Knowledge about Breast Cancer and Negative Influences Affecting Breast Cancer Screening Among Women in Jordan

Lina Najib Kawar, PhD, RN, CNS
School of Nursing
California State University Long Beach
1250 Bellflower Blvd
Long Beach, CA 90840, USA

Abstract

Background: *In Jordan, there are high rates of breast cancer (BC). It is increasing at a rate of 4% per year. BC is the most common of all cancers in Jordan and is the leading cause of cancer deaths among Jordanian women.*

Objective: *The purpose of this qualitative pilot study was to explore beliefs about participating in breast cancer screening (BCS) among women in Jordan and to identify cultural factors that become negative influences to BCS participation.*

Method: *A qualitative approach using focus group interviews was conducted among two groups of Jordanian women who provided personal information regarding BCS participation and their perceived negative influences towards screening.*

Results: *Knowledge about BC was inadequate. They reported fear of having BC, death, and social stigma. The decision to participate in BCS was influenced by cultural negative influences and by clinicians' advice. Findings indicated insufficient knowledge and cultural misconceptions about BC and screening.*

Key words: breast cancer screening, Arab/Jordanian, beliefs, socio-cultural, socioeconomic, knowledge, accessibility, availability

1. Introduction

Breast cancer (BC) continues to be the most frequently occuring cancer in women around the world. The increased incidence, mortality, economic costs, are a burden shared among women globally (Coughlin &Ekwueme, 2009).BC continues to be a major public health problem in developed as well as developing countries (Soliman, Samadi, Banerjee, Chamberlain, & Aziz, 2006).Unfortunately,in spite of improved diagnostic skills and break-throughs in effective treatment, BC continues to be the leading cause of cancer deaths among women worldwide. The BC burden differs between countries and regions showing variations in incidence , mortality and survival rates (Coughlin &Ekwueme, 2009; World Health Organization, 2009).These variations are related to multiple factors such as health habits, socio-ecomnomic status, access and availablity of care, early detection, and access to the current knowledge regarding BC. Jordan is composed of a large percentage of people who are under the age of 18 years (50%) (Jordan Breast Cancer Program (JBCP), 2009).

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BC accounts for the highest incidence of all cancers in Jordan (36.7%), continues to be the leading cause of cancer deaths among Jordanian women[4] and ranks number one amongthe five most common cancers affecting all Jordanians (King Hussein Cancer Center (KHCC), 2004). At the time of diagnosis, Jordanian women tend to present with advanced stages of BC(KHCC, 2004; Petro-Nustas, Norton, & Al-Masarweh, 2002).It is alarming that stages III and IV account for 70% of all newly diagnosedBC cases in Jordan(JBCP, 2009). There is also a disturbing trend of BC being diagnosed among young Jordanian women between the ages of 30-39 (KHCC, 2004). The median age of BC among Jordanian women is 51 years (Othman, Kivini, Wu &Lally, 2012)as compared to a median age of 61 years among the women in the United States (National Cancer Institute, 2010). Alarmingly, a third (33.9%) of the newly diagnosed Jordanian women with BC, in 2001,were between 30-39 years old (KHCC, 2004). Equally alarming is the fact that BC incidence rates in Jordan are increasing at a rate of 4% per year. Unfortunately, BC statistics cannot capture the physiologic, psychologic, sociologicnor the cultural impact of BC among Jordanian women (Bertero and&Wilmoth, 2007).

A national Jordanian program titled, the Jordan Health Cancer Program, has been in effect since 2005. Multiple efforts have been applied through this program to encourage BCS. Despite these efforts, public awareness in Jordan regarding the need for BCS among women appears to be minimal and inadequate. Therefore, a qualitative piolt study was conducted among two groups of women in two different Jordanian regions in an attempt to identify the negative influences that affect Jordanian women's decision toparticipate in BCS and to provide insight regarding these findingsto clinicians and educators.

