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Promoting screening to reduce breast cancer mortality among Arab women: What do healthcare professionals need to do?

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ABSTRACT

Breast cancer (BC) is the most common cancer among Arab women. Early detection of breast cancer through regular screening activities, improvement of the quality of screening activities, and enhanced treatment have been found to decrease mortality rates. However, alarmingly low participation rates in breast cancer screening activities have been reported among Arab women. Drawing on the findings of our recent study in Qatar and a comprehensive literature review of studies, in this paper, we recommend several categories of intervention strategies to promote early detection of breast cancer among Arab populations. These include: (1) Providing public education about breast cancer and cancer screening methods; (2) Encouraging primary care physicians to incorporate BC screening recommendations into their daily practice and routine with their female patients; (3) Deliver interventions that minimize cognitive barriers at the individual level; (4) Incorporate access-enhancing strategies; and (5) More intervention and evaluation studies are needed to develop culturally sensitive interventions and assess the cost-effectiveness and long-term sustainability of the intervention programs.

Keywords: breast cancer, breast cancer screening, recommendations for promotion of breast cancer screening, Arab women, Qatar, Middle East

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BACKGROUND

Breast cancer (BC) is the most common cancer among Arab women. According to the International Agency for Research Cancer [IARC], 2012, the estimated age-standardized cancer incidence rate in Qatar in 2012 was 46.1 per 100,000 women.¹ Breast cancer incidence rates in Arab women have increased during the last 24 years, and women are being diagnosed with breast cancer at more advanced stages of the disease.^{2,3,4}

Early detection of breast cancer through regular screening activities such as breast self-examination/awareness (BSE/A), clinical breast examination (CBE), and mammography, improvement of the quality of screening activities, and enhanced treatment have been found to decrease mortality rates.⁵ Thus, screening and early detection of breast cancer are important in reducing breast cancer mortality. However, alarmingly low participation rates in breast cancer screening activities have been reported among Arab women.^{6,7,8,9} We conducted a comprehensive literature review¹⁰ (Figure 1) and a comprehensive research study (a cross-sectional survey and an exploratory qualitative study)¹¹ to gain a deeper understanding of factors influencing Arab women's screening behavior.



Figure 1. Flow diagram of literature search: Arab women's breast cancer screening practices.

The comprehensive literature review¹⁰ indicates that social and cultural factors play a vital role in women's attitudes to and practice of breast cancer screening. Knowledge of the benefits of breast cancer screening is an important determinant of breast cancer screening behavior and this knowledge is reportedly low in many Arab countries. Mass media, health care providers, and friends were found to be important sources of knowledge of breast cancer screening for Arab women. Sociodemographic factors such as age, education level, income, residence in urban or rural areas, employment, marital status, and religion have been found to influence Arab women's breast cancer screening (BCS) activities. Embarrassment and shyness are reported barriers to CBE, mammography, and BSE.

Similarly, an important factor in the support of breast cancer screening are the attitudes of influential family members. Benner and colleagues found that 8.9% of their study's participants in Qatar and 2.7% of study participants in the UAE expressed that objections by male family members were a barrier to breast cancer screening.⁷

In the Gulf region, Benner and colleagues reported that only 23.3 and 22.5 % of the women in Qatar had undergone a clinical breast examination (CBE) or a screening mammogram, respectively.⁷ These rates are very low when compared to women's breast cancer screening rates in countries such as Canada, Denmark, Finland, Sweden and the Netherlands, where rates of BCS are reported at around 70% to 85%.¹² Gaining ethics approvals from collaborating institutions in Qatar, our cross-sectional interview survey with Arab women, 35 years of age or older was conducted in Qatar in 2011, found that of the 1,063 women interviewed (87.5% response rate), 90.7% were aware of breast cancer; 7.6% were assessed with having basic knowledge of BCS; 28.9% were aware of breast self-examination (BSE); 41.8% were aware of clinical breast exams (CBE), and 26.9% were aware of mammograms. The study's findings also indicated a slight increase in CBE and mammogram uptake during the years 2010–2011 with 31.3 % of study participants having undergone a clinical breast examination (CBE) once a year or once every two years, and 26.9 % of participants 40 years of age or older having had a mammogram once a year or once every two years.^{11,13} Similar to other studies from our literature review,¹⁰ we found Arab women's participation rates in BCS activities were significantly influenced by (1) awareness and knowledge of breast cancer and BCS; (2) several complex beliefs and attitudes toward breast cancer screening, and (3) women's socioeconomic status. Less than 2% of our study's participants indicated their avoidance of CBE and mammography was due to their husbands'/male relatives' disapproval of breast examinations.¹⁴ Based upon our interviews with Arab men, it is suggested that as their knowledge and awareness of breast cancer increases so too does their support of breast cancer screening for Arab women.

