Factors Related to Awareness of Breast Cancer Screening Activities Among Arab Women in Qatar

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BACKGROUND

- Breast cancer is the most common cancer among women in the State of Qatar and the incidence rate is rising.
- Early detection through breast cancer screening (BCS) activities, which include breast self examination (BSE), clinical breast examination (CBE), and mammography, has been shown to decrease mortality rates by 25-30% along with proper treatment
- Previous findings indicate Arab women throughout the Middle East are often diagnosed with breast cancer at advanced stages and their awareness of breast cancer screening (BCS) services and participation rates in screening activities are “adequate” or low.
- Accurate and varied sources of information about breast health and BCS; such as from health care providers (especially physicians), mass media, and social networks; can positively influence women’s knowledge and practice of BCS .
- Other facilitators of BCS behavior include receiving information about breast cancer or BCS from health care professionals (HCP), having a doctor’s recommendation, and having support from male relatives.
- Thus, it is important to not only investigate factors that are related to participation levels in BCS, but their *awareness* levels of BCS and factors that may influence awareness among Arab women in Qatar.

Although breast cancer screening guidelines are currently being revised to reflect Qatar’s health context, the most recent guidelines were used for this study:

- Monthly BSE
- CBE for women aged ≥35 within every1-2 years;
- mammogram for women aged ≥40 within every1-2 years.

STUDY AIMS

This study aims to gain information on Arabic speaking women’s awareness and practice of breast cancer screening., and discuss factors related to awareness of breast cancer screening (BCS) activities in Qatar.
The primary outcomes measured for this paper include (a) awareness and participation levels of BCS activities among Arabic women living in Qatar, (b) their healthcare experiences, and (c) the relationship between Arabic women’s BCS awareness and selected socio-demographic factors. We hypothesize that there is a relationship between Arabic women’s awareness of BCS and their socio-demographic characteristics or health care experiences.

METHODS

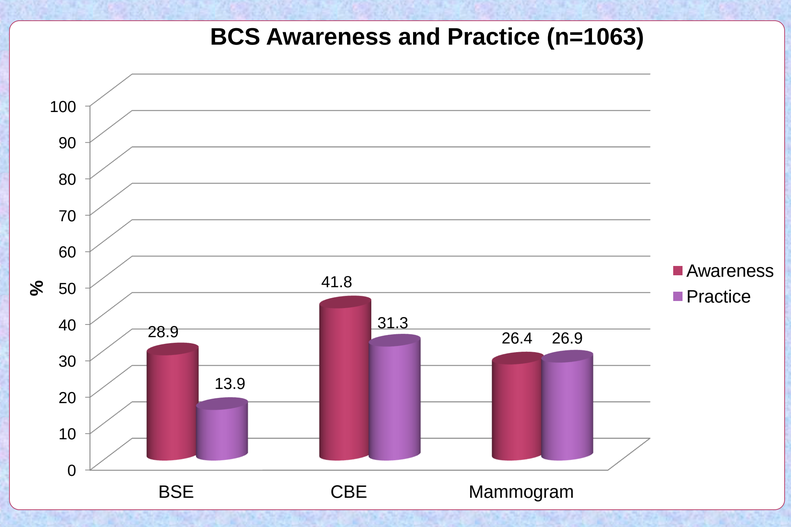
- A multi-center, cross-sectional quantitative survey of 1,063 (87.5% response rate) female Qatari citizens and Qatari Arabic-speaking residents, 35 years of age or older, was conducted in from March 2011 to July 2011.
- To ensure representation of women living in various populated regions in Qatar, participants were recruited from hospital and health clinic settings in Doha, South of Qatar, and North of Qatar.
- Data collection was obtained from interviews using a structured survey questionnaire. Interviews were conducted in Arabic by seven female nurses fluent in English and Arabic.
- Descriptive statistics (mean, standard deviations for interval variables and frequency) and Chi-Square tests were performed to determine associations between dependent and categorical predictors.
- Simultaneous multivariate logistic regression analyses was used to further assess the association of pre-selected factors related to healthcare experiences and socio-demographics with binary dependent variables (e.g. awareness of BSE, CBE and mammogram). Statistical significance levels were established at alpha = 0.05 level. Data analyses were conducting with SPSS version 20.