2. Methods

2.1 Study design

The qualitative approach of focus group discussionwas used so that the researcher could explore the knowledge, perceptions, and attitudes of Jordanians regarding different issues, as well as to discern explanations of theirbehaviors (Wong, 2008).The method was employed to answer the basic research question; "What negative influences do Jordanian women believe prevent them from participating in breast cancer screening?"This research method was especially helpful because it enabled the investigator to move beyond the descriptive level to a more interpretative format which helps in clinical understanding of the reality and needs of these Jordanian women. This pilot study was conducted in Jordan among Jordanian women who resided in two different regions of Jordan; Amman, the urban capital and Zarqa a rural area of a Jordanian city in the north eastern region. All participants were Jordanian women who were citizens of Jordan. Eligible participants included: women with Jordanian heritage, who were older than 30 years of age, residing in one of the two Jordanian cities and who stated they were free of BC at the time of the interviews. Women who worked in health care professions were excluded from the samplebecause of their assumed advanced health knowledge.

2.2 Recruitment of participants

A sample of convenient women was recruited by the researcher using the snowballing technique. Women were recruited from each of the two communities. A total of two focus groups (N=11) were formed; one in anurban community (Western Amman) and one in a rural community (Zarqa) of Jordan. Each focus group consisted of 5-6 women. The focus group discussions were held at a convenient time for the subjects and in private locations.The subjects as a group determined what time and date the next discussion would take place.

2.3 Study procedures

The pilot study took place over a two month period of time. The leading questions (Table I) were translated and back translated to assure accuracy. Following IRB approval from California State University Long Beach, Jordanian women were recruited to participate. Using the snowballing technique, leads for the initial participants were obtained from personal acquaintances of the investigator. Key informants (women from the same community) were contacted and were asked to invite other women to participate in the study. Eligibility criteria and purpose of the pilot study were explained to the subjects. Before starting the first session, the investigator screened each participant for eligibility, explained the study to the participants, and then secured their individual verbal consent to participate in the study. At the beginning of each focus group discussion, the investigator introduced herself, presented the goals of the pilot study and described how the session would be conducted; assuring the need for privacy, confidentiality, and that attendance would be anonymous and voluntary.

Verbal consent forresearch participation was obtained and was announced that any woman who did not feel comfortable in participating was allowed to leave at any time. Consent to use a recorder to audio tape the sessions was also verbally obtained from the participants. The investigator facilitated the discussions and took notes during all focus group sessions. Each session lasted 60-90 minutes. All data were collected with the investigator present at a private location (usually at the women's homes).

Data collection continued until data saturation occurred. One group consisted of 6 women in the rural area ofZarqa. They were interviewed 3 times until data were repetitive. The other group of 5 women, participating from the urban area of Western Amman, had 4 sessions until data were saturated. Upon completion of the sessions for both groups,traditional BCS education was provided and breast self exam techniques were taught using a breast model demonstration. Participants were encouraged to return the demonstration for the investigator to assure accuracy of the techniques.

2.4 Data entry and analysis

The investigator transcribed the data from each focus group into text and checked all data for accuracy against the original taped data. A structured content analysis was used to analyze the pilot study's data (Polit and& Beck, 2012). The following steps were followed to analyze the interview data: (1) selected statements as units of analysis; (2) coded meaningful statements after the researcher read all narrative interviews multiple times; (3) identified and formulated recurrent themes from the data; (4) clustered themes into categories; (5) systematically checked for accuracy of coding by the researcher for data agreement and to maintain reliability; (6) revisited the original transcribed text to insure validity, matching illustrative examples that were discussed for confirmation and reaching resolution; (7) revalidated the findings through external judgment, consisting of a panel of three experts who were consulted to verify the emerging themes, categories, and subcategories. A PhD, women's health prepared nurse, a PhD prepared nurse sociologist, and a PhD prepared anthropologist were the consultants who shared their expertise in verifying the data.

Participants were consulted throughout the study to verify emerging data. The experts searched the collected data for similarities and differences and they helped to eventually create the categories used for this study. Once agreement of the experts was attained, recurrent themes were revised, categories refined and subcategories of the barriers to BCS among Jordanian women were identified.

3. Results

3.1 Characteristics of the Sample

Almost two thirds of the participants were between the ages of 30-49 (63.3%) and they had completed high school (63.6%). Most of the participants were married (81.8%) and the remaining participants had been widowed (18.2%). The majority of the participants were housewives (82.9%) and with children (81.8%). Almost two thirds of the participants were Christians (63.6%) while 26.4% were Muslims. More than a third of the sample (36.4%) had low family incomes which were less than 500 Jordanian dinar (~$800) per month. The majority of women had health insurance (72.7%). Of the insured women, 36.4% had government insurance, 27.7% had military insurance and 9.1% had private insurance. Of the participants, one had a positive family history of BC (Table 2).

