

*Full Length Research Paper*

# Barriers to mammography among women attending gynecologic outpatient clinics in Tehran, Iran

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**The aim of this study was to understand barriers to mammography among women attending obstetric and gynecologic outpatient clinics. Women at 4 obstetric and gynecologic clinics affiliated to Tehran University of Medical Sciences in Tehran were invited to participate in a cross-sectional survey with self-administered questionnaire and divided into two groups. The participant group consisted of women who had mammogram in the last two years and the non-participant group of women who had never had mammogram or for whom it had been over 2 years since their last mammogram. A total of 400 women aged 35 to 69 years, were randomly selected using random cluster sampling: 86(21.5%) were evaluated as the participant group and 314(78.5%) as the non-participant group. The result showed that lack of doctors' advice, for the participant group, and embarrassment, for the non-participant group, are the most salient barriers. Mammography screening remains a health challenge for women and results suggest a comprehensive approach to focus on the attitudinal and logistic barriers.**

**Key words:** Breast cancer, mammography, attitudinal and logistic barriers.

## INTRODUCTION

Breast cancer is one of the most common malignancies among Iranian women. Having no precise statistics of breast cancer in Iran, resulted in underestimation of the incidence rate of this cancer in registered data (Harirchi et al., 2000). Cancer risk factors have high prevalence and growing trend in Iran. Studies show that breast cancer prevalence occurs among 15 to 84 year-old patient with those from 40 to 49 being the most. In Iran breast cancer has been as a major public health problem since 1998. Breast cancer accounted for 25.5% of all female cancers in Tehran in 1998. In 2007, the incidence of breast cancer in women was 22 per 100,000. The prevalence in the same population was 120 per 100,000 (Mousavi et al., 2007). With the growing incidence in breast cancer, mammography screening is becoming even more important and could decrease breast cancer mortality (Kim et al., 2008). There is no national program for breast cancer screening in Iran, but some attempts like breast cancer prevention advocacy in health centres,

health houses, hospitals, clinics, work places, or NGOs have been done already. Despite evidence that mammography reduces morbidity and mortality, many Asian women such as Iranian ones do not benefit from mammography screening opportunity.

Jarvandi et al. (2002) reported that breast cancer screening practices are low among Iranian women, for instance a total of 6% of the women aged 40 and above reported breast cancer screening regularly. Parsa (2005) reported that 12.4% of Iranian women in Hamadan (North-West of Iran) had a mammogram within the last two years. Only 4.5% of Iranian women in Zahedan (South of Iran) performed breast self examination on a regular basis, 4.1% had ever had a clinical breast examination, and 1.3% had a mammography throughout their life. However, Iranian Americans showed a higher rate of mammography screening. These findings are inconsistent with previous studies on immigrant women living in the United States. A total of 81.1% of the women aged 40 and above reported having a mammogram less than two years ago, and 9.4% of the women more than two years ago (Shirazi, 2006).

Lack of women's compliance with mammography

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recommendations is related to a combination of women barriers to mammography and health care delivery related factors. The most significant construct of the health belief model is perceived barrier that determines behavior change (Janz and Becker, 1984). It is an individual's own estimation of the obstacles in his or her way in adopting a new behavior. Some of the barriers include difficulty with starting a new behavior or a new habit, fear of not being able to perform a desired behavior and embarrassment (Umeh and Rogen-Gibson, 2001). Barrier imposes a prominent inhibitory effect on mammography, particularly on mammography attitude and knowledge. Furthermore, previous studies also indicated that physicians are less likely to share information with individuals that differ from them by social class, ethnicity, gender, and age (Meleis et al., 1995; O' Malley et al., 1997). Health care professionals may also have stereotypical ideas about Muslim women as being powerless, uneducated and subservient (Meleis et al., 1995). Rashidi (2000) noted that the unique complexities in the socio-cultural backgrounds of Asian Muslim immigrant women could also hinder access to healthcare services. Among the socio-cultural barriers are patient-physician communication difficulties and beliefs about cancer and cancer prevention. Physician communication problems exist due to religious, cultural and linguistic differences between older Asian Muslim women and their physicians.