If the theory - and evidence - based interventions developed is to create changes in breast health seeking behavior of Arab women, tailoring breast cancer screening interventions to the population's unique needs and practices need to be taken. Thus, another comprehensive literature review exploring what has been reported as effective interventions in increasing breast cancer screening uptake in Arab populations was conducted (Figure 2).¹⁵

Table 1 presents intervention overview of included studies.

RECOMMENDATIONS TO HEALTH CARE PROFESSIONALS

According to the World Health Organization (WHO) (IARC, 2008), the breast cancer mortality rate in Qatar was 12.9 per 100,000 women.¹⁶ Breast cancer mortality rates can be decreased with early detection, improved quality of screening activities, and enhanced treatment.^{17,18} Breast cancer detected in the early stages has a higher chance of responding successfully to treatment.^{18,19,20,21} However, Arab women currently face a significant risk of high mortality rate from breast cancer due to frequent diagnosis in the advanced stages of the disease.^{22,23,24,25}

Drawing on the findings of our recent study in Qatar^{11,13,14} and a comprehensive literature review of studies,^{10,15} we recommend several categories of intervention strategies to promote early detection of breast cancer among Arab populations. To effectively decrease breast cancer mortality rates for Arab women, it is imperative that health care professionals employ multilevel interventions and maximize the synergic effect between each level of intervention. These include:

- (1) Providing public education about breast cancer and cancer screening methods using language-appropriate and culturally sensitive educational material/ programs via variety of media means and campaigns to women and men (as gaining male support remains crucial for women's health in Arab populations).
- (2) Encouraging primary care physicians to incorporate breast cancer screening recommendations into their daily practice and routine with their female patients. As primary care physicians are known to build a rapport with their patients they are in an ideal position to raise awareness among women during routine patient visits.. The current study demonstrates that not only doctors, but also other health care providers such as nurses and health educators play a significant role in breast health care among Arab women. Allied health professionals should therefore be trained and empowered to play a bigger and more proactive part in breast cancer intervention strategies in Arab communities and countries throughout the Middle East.