Data analysis revealed that multiple negative influences appeared to affect Jordanian women's participation in BCS. The following four themes were identified: 1) participants' lack of accurate breast cancer knowledge, 2) inaccessibility of equipped breast cancer screening facilities 3) health insurance and financial concerns, and 4)negative socio-cultural influences.

3.2 Participants' lack of accurate breast cancer knowledge

Answers to the discussion questions 1,2,3 (Table 1) which asked about knowledge, causes and who gets BC elicited some of the following unique responses: "*affects the uterus*; *only awomen's disease;caused by ababy burping in the breast while feeding; is caused by* [too much] *collection of milk in the breast*;*is caused bybumping the breast into an object; is caused by a husband's violence against the breast* [e.g.] *biting the breast or violent sucking of the breast"*. They also responded that the*"use of lotions and perfumes on the breast; use of products to enlarge the breasts; exposure* [of the breasts] *to sun*; *swimming"* could cause a woman to get BC.

Additionally, and correctly, the respondents mentioned such things as smoking, obesity, hormones, radiation, food preservatives/additives and heredity as factors related to getting BC.Participants also stated that theybelieved that breast cancer wasmalignant, painful, and"*leads to breast removal"*.

When asked to discuss who is prone getting cancer (discussion question 3, Table 1), the participants responses included:*"women not men;women older than 25 and younger than 45* [*to*] *55 years old; the younger generation in Jordan are more likely to have breast cancer;older women …*[those]*close to 70 years old*[have already] *passed the dangerous* [ages] *of getting breast cancer"*. There appeared to be great variations and confusion about the age period in which women are prone to getting BC.

Interestingly, when asked about signs and symptoms of BC (discussion questions 4 and 5, Table 1), the women in this pilot study were fairly knowledgeable about the more advanced-stage BC signs and symptoms and reported such things as: "*pain in the breast; finding a tumor; feels like a gland; retracted nipple; breast dent; redness; breast enlargement* [of one breast as compared to the other]*; change in the appearance* [of the breast]".

Questions 6,7, and 8 (Table 1) focused the discussion on BCS (breast self-exam (BSE), clinical breast examinations, and mammograms). The participants freely stated that all women needed to participate in BCS. However, most of the participants could not agree on a particular age or even an age range to start the screening. Interestingly, most of the women in this study thought thatBSEwas not important for them to conduct on themselves and if even they did BSE, they could not agree on the proper timing for the exam.

Awareness levels regarding mammograms varied between the two groups of women by region. The women in Western Amman (urban) had more knowledge regarding mammogram intervals than the women in Zarqa (rural). However, both groups were equally unaware that clinical breast examination (CBE) was a recommendation for their age groups.

Questions 9,10,11, and 12 (Table 1) pertained to the women's perceived negative influences about getting BCS on a scheduled basis. The most important barrier to participating in BCS, among these women, was the fear of finding out that they may have BC. The women talked about "*fear of losing a breast"*as well as the*"psychological and physical pain and suffering as a result of the disease"*. They described BC as "*a dangerous disease that does not respond to treatment*[which is] *full of suffering and leads to death"*. The respondents frequently mentioned thatBC*"is painful and a death sentence"*.A number of the women were in agreement andconfirmed their own conceived question:"*Why go for screening just to open a can of worms?"*The women were fearful aboutlosing their husbands, marriages, and kids,and hadfears of dying and leaving their kidsalone.These women also said that they worry about getting BC and they associated the diagnosis with high levels of anxiety and fear.

3.3 Inaccessibility of equipped facilities for breast cancer screening

The women in this study reached a consensus regarding "*the need for special breast cancer screening centers with trained staff"*.Women discussed the "*lack of availability and accessabiltiy of* [adequate] *breast cancer screening in all areas*[both urban and rural] *of Jordan"*. Also they believed that BCS services were*"limited to privte clinics",* were onlyavaible at major military and government medical centers*,* andwere*"…used for diagnosis rather than screening"*. The women stated that the long wait for getting an appointment, as long as 6-7 months, was a barrier to getting BCS and the wait at the clinics took most or all of the entire day.