The three most commonly cited barriers were: taking no care of oneself, lack of information, and fear (Garbers et al., 2003). Asian women do not feel comfortable touching their own breast and thus, felt uncomfortable about having mammogram (Kim et al., 2008). Cancer screening barriers include: 1); Cost, particularly for undocumented immigrants; 2); Lack of female physicians; Women's lower status and men's gate keeping; 3); Transportation and language (Crane et al., 1996). Latina, Chinese, and Vietnamese American women who were born outside the United States were significantly less likely to have mammography as compared to white women (Hiatt, 1996). Finding of many studies noted that women were fearful about cancer and death. Thus, they are unwilling to participate in mammography test (Juon et al., 2004; Nissan et al., 2004; Benner et al., 2002).

Barriers in the case of mammography could include: Logistic issues, such as cost, travel, and time (Champion and Menon, 1997). Although, there is little information about the cancer screening behaviour of Muslim women, modesty has also been concerned in these communities (Rashidi and Rajaram, 2000). In Asian traditional culture, women embarrassment inhibits them to show their breasts to others, including health care providers (Smith et al., 2006; Im et al., 2004; Juon et al., 2004). Jarvandi et al. (2002) reported that Iranian women barriers to screening behaviour including fear of result, treatment, and the test itself.

Researchers have demonstrated that increased

benefits and decreased barriers are linked to increased screening (Champion 1992; Rakowski et al., 1992; Slenker and Grant, 1989). The aim of the present study was to investigate the barriers to mammography screening among women attending outpatient clinics. In fact, this paper intends to find the most selected barriers that may have an impact on women's participation in mammography among women attending gynecologic outpatient clinics in Tehran, Iran. This study was to understand whether respondents (participant and non-participant groups) had a differential rank ordered preference for the fifteen items of barrier.

## MATERIALS AND METHODS

### Setting and sample

Approval to conduct the survey was provided by Cancer Institute, Tehran University of Medical Sciences in Tehran, Iran and the participating hospitals prior to the implementation. The data for this study consisted of 400 women aged 35 to 69 years and were chosen using a multistage cluster random sampling procedure from hospitals affiliated to Tehran University of Medical Sciences in Tehran, Iran. A face-to-face interviewing method was used for data collection, which was conducted in the waiting area of gynecology clinics. Self-administered questionnaire were administered to 400 women attending gynecologic outpatient clinics in Tehran, Iran during the period from July through October, 2009.

This survey has taken into consideration socio-demographic factors and heterogeneity of the population. Those respondents, which were identified through a pre-interview having breast cancer or disease in any kind, were excluded from the study. Women were classified depending on the mammography participation or non-participation in the past two years into a participant group and a non-participant group, respectively.

### Questionnaire

The development of questionnaire was based on the literature review. This also included; (a) A series of interviews with representative of the priority population and with Iranian health professionals involved in breast cancer prevention, (b) Development and translation into English and back into Persian of the first draft of the questionnaire, (c) Modification of the two versions (That is, Persian and English) of the questionnaire based on panel of experts in breast cancer screening from the United States, Malaysia, and Iran, and (d) Pretesting of the questionnaire within a sample of the study population which was examined for readability, simplicity, content and face validity .

After questionnaire designing, a pilot study was conducted to make sure of its understandability and acceptance by the intended audience. That process ideally concerned administering the questionnaire to a small group of persons from the planned target group and then getting feedback on the questions wording accuracy from the respondents. The questionnaires had been assessed for information quality and legitimacy, and corrections were made when needed. The data went through consistency tests and variable frequency analysis and entered into program. Pilot testing evaluated other attributes such as precision (reliability) and accuracy (validity). Reliability testing was conducted on a convenience sample of 31 women aged 35 or above. Based on the reliability alpha, the instrument revealed the Cronbach's alpha values in the pilot study and actual study as more than 0.70. The sets of items yielded results consistent with the complete

**Table 1.** Demographic characteristics of the respondents (n = 400).

Variable	Participation				$\chi^2$	P	
	Non-participant n = 314(78.5%)		Participant n = 86(21.5%)				
	n	%	n	%			
Age	-40	76	24.2	20	23.3	26.809	0.001
	41-45	69	22.0	35	40.7		
	46-50	58	18.4	23	26.7		
	>51	111	35.4	8	9.3		
Education	Primary school	124	39.5	4	4.7	67.26	0.001
	diploma	69	22.0	11	12.8		
	Graduate	81	25.8	61	70.9		
	postgraduate	40	12.7	10	11.6		
Marital	Married	215	68.5	59	68.6	9.65	0.008
	Widow	69	22.0	10	11.6		
	Single	30	9.5	17	19.8		
Occupation	Full time employee	89	28.3	58	67.4	48.58	0.001
	Part Time employee	58	18.5	14	16.3		
	Unemployed or housewife	167	53.2	14	16.3		
Income	Low	111	35.4	3	3.5	33.67	0.001
	Middle	173	55.1	70	81.4		
	High	30	9.5	13	15.1		
Insurance	Public	229	72.9	77	89.5	25.24	0.001
	Private	15	4.8	9	10.5		
	Uninsured	70	22.3	-	-		

instrument.

