the analysis: price, service and promotion. Subcategories related to these main categories included factors effective in increasing and decreasing cost of screening, current and desirable features of screening services, and weakness of promotion. Conclusions: Screening programs should be designed to be of low cost, to meet patients' needs and should be provided in suitable places. Furthermore, it is essential that the cultural beliefs of society be improved through education. It seems necessary to design an executive protocol for breast cancer screening at different levels of primary health care to increase the women's willingness to undergo screening.

Keywords: Breast cancer - screening - social marketing - marketing mix components - Iran

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Introduction

Breast cancer, annually, threatens lives of many women. According to statistics, the breast cancer rate is growing fast in the developing countries (Farid et al., 2014; Donnelly et al., 2015). Annually, a million and half women are diagnosed with breast cancer and 502,000 cases die because of the disease (Tazhibi and Feizi, 2014). It is estimated the percentage of women with breast cancer in 2020 to amount over 29% in the developed and 73% in the developing countries (Loh et al., 2011).

Breast cancer prevalence in women is 23.1 per 100,000 women in Iran. (Tirgari et al., 2012; Tazhibi and Feizi, 2014). Of the most common cancers among women, 76% are of breast cancer type (Tazhibi and Feizi, 2014). The mean age of patients in Iran, like many in the other Middle East countries, is about 10 years lower than the other areas in the world. And most of them are passing through the advanced stages of disease, as a result, the rate of mortality is higher among them (Montazeri et al., 2008; Brunicardi and Schwartz, 2010).

In North West of Iran, (Ardabil province), the incidence of breast cancer after esophageal and gastric cancers has the highest rate (Mousavi et al., 2007).

Previous studies have also indicated that the women in this region show reluctance to do breast cancer screening (Fouladi et al., 2013). The women'slow willingness to do breast cancer screening has been maintained in various studies (Tirgari et al., 2012; Leeman et al., 2013). A greater need for change emerges, that promote breast cancer screening among women.

Social marketing is a discipline that uses the systematic application of commercial marketing techniques to promote the adoption of behaviors of the target audience (Suarez-Almazor, 2011). Social marketing seeks to influence the voluntary behavior of target groups (Grier and Bryant, 2005). In social marketing programs, it is tried to identify the target group's needs and predispositions, and to plan based on them. Having insight into the views and opinions of the target group about a behavior accordingly brings about the success of the program and causes the target group to optionally and voluntarily follow a certain type of treatment or service.

Social marketing uses the four P's of traditional marketing: product, price, place, and promotion (Suarez-Almazor, 2011).by combining them together, responding

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to the target market and group becomes possible (Grier and Bryant, 2005).

Materials and Methods

CA qualitative study utilizing in-depth face-to-face interviews was used to solicit information from women with breast cancer. thirty two women with breast cancer were interviewed about their experience of breast cancer screening. Interview was chosen as the qualitative data collection tool. Interviews were designed to gain insight into the perspectives of women on breast cancer screening. A semi-structured interview guide was designed to elicit information specific to the 4 P's in social marketing. The 4 P's in social marketing including price, place,product and promotion, were incorporated into the interview guide. These key elements of social marketing were central to the planning and implementation of an integrated marketing strategy (Grier and Bryant, 2005; Suarez-Almazor, 2011) .

After obtaining approval from the Institutional Review Board, women from breast cancer registry center were invited to participate. Prior to interview, informed consent was obtained. Considering the exploratory nature of this study, no a priori sample size was proposed.

Interviews lasting two hours were held at convenient locations. One-on-one semi-structured interviews allowed women to share experiences in their mother tongue.

All interviews were audio-recorded, and transcribed verbatim. The moderator used an interview guide designed to elicit information. Interviewer had a broad background in cancer research. She also had done several community assessments, and translations, and had made manyeducational interventions with breast cancer patients.

Consequently, interview transcripts were analyzed for key concepts and variables of 4 P's in social marketing. A more deductive approach to content analysis that was more structured than conventional content analysis was considered as a form of directed content analysis (Hsieh and Shannon, 2005).

Data analysis was conducted with the purpose of identifying key themes and issues.

A coding scheme was developed by the authors based on interview guide described above. Data from each interview were coded by two authors independently, the coding was compared, and consensus on the best coding was achieved. The codes for each interview were then compared across transcripts, enabling the research team to identify key themes that appear to best represent participants' viewpoints. This process was repeated for all interviews transcripts. In this way, data were reduced from coded conversation segments, organized into 4 questions, and used in the interview guide.