The majority of the respondents stated that travel as well astransportation (distance and cost) were major negative influences toparticipating in BCS. In Jordan, most women do not own or have access to a car.The lack of child care for women with young childern and the difficulty in taking them with her to the appoinment was a concern and was as labeled as a barrier. All women in this study agreed that spending a long time away from the home just for the purpose of a BCS appointmentwould probablylead to a fight with their husbandswhich may lead to their husbands abusing them verbally and/or physically.They also agreed that their husbandswould probably divorce them and be persuaded to remarry healthy womenif they thought she might have BC.

A medical system barrier that many women discused was that, asking for a referal to get a mammogram was a hassle because they felt that their health care professionals did not encourage BCS.They stated that their health care professionalswould frequently say something like,*"Why do you need a mammogram, you have no symptoms?",*which they say "*discourages them from participating"* inscreening.

The women stated that they were"*feeling disrespectedand humiliated"*with that type of response from their health care professionals. The final, and perhaps most important, barrier to participation in BCS mentioned by these women is that, in general, Jordanians usually seek professional help for treatment not screening. This finding may, in part, account for the trend of Jordanian women having later stages of BC (i.e., symptomatic) at the time of diagnosis.

3.4 Health insurance and financial concerns

Women discussed having or not having health insurance and the problems of affordability. Almost two thirds of these participants had health insurance, leading the investigator to think that insurance would not be a common concern among them. Insured as well as uninsured women shared their frustrations with the services provided and with the health care system in general. The common theme among all respondents wasa dissatisfaction and a distrust thattheir insurance system was being "*manipulated"* by their health care workers who, in their words,*"do not listen to their concerns".* They said this could result inforcing them to turn to private clinics causing them to have to pay for services from their own pockets. Most of the women in the study agreed that they really can't afford to pay for screening andtherefore they must go unscreened.

3.5 Socio-cultural negative influences

The women in this study reported that due to modesty , most Jordanian women prefer to consult female physicians, however, some Jordanian women may prefer a male physician because they think male physicians are more capable than female physicians and because they believe "*women are weaker than men".* A common theme among the women wasa stated embarassment, shyness and shame about exposing their breasts. Participants mentioned embarassment even whenreporting about their breasts to their physicians.These women viewed BC as*"shameful; a sign of shame",* and also that it is "*shameful to have to expose their breasts to physicians".*

The respondents in this study indicated that superstition surrounds the word "cancer" and that BC stigmatizes a woman. They reported that most Jordanians avoid mentioning the words breast cancer, fearing that just stating the word would result in getting the disease. The women debated the socio-cultural meaning of BC and eventually described it in the following terms;"*getting cancer is like an epidemic;women with Breast cancer are outcasts".* The women in Jordan tend to call BC different names, such as "*that disease"*, just to avoid saying the words. Participants added that,when Jordanians say the words "breast cancer", they frequently say religious phrases to follow the words such as: "*Allah*[or]*God please protect us".* These quotations reflect the tendency to call on a higher being to protect them, keep them cancer free and healthy. Social stigma surrounding BC was a major negative influence toparticipating in BCS. This finding is consistent withfindings reported by other investigators (Arevian, Noureddine, &Abboud, 2011; Doumit, Abu-SaadHuijer, & Kelley, 2007; Petro-Nustus& Mikhail, 2002).

Major negative influences to having a screening mammography were expressed by the study participants. They were worried about their husbands' approvals to receive the screening test as well as the negative impact the screening test would have on their family's reputation, particularly the unmarried females in the family. Respondents stated that if a woman is diagnosed with BC, she will hide the diagnosis for as long as possible to prevent impact on her family.This fact could contribute to the problem of predominantly advanced stages of BC at diagnosis among Jordanian women.

The participants reported that they feel women in Jordan cannot be open about BC. Jordanians generally believe that BC is hereditary. The respondents shared that there is a culturally driven secrecy about BCS and BC diagnosis.If a woman participated in BCS, people would jump to conclusion that she has BC. Having that diagnosis (real or unreal) would create a negative reflection of her that clearly reaches toher extended family,taints all of the unmarried females in the woman's family and, thereby, reduces their chances of marriage in the future.Essentially any activities related to BC canaffect the woman's reputation, her family's reputation and can become an obstacle for the women in that family to marry.This explains why Jordanian women tend to hide their involvement in any aspect of BC.