The perceived barrier items were measured by a 5-points Likert scale ranging from "Strongly agree" to "Strongly disagree". The scores ranged from 15 to 75 with higher scores indicating lower barriers in doing mammography and 15 barrier items included in the health belief model components. Construct validity was assessed using the Common Factor Analysis with varimax rotation. Indeed, the findings of the study contributed to the knowledge of the psychometric properties in breast cancer screening instruments (Ahmadian et al., 2010).

#### Statistical analysis

Data analysis was carried out with the Statistical Package for Social Sciences (SPSS 13). An alpha level of 0.05 was utilized to determine the statistical significance for all analysis. Bivariate analysis were conducted using analysis of variance (ANOVA), chi-square, and independent t-tests. Descriptive statistics explained the demographic characteristics. Chi-square test was used to identify significant association between participation in mammography and demographic factors. In this study, a series of one- way ANOVAs were used to compare the differences in barrier, based on socio-demographic variables. Then, Post Hoc tests (Tukey HSD test) were conducted. The Common Factor Analysis using varimax rotation, were used to explore the factor structure of the barrier

items. A Friedman test was performed to determine whether respondents had a differential rank ordered preference for the fifteen items of barrier. Preliminary exploratory data analysis was carried out to evaluate for missing values, detect outliers, and check for normality.

## RESULTS

### Characteristics of different subgroups and participation in mammography

The data was analyzed after obtaining the questionnaires from a random sample of 400 women attending gynecologic outpatient clinics in Tehran, Iran from July through October, 2009. Data analysis was conducted on a total of 400 respondents without any missing values. Table 1 presents the demographic characteristics of women to compare participants with non-participants with regards to participation in mammography. Women who had undergone mammogram test in the past two years were evaluated as participants (21.5%) and those with no history of mammogram done or for whom it had been

done over 2 years since their last mammogram, were classified as a non-participant group (78.5%). The participant's age ranged from 35 to 69 years. The largest proportion of the women in the participant group was in the 41 to 45 year age bracket (40.7%) while, the largest proportion of the women in the non-participant group was older than 51 years old (35.4%). The difference in age between the two groups was statistically significant ( $\chi^2 = 26.80$ ,  $p = 0.001$ ), which means that the older women have fewer tendencies to participate in mammography than younger ones.

The result also showed approximately 68.5% of the participant ( $n = 59$ ) and non-participant group ( $n = 215$ ) were married and most women in the participant group were university graduates (70.9%) whereas most women in non-participant group only achieved primary and secondary school education. With respect to occupation, almost 67.5% women who participated in mammography in the last two years, were full time employees, while, the largest proportion of women in non-participant group were unemployed or housewives (53.2%). In the current study, most women in both groups had middle income. The results illustrated that the participant group with 81.4% and the non-participant group with 55.1% was the largest groups. Finally, insurance status for the participant and non-participant groups has a significant difference ( $\chi^2 = 25.24$ ,  $p = 0.001$ ). The percentage of being publicly insured was significantly higher among the participant group (89.5%) as compared to the non-participant group (72.9%,  $p = 0.001$ ). Interestingly, 22.3% of the non-participant groups were not covered by any insurance. Overall, chi-square ( $\chi^2$ ) test revealed a significant relationship between age, education, marital status, occupation, income, insurance status and participation in mammography (all  $P$  value  $<0.01$ ) among 400 respondents. Results showed that the educated and married women with full time occupation, aged ranging from 41 to 45 years old were able to improve their health behavior towards mammography. The findings of the study also revealed that most of non-participating women are unemployed or housewives (53.2%) and their level of education is limited to primary and secondary school with age ranging more than fifty years old.