To further ensure consistency among the coders, the final coded transcripts were then reviewed by an independent consultant with a broad background in qualitative data analysis. This process provided an external audit of our analysis helping to assure the confirmability and dependability of the findings. Credibility of analysis was assured by triangulation of analysts (having two coders review each transcript) and peer debriefing methods.

Results

The mean age of participants was 45.2±8.4 years and the mean duration of suffering from disease was 9.3±8.1 months. Most participants 30 (95%) were married and most of them (55%) were of primary or lower education. 55% of participants had three or four children and only 10 percent had university degree.27 (85%) participants were housewife and 5 (15%) participants were employed.

The participants' responses in the four areas of social marketing mix were collected. Taking the significant overlap of findings regarding the two components of product and place, these components were presented under the category of service as a single component.

Price

Price includes all factors that could affect demand for the product or service. Participants' expressions about the cost of screening test were classified into two categories: factors increasing price and factors decreasing price.

Factors increasing price

Impossibility of visiting a doctor and undergoing mammography due to the high price of these services in the society, emotional factors such as dread of having cancer, social stigma because of having cancer, feeling embarrassed at visiting the male doctors, spending a lot of time until receivingservices, and perceiving mammography as a risky undertaking were factors affecting the increase in the price of screening tests. The majority of patients mentioned one or some of these factors as contributors to their not undergoing screening tests.

As instance, one of the patients mentioned;

"About 4 to 5 months before visiting the doctor, and being diagnosed with the cancer, I noticed a mass inside my breast, when I was examining it. But because of high cost and fear of the consequences of the disease, Idid not go to the doctor."

"When Ifirst felt a mass in my breast, I was terrified of dying and to the same extent I was scared of doing surgery

Table 1. Ddemographic Characteristics of Participants

Variable	Mean±SD or Frequency
Age	45.25±8.4
duration of conflicting with the disease	9.3±8.1
Marital status (frequency/percentage)	
Married	30(95%)
Single	2(5%)
Number of children	
No child	2(5%)
1 -2 child	8(25%)
child3-4	17(55%)
>5	5(15%)
Occupational status	
Housewife	27(85%)
Employed	5(15%)
The place of residence	
city	45%
village	55%

and removing my breast. I was also anxious about how all people in the village will gossip about me and my disease. So, at first I tried to convince myself not to visit a doctor".

"Health center of the village are so far away that I cannot walk, so one must have a car together or ask somebody who has a car to take her, which is all trouble".

Factors decreasing Price

Patients pointed out factors like low cost of screening tests, feeling relaxed and comfortable with female doctors, the value of beauty for women and unnecessity of total mastectomy in case of early diagnosis of disease,as factors effective in reducingprice for screening.

One patient said

"I am extremely afraid of this disease,and I don't want to lose my beauty at all. Then, I occasionally examine my breast at home; so that in case ofbeing any problem I would go to the doctor at once,to avoid worse situations."

"Since the doctor in the clinic is woman, I feel more comfortable with her and don't feel embarrassed while examining my breast."

Service

Service was classified into two subcategories: current features of breast cancer screening service and favorable characteristics of service from patients' perspective.

Current features of breast cancer screening service

In this regard,patients mentioned factors such as busy health centers, lack of sufficient time for examining patients, the long distance from their homes to the health centers,and lack of training programs on how to perform BSE in health centers as current features of breast cancer screening services offered in the society.

Patients'expressionin this respect

"Health center of the village are such far away that I cannot walk to there, I mean, one must have a car to go there,which is all trouble".

"In the health center, the patients receive proper care, but it is far away. It would be nice fit was closer."

Features desirable for providing screening service

The factors like increasing working hours in the specialized clinics, setting ground for decreasing crowd in the health care centers,persuading women for BSE by conducting training programs in the health care centers or any other place that women come together (particularly in the informal gatherings), and training women on BSE in their work places by a doctor or trained female staff, and availability of centers where patients can spend less money to receive the desirable services were pointed out by patients as desirable characteristics of the service.

"health care centers should hold monthly meetings for women in places such as village mosque, and it is necessary that a paramedic or a doctor explain to them about breast cancer and how to examine breast"

Promotion

Most of patients referred to mass media as the most important means of promotion in screening. From the majority of the participants' perspective, radio and television are the most accessible media that can serve a significant role in raising the women's awareness of breast cancer screening as well as in urging them to have timely breast cancer screening. One patient's expression in this respect:

"I tune in the radio or watch TV programs about health;because,except for these two media, I can't learn elsewhere, I'm rarely kind of those who visit doctors".