Participants discussed the typical family relationship in regard to deciding to participate in BCS. A patriarchal family structure was evident in the participants' discussions.In this culture, male family member approval (usually husband) was necessary for the decision of Jordanian women to participate in any BCS services.Many husbands do not allow their wives to visit or consult physicians or to even read articles related to BC. Furthermore, many husbandsrequire their women to wear the hijab (a veil) to cover their faces and don't allow women to uncover their bodies for physician examination and/or forbid them to get treatment. Therefore participants did not feel they had freedom to make decisions regarding their own health without male approval.

Family structure interference is applied through restrictions and by an inequality in the treatment of males as opposed to females. Participants reported that women suffer injustice in every aspect of life, including health care. As an example, if a son has abdominal pain, theparents will have him consult a doctor, while the daughter with abdominal pain will be advised to drink a cup of tea and stop complaining. Participants felt that as women they were not valued and that they had to live under tremendous pressure and family (nuclear and extended) restrictions.Furthermore, participants insisted that a *"woman's productivity was for her husband's pride while her deficiencies were attributed to her own parents"*or, in other words, when the woman is sick she will be sent back to her own family. They stated thatwhen a woman gets BC the man will frequently be advised by his family "*to leave her and find another woman to marry"*, implying that she is now defective. This makes women reluctant to get screened for any type of cancer and highlights, in this collective culture, that extended male family members have a powerful influence on a woman's health and participation in BCS.

The women in this qualitative study focused a discussion on where Jordanian women who suspected that they might have BC would go for consultation and advice. They reported thatwomen consult a female family member or female friend. Several women would use alternativemethods to treat their breast problems such as "*herbs*, *traditional medications*, *sorcery*, *amulets"* before seeking medical help. Respondents in this study expressed beliefs in fate and fatalism and in Allah's [or God's] will and this was reflected in the statements:"*No matter what I do, if I am going to get cancer I am going to get it; good Muslims accept this fact because it is Allah's will;Allah knows my destiny; He controls all things; they*[women with breast cancer] *need to pray to Allah to give them endurance for their sufferings"*.This fatalism is a powerful negative influence to Jordanian women's decisions to participate in BCS programs.

Social traditions and generally accepted habits and practices shared by Jordanians make it difficult to get various segments of the population involved in health disease prevention. The women in this study gave insight to their points of view. They reported that, generally speaking, as a nation:"*we do not take care of our health;health is the last thing on our minds;survival is a priority not breast cancer;we are not used to have screening; this society's traditions are to seek care for health problems only"*. The women reported their frustrations with the health care system in Jordan. They felt that health care workers (physicians) would not listen to their concerns and actually made "*fun of our complaints"*. Theirvoices arenot heardand consequently they*"do not believe what we tell them"*. Another serious problem the respondents shared was captured in the following comments:*"no information is given to the patient regarding the disease or treatment; health care workers do not discuss or educate patients about health related issues"*. This tended to give the women the impression that these subjects were not important and did not warrant a discussion from their health care providers.

Women were vocal about a generalized lack of respect, privacy, and confidentiality among their health care providers. They reported that health care workers tended to share their private medical information with others. This led them to inevitably mistrust health care workers.They commented on the lack of privacyand had no place to discuss private complaints with the doctor.Privacy and confidentiality were major negative influences that contributed to these women's decisions to participate in BCS.

4. Discussion

This pilot study is one of the few qualitative studies on BCS among Jordanian women in their homeland. Recruiting participants was not easy because some women refused, fearing to discuss BC issues, while others were reluctant due to the stigma associated with cancer. The city women were harder to recruit because they would typically state that were busy and did not have time. The rural area women were the younger in general because the older, rural women did not want to discuss the subject of BC fearing they would catch it.