### Factor analysis of barrier items

To better understanding of the patterns and triggering structure of the barrier ranking, factor analysis were conducted of the mammogram barrier rankings. The factors explained the data through a reduced number of concepts and were used for further statistical analysis (Hair et al., 1995). Principal Components Analysis was applied to describe the psychometric evaluation of instrument for measuring barriers. Principle axis factoring analysis generated two factors (attitudinal and logistic issues) which relate 72% of the variance to the barrier

items (Table 2). A factor loading greater than 0.35 was put as the loading threshold and using a decision rule of keeping factors whose eigenvalues were greater than 1.0 (Gibbons et al., 1985). Barlett Sphericity test was statistically significant,  $\chi^2(105) = 6532.498$ ,  $p = 0.000$ , the items were highly correlated to one another. Thus, these data were appropriate to conduct factor analysis. Kaiser-Meyer-Olkin sampling adequacy measure was 0.929. Therefore, there was evidence for overall measurement of sampling sufficiency fulfilling the requirement of at least 0.60 (Hutcheson et al., 1999). However, sample size and demographic characteristics of respondents are important to factor analysis.

### Women barriers to participate in mammography

A Friedman test was performed to determine whether respondents had a differential rank ordered preference for the fifteen items of barrier. Table 3 illustrates that, there was a differential rank for the fifteen items of barrier among 400 respondents. The respondents selected embarrassment, lack of doctor or health care provider's advice regarding mammogram and worries about mammogram device could induce them to get cancer, non-existence of media and promotional resources about mammogram in their neighborhood and worry of cancer diagnosis is a prominent barriers to mammography ( $p = 0.000$ ).

Friedman test highlighted specific differences between two groups. For the participant group (Table 4), lack of doctor's preference, worry about cancer diagnosis via mammogram and worry that mammogram might induce cancer are the prominent barriers to mammography ( $p = 0.000$ ). Therefore, all women were influenced by barriers regarding mammography. The evident reason is that even participating women in mammography in developing countries such as Iran do not feel any benefit in mammography use. In contrast, non-participant group selected embarrassment as the prominent barrier ( $p = 0.000$ ). In addition, "Media and promotional resources about mammograms do not exist in our neighborhood" and "Worry that mammography might give us cancer" was also acknowledged by non-participant group; consequently, they have not participated in this screening test in past two years (Table 5).

### DISCUSSION

The apparent reason is that women in developing countries such as Iran do not feel any advantage in mammography use. The role of anxiety, fear, and embarrassment is to discourage mammography among Iranian women. Lack of media and resources, lack of physician prescription, worries about knowing cancers during mammography, also devalued mammography

**Table 2.** Factor loadings of mammography barriers.

<b>Barrier</b>	<b>Factor 1 (Attitudinal Issues ) (Fear,fatalism,embarrassment, misinformation )</b>	<b>Factor 2 (Logistic Issues ) (Time, Transport, Cost )</b>
It makes me embarrassed	0.855	
Media and promotional resources about mammograms do not exist in our neighborhood		0.858
Worry that mammography might give us cancer	0.832	
Breast X-ray cannot change our destiny	0.734	
Doctor /health provider has not advised to do it	0.572	
No one we know talks about getting breast cancer	0.671	
Worry the breast X-ray might find cancer	0.637	
Too many other things are going on in our lives		0.686
Do not think we need mammography	0.630	
Do not think mammography can save our life	0.759	
Lack of transportation to get to a mammography center		0.887
No one to stay with children or grand children		0.671
Cost of mammogram is too much		0.852
Too hard to figure out where to go for mammogram		0.898
People who perform mammography do not treat patients with respect		0.481

Factor loadings greater than 0.35.

utilization among Iranian women.

Previous literature focusing on women barriers especially in Asian countries is consistent with the study results. Asian women are unwilling to show their breasts to others, including to health care providers (Smith et al., 2006; Im et al., 2004; Juon et al., 2004). Sometimes

unpleasant previous experiences stresses the modesty issues of the Korean, Chinese, and Iranian women further (Im et al., 2004; Juon et al., 2004; Abdullah, 2001).