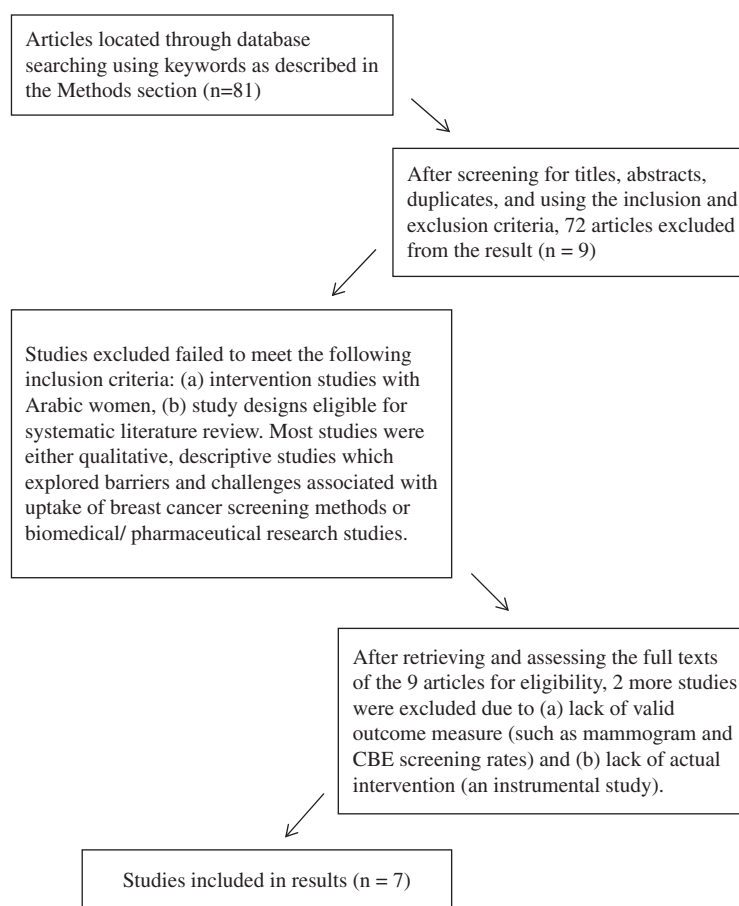


Figure 2. Flow diagram of literature search: Breast cancer screening interventions.

Health care professionals should be supported with cultural responsiveness training at health care facilities located in Arab communities; trainees should include all health care providers and clinic staff. The contents of the training curriculum should include working with interpreters, conducting cross-cultural medical interviews, addressing healthcare seeking behaviors and cancer services access patterns in the Arab community, and strategies to overcome linguistic, economic, legal, and cultural barriers to BCS. Group exercises should debunk common stereotypes, including origins, practices, traditions in the Arabic populations, and presentations concerning culturally-specific health-related beliefs and practices, language, styles of dress, and historical perspectives of various Arabic populations.

- (3) Deliver interventions that minimize cognitive barriers at the individual level personally (face-to-face or on the telephone) and employ a support person (also called liaison or patient navigator) who can act as a mediator between women and the health care system and provide support and encouragement to women. Breast cancer education should be delivered in the local language e.g. Arabic using bilingual health educators (lay health navigators) or Arab community health workers. The curriculum/material developed in Arabic should include easy to read and easy to understand information about breast cancer, cancer risk reduction, early cancer detection methods, and community resources. The educational contents of the intervention should include types and most common forms of breast cancer, risk factors, and the importance of screening, early detection, prevention, risk-reduction strategies, and treatment of cancer. The mode of intervention could be personal counseling and navigation delivered via telephone or face-to-face with individual women in the health/medical clinic and involved discussions of cancer prevention and risk reduction strategies such as changes in diet, physical activity, and smoking cessation, as well as physical examination and annual mammogram screening. These interventions could also be held in the women's homes with a small group of adult female family members present.

Table 1. Intervention overview of included studies.

Study	Name of program	Description of program	Targeted barriers	Duration of program	Geographic location of program/Location of Program	Result of intervention
Ayash et al. (2011) ²⁶	AMBER: Arab American Breast Cancer Education and Referral Program (funded)	Bilingual patient educators (navigators) provided workshop to women using an Arabic language curriculum, along with risk assessment, assistance, and follow up. AMBER staff conducted Arabic cultural responsiveness trainings to health care providers and staff using a community-based participatory approach.	Lack of knowledge, transportation Societal discrimination Lack of cultural competence in the system	Two years (2007-2009)	Brooklyn, New York, U.S./ Community-wide	597 women were educated in 22 workshops; 189 women were identified as being in need of assistance; 68 were screened; 1 new case of breast cancer was detected. 68% reported increased understanding of cancer screening. 29% increase in screening among Arab American women in the community 1 year after intervention.
Dallo et al. (2011) ²⁷	N/A	A 30-min one-on-one educational intervention administered to each participant, along with physical examination and free cancer screening.	Lack of knowledge, language	Two years (2005-2007)	Michigan, U.S./Clinic-based	For each 12 questions, cancer knowledge significantly increased after intervention compared to prior to the intervention, especially among the disadvantaged participants.
Akhtar et al. (2010) ²⁸	Al-Qassim Screening Mammography Program, Population-based (funded)	Breast cancer screening program and campaigns were announced via media channels, newspapers, exhibitions, lectures, information stalls, and posters. And a public awareness team held interactive educational sessions with both men and women.	Lack of knowledge and awareness Lack of organized, population-based screening program	1.5 years (Jan 2007 – June 2008)	Saudi Arabia/ Community-wide	18% of the total population in the two health sector areas participated in mammogram screening (lower than the international standard), with high recall rate (31.6%).
Arshad et al. (2010) ²⁹	N/A	Bilingual Arab community health workers delivered the educational intervention in the homes of Arab-American women with their adult female family members.	Lack of knowledge, language	One time intervention	Michigan, U.S./ Clinic-based	The educational intervention improved women's knowledge of BSE and CBE regardless of their language preference. Higher education level and younger age were significant predictors of improvement.