It is well known that knowledge and perceptions regarding BC contribute to women's participation in BCS (Amin, Al Mulhim; & Al Meqihwi, 2009; Taha et al., 2010).There are, however, only a few studies conducted among Jordanian women that have determined their knowledge about BC andtheir perceptionsabout BCS practices. These studies indicated a lack of knowledge about BC and particularly about mammography cancer screening (Alkhasawneh, Akhu, and & Suleiman, 2007; Othman et al., 2012; Taha et al., 2010). Previous quantitative studies conducted by this investigator have determined that lack of knowledge, fear, misconceptions, and fatalistic beliefs are barriers to participation in BCS among these women (Kawar, 2009; Kawar, 2012). This qualitativepilot study was conducted to delve into the meaning, in terms of the current Jordanian cultural and societal restrictions, of these fears/misconceptions that tend to be perpetuated among the women, despite the national outreach such as the JBCP in 2009.It was found, once again, that Jordanian women's knowledge about BC is inadequate. It is postulated from the study's findings, that to whatever extent BC knowledge has been disseminated by outreach programs, societal/cultural restrictions and practices have been successful in counteracting the efforts and a status quo appears to remain. Until the stigma, shame, outcast status, and prohibitions regarding BC are addressed, straight forward, factual education programs are likely to fail at getting Jordanian women to significantly change their views about participating in BCS programs.

The fact that this study's findings indicated that Jordanian women tend to believe in a multitude of myths about the causes of BC was revealing and was related to lack of knowledge.It was also satisfying to see previous educational efforts had some small effect as evidenced by the fact that interlaced among the myths were scientific relationships of BC, such as heredity, smoking, hormones, radiation and obesity. The lack of breastfeeding was mentioned as a cause of BC. This relationship has been studied and findings are controversial, ranging from no relationship to finding a relationship between breastfeeding duration and risk of BC(Furberg, Newman, Moorman, & Millikan, 1999;.Lipworth, Bailey, &Trichopoulus, 2000; Newcomb et al., 1999; Smith & Heads, 2008; Tryggvadottir, Tulinius, Eyfjord, &Sigurvinsson, 2001; Zhang et al. 2000).However, the women believed this as a fact, not as a controversy.

Accessibility and availability of BC services played a specific role among Jordanian women (Berry et al., 2005). As expected, they seemed to be major obstacles for Jordanian women in rural areas and not so much for women in the urban Western Amman area. Affordability and accessibility are known common barriers among many groups of women from different background in the USand elsewhere.This study finding is consistent with the previous findings among Jordanian immigrant women in America (Kawar, 2012).

The women in the piolt study were very vocal about the surprisingly uncooperativeness of health care professionals when they asked for referals to get mammography screening. They spoke about the discouraging remarks that were made to them regarding routine BCS. In a country which has an increasing incidence of BC at an alarming rate and a female patient population who does not seek diagnosis and treatment until the later stages of BC, it is extremely counterproductive for health care professionals to discourage women from participating in routine BCS. Furthermore, it defeats a purpose of the Jordan Health Cancer Program, a national outreach to encourage women to seek BCS.

The importance of a low socioeconomic status was reported as a negative influence affecting participation in BCS. The financial burden of a screening mammography was mentioned frequently by both groups. A combination of high cost and a lack of complete insurance coverage combined to become a negative influence among Jordanian women specifically seeking mammography screening. This finding was consistent with findings in other studies (Breast Cancer Survivor Focus Groups, 2001; Kawar, 2012; Sabatino et al., 2005).

The findings from this pilot study indicated that modesty, embarrassment and the need to expose breasts to others for examination are negative influences on a woman's decision to participate in BCS. This is not unusual and is a consistently common finding among women in many countries (Banningm&Hafeez, 2009).The negative impact of this finding may be more intense among Jordanian women due to the fact that Islamic practice requires women to completely cover their bodies and wear a veil (Kawar, 2012).

4.1 Recommendations: This pilot study addressed negative influences to BCS among Jordanian women and the influences of their culture on BCS participation.

Although thepilot study was conducted in Jordan, it confirms the findings of previous studies conducted in the U.S. among Jordanian women immigrants regarding BCS (Kawar, 2009; Kawar, 2012). The findings of this study strengthen an imperative for culturally sensitive, language-specific interventions and materials tailored to eliminate/alleviate the perceived negative influences Jordanian women have regarding BCS participation and BC.

4.2 Limitations: Content analysis in this pilot study described the findings, which might not explore the underpinnings of the phenomena. It is possible that, unknowingly, the investigator recruited only women who were more open and willing to talk about their feelings about BC and BCS. Caution in interpreting the findings regarding these women is required since this was a small sample designed for a qualitative pilot study and might not be representative of the greater target population.