Male physicians also do the clinical exams in Iran which needs women expose their breasts to them. Thus,

**Table 3.** Comparisons of the mean rank of barrier items for all respondents (n = 400).

Barrier items	Mean rank
It makes me embarrassed	10.78
Doctor /health provider has not advised to do it	10.09
Worry that mammography might give us cancer	10.03
Media and promotional resources about mammograms do not exist in our neighborhood	9.97
Worry the breast X-ray might find cancer	9.52
Breast X-ray cannot change our destiny	9.43
No one we know talks about getting breast cancer	8.97
Too many other things are going on in our lives	8.13
Do not think we need mammography	7.86
Do not think mammography can save our life	7.32
Lack of transportation to get to a mammography center	6.19
No one to stay with children or grand children	6.02
Too hard to figure out where to go for mammogram	5.88
Cost of mammogram is too much	5.44
People who perform mammography do not treat patients with respect	4.39

$\chi^2 = 1566.726$ ,  $p = 0.000$ .

**Table 4.** Comparisons of the mean rank of barrier items for the participant group (n = 86).

Barrier items	Mean rank
Doctor /health provider has not advised to do it	11.98
Worry the breast X-ray might find cancer	10.96
Worry that mammography might give us cancer	10.10
It makes me embarrassed	9.90
Media and promotional resources about mammograms do not exist in our neighborhood	9.28
Too many other things are going on in our lives	7.78
Breast X-ray cannot change our destiny	7.76
No one we know talks about getting breast cancer	7.44
Do not think mammography can save our life	7.31
People who perform mammography do not treat patients with respect	7.08
Do not think we need mammography	6.97
Lack of transportation to get to a mammography center	6.59
Too hard to figure out where to go for mammogram	6.52
No one to stay with children or grand children	5.91
Cost of mammogram is too much	4.44

$\chi^2 = 324.201$ ,  $p = 0.000$ .

they feel ashamed and as a result, do not tend to undergo a stressful mammography.

To verify our data, some studies suggest that having a gynecologist, as a regular physician, and physician referral are important predictors in mammography (Jarvandi et al., 2002; Im et al., 2004; Juon et al., 2004; Secginli et al., 2006). Also, the rate of referral by a physician was substantially higher among participating women in mammography. In some Asian countries such as Iran, Turkey, and Korea insurance for having mammography requires doctor's reference to ensure payments (Jarvandi et al., 2002; Juon et al., 2004;

Secginli et al., 2006; Parsa, 2006). Thus, the choice of lack of doctor's preference as a salient barrier by women was expected in this study. Participating group also admitted that "the breast X-ray might find cancer" or "mammography can give us cancer", so fear discourages mammography among Iranian women. Likewise, women were fearful about cancer and death (Juon et al., 2004; Nissan et al., 2004; Benner et al., 2002).

The study also showed that even participating women acknowledged that "it is difficult to figure out where to go for mammogram". It is believed that the strong negative social and cultural perception of breast cancer in

**Table 5.** Comparisons of the mean rank of barrier items for the non-participant group (n = 314).

Barrier items	Mean rank
It makes me embarrassed	11.02
Media and promotional resources about mammograms do not exist in our neighborhood	10.15
Worry that mammography might give us cancer	10.00
Breast X-ray cannot change our destiny	9.88
Doctor /health provider has not advised to do it	9.57
No one we know talks about getting breast cancer	9.39
Worry the breast X-ray might find cancer	9.13
Too many other things are going on in our lives	8.22
Do not think we need mammography	8.10
Do not think mammography can save our life	7.33
Lack of transportation to get to a mammography center	6.08
No one to stay with children or grand children	6.06
Cost of mammogram is too much	5.71
Too hard to figure out where to go for mammogram	5.70
People who perform mammography do not treat patients with respect	3.65

$\chi^2=1409.726$ ,  $p=0.000$ .

developing countries could be the main reason for the delayed women and attention to themselves. This is made worse by poverty and the lack of health care services wide geographical (Parsa, 2006). The survey results show that participant group totally relies on health care professional, despite their participation in this trial exam during last two years. Thus, to mobilize women groups towards new health practices such as mammography, policy makers should understand some priorities such as recognizing barriers in taking mammography as breast cancer affects Iranian women at least one decade earlier.

Similarly, previous authors claimed that the sense of fatalism leads to their passive view about illness and treatment which in itself acts as an important barrier to participation in cancer screening or cancer detection (Daaleman et al., 2008; Powe et al., 2005; Powe and Finnie, 2003; Powe et al., 2006; Spurlock and Cullins, 2006; Weinmann et al., 2005). Non-participant group also admitted that "Worry that mammography might give us cancer", "the breast X-ray might find cancer", "mammography can give us cancer", and "Doctor /health provider has not advised to do it". As earlier mentioned, women were fearful about cancer and death (Juon et al., 2004; Nissan et al., 2004; Benner et al., 2002). Regarding fear of breast cancer screening results, Parsa (2006) reported that Yarbrough and Braden (2001) carried out a review of 16 published descriptive studies highlighting barriers to screening behavior which include fear of results, fear of treatment and fear of the test itself. These findings are found to be similar with the results of other researchers in Iran (Jarvandi et al., 2002), Malaysia (Hisham and Yip, 2003), United Arab Emirates (Bener et al., 2002) and Jordan (Petro-Nustas and Mikhail, 2002).