Table 1 – continued

Study	Name of program	Description of program	Targeted barriers	Duration of program	Geographic location of program/Location of Program	Result of intervention
Cohen and Azaiza (2010) ³⁰	Tailored culture-based, telephone intervention	A trained social worker addressed Arab culture-specific barriers by answering to the barriers and misconceptions and using religious and cultural promoters.	Cultural barriers, lack of knowledge System-lack of cultural competence in interventions	6 months	Israel/ Intervention group-based	48% intervention group attended CBE vs. 12.5% control group 38.5% intervention group attended or scheduled mammography vs. 21.4% control group Intervention group perceived fewer barriers after the intervention when compared with the control group. Average breast cancer screening rates in Arab branches increased from 26.7% to 46.2% (73% improvement). Reached 80% of the women eligible for breast cancer screening
Wilf-Miron et al. (2010) ³¹	N/A (funded)	Combined macro-organizational, top-down (development of computerised system and infrastructure) and bottom-up interventions (tailored local educational programs)	Accessibility, Cultural barriers (social norms, moral values), lack of knowledge, lack of self-care values System - lack of effective infrastructure	Two years (2004 – 2005)	Israel/ Community-wide	
Haji-Mahmoodi et al. (2002) ³²	Population-based, serial breast cancer screening program	Health personnel provided groups of 5-10 women education about breast cancer and breast self-examination and then offered clinical breast examination. Then, abnormalities were referred to mammogram.	Lack of knowledge, lack of motivation	Two years (1996-1997)	Shiraz, Iran/ Community-wide	Out of 80 women with breast masses, 68 accepted to undergo mammogram, 7 had confirmed malignancy cases. Through the original, serial screening program, 0.7/1000 malignancy cases found while 4/1000 cases confirmed through mammogram.

- (4) Incorporate access-enhancing strategies: Provide free mammograms - It is often assumed that minimal health care costs to patients/clients in countries where health care is heavily subsidized by the government, would increase health-seeking behaviors. However, socioeconomic status and lower income levels do impede women's participation in BCS. Thus, providing free mammograms at locations within or closer to communities where women live (i.e. mobile screening facility) might increase Arab women's utilization of mammogram. Implementation of a computerized system to develop and track women on a monthly basis who require mammogram screening would enable reminders to be sent by way of a text message, phone call, or invitative card, and thus could impact increasing Breast Cancer Screening activities.
- (5) More intervention and evaluation studies are needed in this area to develop culturally sensitive interventions and assess the cost-effectiveness and long-term sustainability of the programs. It is important to note that the authors of this paper are aware of the controversial issue regarding the effectiveness and usefulness of breast self-examination for women living in other societies. Given that the women who come from different ethno-cultural backgrounds throughout the Middle East live in an area with notably low participation rates in CBE and mammography, not recommending BSE to these women warrants very careful consideration of such a decision's impact on early detection of breast cancer in the Middle East.

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AUTHORS' DISCLOSURE STATEMENT

The authors declare that they have no competing interests.

ETHICS STATEMENT

Ethics approvals was obtained from the Hamad Medical Corporation Research Committee (Ethics Approval Reference No: RC/1744/2010), the Qatar Supreme Council of Health (Ethics Assurance No: SCH-AUCQ-050), and the University of Calgary's Conjoint Health Research Ethics Board (Ethics ID: E-23551).

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