"TV is the only means by which I hear about the health issues and of course I am into health matters, and I also use them well, especially when a doctor recommends or explains them, I take them very serious,and apply them in my life".

"I 'm fan of those radio and television programs in which a physician responds to the peoples' questions and problems about diseases or offers a solution, and I sometimes take notes while watching or listening to use them later"

"I'd rather watch TV programs, and listen to free health advice and stick them to my mind than spend money and visit a doctor. Indeed, I watch such programs, as if I have had a free visit with a doctor".

The educated patients also considered booklets and brochures very helpful in teaching people.

Additionally, the participants believed that informing people via mass media, by placing notices in the busy places like pharmacies, hospitals…or through producing brochures and pamphlets as the most important instructional methods.

"In my opinion, it is needed that government provide women with some free booklets or magazines at their houses or work places every few months"

Discussion

The findings of this study can be classified into three categories of price, service and promotion that according to patients' expressions, they are the major factors influencing breast cancer screening.

The results obtained in the present study indicated that price was a key element in patients' in seeking to do the breast cancer screening. The other studies have also shown that high price of mammography and time consuming nature of mammography were determining factors leading to patients' reluctance to do breast cancer screening (Farid et al., 2014; Shamsi et al., 2014). Moreover, other studies have suggested that the price of service is not only associated with undergoing screening but also effective in receiving other health services (Yaghoubi et al., 2011).

Therefore, screening programs should be designed to be of low cost or free, to meet the patients' needs.

Accompanied by the expenses met by patients, emotional factors, cultural beliefs, and being drown in routines tasks were price increasing factors in screening that were identified in the present study.

Base on results , it seems that despite price is highly influencing in undergoing breast cancer screening, it is not the only effective factor. Put differently, emotional and cultural factors affect the willingness of the women

to do screening. The study conducted in Saudi Arabia has also shown,women in that country, in spite of having the facility of free screening, are not predisposed to undergo it (El Bcheraoui et al., 2015).

The cultural beliefs can affect women's desire to do breast cancer screening. Hereupon, identifying and reinforcing positive cultural beliefs along with diminishing the impact of negative cultural beliefs can cut down the cost of screening in women and raise the tendency of women toward screening, too.

In the same way, the results of a study conducted by Lana Sue Ka'opua have also indicated the prominence of this factor in patients' willingness to do breast cancer screening (Ka'opua, 2008). Moreover, Crawford et al in their study have maintained that social and cultural factors in the target population should be considered in planning interventions (Crawford et al., 2015).

Therefore, it is essential that the cultural beliefs of society be improved through education and finally structurally suitable ground be provided for screening.

According to the results obtained in this study, health care centers and health homes are the places that can play an important role in running breast cancer screening. They are in close relationship with people, especially women, as such, they can take a main part nearly intervention for breast cancer screening and reduce the number of late diagnoses of breast cancer.

The results of this study showed that most patients had mentioned mass media,doctors, and paramedics as the best sources of information about the disease. The literate patients referred to instructional booklets and brochures among the best methods of notification as well.

Taking into account that television is a fundamental medium for education, raising awareness about health problems and providing new medical news (Talbert, 2008). Previous studies done in the community study also shows that a small percentage of women have appropriate knowledge about the screening methods of breast cancer screening and its risk factors (Tazhibi and Feizi, 2014).

Mass media has the greatest part in informing people, but, according to findings, they have a lot of shortcomings too. As a matter of fact they are alien to the real world problems. Therefore, it is suggested that in addition to providing a comprehensive and integrated education through mass media, training tailored to individuals' problems and at the limit of their understanding and matching to the culture of the region be offered to them.

The media can provide an opportunity to inform and prompt women to have timely screening in health centers.

Planning and adapting the training programs conforming to the needs of and information about the society, makes those programs be more accepted by the target population.

Exploiting the educational potential, health volunteers as an example, in the Iranian society can be used for women's empowerment.

Because,currently, there is no comprehensive program in Iran for breast cancer screening and women,generally, only undergo breast cancer screening when they have some symptoms of the disease, therefore in consistent with results, it seems necessary to design an executive protocol for screening at different levels of primary health care and providing screening services at the most peripheral level of health care services by skilled staff and encouraging women to take part in these programs through using multiple appropriate means of communication,to increase the women's willingness to do screening. Over and above, training women also to do self-examination, considering resource constraints in Iran, can bring about good prospect for early diagnosis and more effective treatment.

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