Consistent with the study result, findings of some studies in Iran revealed that most women aged 40 years and older did not receive mammography referral from their physicians. The low rate of mammography screening could be due to physicians' limited referral frequency and patients' dependency on irregular visits to gynecologists and other clinicians such as breast surgeons or family health physicians. Therefore, it needs efforts to educate health care providers, particularly physicians about the importance of the mammography referral and enthusiasm in making those referrals and gynecologist visits in regular intervals.

Barrier-Items like "too many other things going on in our lives" or "do not think we need mammography" revealed that Iranian women are not aware of the importance of mammography. Similarly, Asian women's low participation rate in mammography reported, as women inability to perceive the importance of screening. Results of some studies which were performed in Korea (Lee et al., 2000; Im et al., 2004), Singapore (Straughn and Seow, 2000), Malaysia (Hisham and Yip, 2003), Iran (Jarvandi et al., 2002) showed women did not perceive the importance of early detection of breast cancer such as mammography. On the other hand, over emphasized role of women at home causes them to forget their own needs, including health care needs (Im, 2004; Benner, 2002; Nissian, 2004, Hisham, 2004). Therefore, lack of adherence to mammography screening was linked to a combination of attitudinal and logistic related factors, including embarrassment, fear, lack of doctor or health care provider's advice, lack of media, and time.

There are some limitations to this study. The first of these limitations is the cross-sectional nature of this study which cannot establish causality. In this study, women's

participation in mammography was related to past two years as a health practice. The results of the study are limited to the ability of the subjects to recall past behavior or participation. Furthermore, selecting respondents who attended hospital outpatient's clinics may impact the study results, because community-dwelling women may choose different barrier items.

In this study, participation rate in mammography were higher than in other Iran reports. Thus, it can be presumed that this population is more likely to seek medical treatment and be up-to-date with mammography-screening recommendations. These data may be overestimated due to social desirability response bias. The present study aimed to carry out on a small sample of women and thus, our conclusion may not be generalized to all Iranian women. The strengths of the methodology of this study include: the study setting and population, the comparability of participant and non-participant group, development work to find barrier items relevant to Iranian women, which increase our trust in the findings. The results can be completed by additional qualitative studies.

## Conclusion

This paper aimed to identify barriers that may have an impact on women's participation in mammography. The 400 respondents admitted embarrassment, lack of doctor or health care provider's advice regarding mammography, worry about mammogram devices as the most selective barriers. Friedman test highlighted specific differences between the two groups. The result illustrated that lack of doctors' advice, and worries about knowing cancers during mammography for the participant group, along with embarrassment, and lack of media and resources for the non-participant group are most preferred barriers. Therefore, all women attending gynecologic outpatient clinics in both groups were influenced by barriers regarding mammography.

This study emphasizes the need for the doctors, healthcare professionals, primary physicians, and/or gynecologists in Iran, who are frontline medical professionals, to experience more training in the area of breast cancer and screening awareness to overcome women's barriers and encourage them to take charge of their well-being in breast matters. In addition, women should be informed that mammography can decrease mortality of breast cancer and increases breast cancer awareness which encourages them to take charge of their well-being in breast matters. Besides, it enables the women's community to sustain their behavior changes in order to attain and maintain optimal health, as a part of their commitment about their own health.

There are many innovative interventions that might give positive results in a relatively short period if they are carried out well, such as radio programs or pamphlets distributed to the public through social groups regarding

mammography utilization and breast cancer prevention. The factor analytic results suggest that there are at least two different factors: a) Attitudinal factors; and b) Logistic factors. This study provides health care professionals new information for future interventions to increase women's participation in mammography with emphasis on their immediate attitudinal and logistic barriers. Thus, it is important to facilitate community participation efforts in breast cancer matters (Ahmadian et al., 2010). If health care professionals ignore community culture, it can be problematic for their policy context.

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