4.3 Implications: The intent of this investigation was to improve BCS participation among Jordanian women in particular, and as an extension, Arab women in general. Health care professionalsin Jordan need to use a much moresensitive approach when dealing with women's participation in BCS and in correcting misconceptions about BC. There is special need to build a trusting relationship and listen carefully for clues to the needs as well as the complaints ofthese women who have long-held cultural beliefs about BC. Asking culturally sensitive questions while keeping in mind the modesty, embarrassment, fear, religiosity, external locus of control and male dominance among this particular population will be more effective in terms of getting these women to participate in routine BCS. Inquiry will help health care professionals determine the specific needs of Jordanian women and understand the negative influences these women face when seeking routine BCS in Jordan as well as in the US.

Health care professionals around the world who avoid judgment and respectwomen's differences will have the basis on which to build the trustworthy relationship required to truly influence the health care practices of these women.Clinicians must become aware of Jordanian women's inadequate knowledge regarding BC as well as the benefits of screening for early detection and early treatment to successfully treat BC in the country of Jordan.

Future studies are needed to investigate more effective methods and tools to deal withJordanian and Jordanian immigrant women's perceptions of BC and BCS. Studies are needed to explore ways of changing Jordanian and Jordanian immigrant men's perspectives regarding BCS. Tailored intervention programs that are sensitive to the educational needs of Jordanian immigrant women who retain long-held cultural beliefs regarding BC should be developed and tested in the U.S.

4.4 Conclusions: Multiple negative influences were identified in this pilot study such as fear, misconceptions, shame, and cultural traditions regarding BC. Participants lacked awareness of BC and BCS. Women expressed the need for awareness on different levels of the Jordanian society.

Community based awareness programs for women and men targeting these negative influences and highlighting the value of early detection benefits need to be developed in Jordan to improve participation in BCS screening. Ensuring a sufficient number of affordable and accessible mammography centers, which include mobile clinics, trained female healthcare workers, and establishing BC support groups may also play a significant role in increasing Jordanian women's particpation in BCS.

Cultural barriers need to be addressed and culturally appropriate education developed and disseminated to increase Jordanian women's participation in BCS. Despite the country's concerted efforts, Jordanian women's knowledge about BC remains minimal for the most part. These negative influences to participate in BCS may becontributing to the trend of late stage (III and IV) diagnosis of BC among women in Jordan. Educational programs must be devised that will encompass and carefully blend the long held-cultural beliefs of these women with the factual knowledge about BC and screening participation. It would be wise to include any uninformed clinicians in the educational program and to add an emphasis on the importance of their encouragement and guidance regarding women regularly participating in BCS efforts.

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Table 1: Focus group questions

Focus group Questions
Knowledge 1. What do you know about breast cancer? 2. What causes breast cancer? 3. Who gets breast cancer? 4. What are the signs of breast cancer? 5. What are the symptoms of breast cancer? 6. What is the meaning of breast cancer screening? 7. Who needs to participate in breast cancer screening? 8. How often should women participate in breast cancer screening? Barriers 9. What do you think could be a barrier for breast cancer screening? 10. If any, what are the factors that interfere in your participation in breast cancer screening? 11. What are the societal barriers/issues that prevent women from participating in breast cancer screening? 12. What are the medical system barriers that you encounter when participating in breast cancer screening? Facilitators 13. What are the facilitators, if any, that could contribute to your participation in breast cancer screening?
I.

Table 2.Descriptive statistics for the participants

Characteristics	N
Age / year	
30-39	1
40-49	6
50-59	0
60-69	2
70-79	2
Education	
7^{th} to 9^{th} grade	2
10^{th} to 11^{th} grade	3
completed high school	2
some undergraduate	3
completed undergraduate	1
Marital Status	
Married	9
Widowed	2
Occupation	
Housewife	5
School teacher	2
Police woman	1
Religion	
Christian	
Muslim	7
	4
Number of living children	
1-2	2
3-4	5
5-6	2
Health Insurance	
Yes	8
No	3
Income *	
Less than 2,499.99JD	
2,500.00JD-4,799.99JD	2
48,00.00JD-5,999.99JD	0
6,000.00JD-7,199.99JD	2
7,200.00JD-9,599.00JD	4
	3
Family history of breast cancer represents data for 28 (21.5%) participants	
Yes	1
No	

*Poverty level is less than 6,000.00JD per year