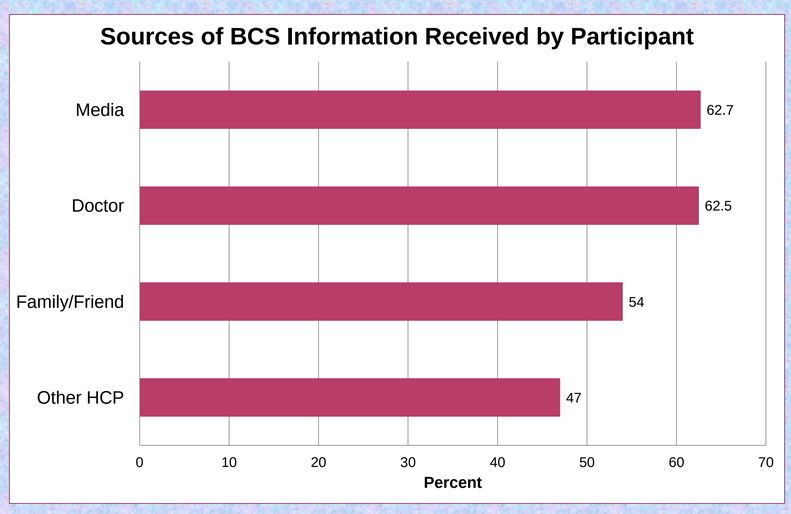
RESULTS

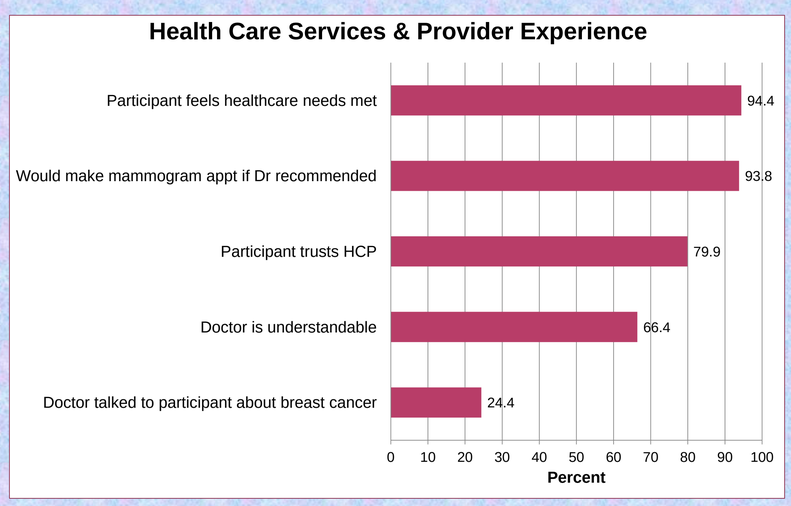
- The study population was fairly homogenous in terms of marital status (78.9% married) and religion (98.2% Muslim).
- Participants ranged from ages 35-82 years (*M*=44.9, *SD*=8.4)
- 33.3% had a university education, 36.6% of the married participants’ husbands had a university education, and 65.9% were unemployed (89.3% of whom were homemakers).
- Less than half of participants were aware of the latest recommended BCS guidelines, and less than one-third practiced BCS according to these guidelines.
- The majority of participants would want to know if they have breast cancer and would make an appointment if their HCP recommended it.
- Two-thirds of participants said their doctor was understandable.
- Less than one-quarter (24.4%) of the participants reported their doctors talked to them about breast cancer.
- Over half of all participants received BCS information from the media, their doctor, or family/friend. Slightly less than half received BCS information from another HCP (nurse, health educator).
- BCS awareness was related to age (40-49 years old), nationality, marital status, living area, education levels, employment status, and having an understandable doctor who talked to them about breast cancer.

Selected Demographic Characteristics of Participants (N=1,063)

Characteristic	No. (%) of Participants
Age (years) (*M*=44.9, *SD*=8.4)*	
35-39	365 (34.4)
40-49	399 (37.6)
50+	297 (28.0)
Nationality	
Qatari citizen	554 (52.1)
Non-Qatari resident	509 (47.9)
Marital Status	
Single	224 (21.1)
Married	839 (78.9)
Religion	
Muslim	1044 (98.2)
Christian	19 (1.8)
Education Level of Participant	
≤Primary/Intermediate	359 (33.8)
Secondary/Trade School	350 (32.9)
University	354 (33.3)
Education Level of Participant’s Husband (n=896)	
≤Primary/Intermediate	276 (30.8)
Secondary/Trade School	292 (32.6)
University	328 (36.6)
Employment Status of Participant	
Employed	362 (34.1)
Unemployed	701 (65.9)







Awareness of CBE was related to	Chi-square	*P* - value
Age: 40-49 years	χ2(1, N=1061) = 29.35	<0.001
Marital status, married	χ2(1, N=1063) = 21.72	<0.001
Education level - Participant, University Education level - Husband, University	χ2(2, N=1063) = 13.34 χ2(2, N=896) = 21.37	0.001 <0.001
Doctor talked to participant about breast cancer	χ2(1, N=1063) = 180.82	<0.001
Doctor is understandable	χ2(1, N=1063) = 40.14	<0.001
Participant received information from the following sources: Family or friend, doctor, media, other HCP	χ2(1, N=1063) = 102.8, 248.2,110.7, 90.05	<0.001
Awareness of mammogram	**Chi-square**	***P* - value**
Nationality, non-Qatari resident	χ2(1, N=1063) = 5.24	0.022
Marital status, married	χ2(1, N=1063) = 3.03	0.082
Living area, urban	χ2(1, N=1063) = 10.47	0.001
Education level - Participant, University Education level - Husband, University	χ2(2, N=1063) = 87.79 χ2(2, N=896) = 43.09	<0.001 <0.001
Employment status, employed	χ2(1, N=1063) = 22.48	<0.001
Doctor talked to participant about breast cancer	χ2(1, N=1063) = 11.07	0.001
Participant received information from the following sources: Family or friend, doctor, media, other HCP	χ2(1, N=1063) = 47.27, 25.96, 71.83, 18.45	<0.001

Association between Selected Factors and BCS Awareness

* Significant at P ≤ 0.05	Adjusted OR (95% CI)	P value
Predictors of CBE Awareness		
Age (Wald $\chi^2(2)=11.55$)		0.003*
35-39 years (reference)		
40-49 years	1.65 (1.11 – 2.45)	0.013*
50 + years	2.25 (1.39 – 3.67)	0.001*
Education of Participant (Wald $\chi^2(2)=3.15$)		0.208
≤Primary/intermediate school(reference)		
Secondary/Trade school	0.65 (.40 – 1.06)	0.084
University	0.78 (.44 – 1.40)	0.409
Education of Participant’s Husband (Wald $\chi^2(2)=7.98$)		0.020*
≤Primary/intermediate school(reference)		
Secondary/Trade school	1.96 (1.21 – 3.18)	0.006*
University	1.42 (0.84 – 2.40)	0.190
Doctor has talked to participant about breast cancer		
No (reference)		
Yes	5.68 (3.78 – 8.54)	<0.001*
Doctor is understandable		
No (reference)		
Yes	1.58 (1.11 – 2.26)	0.012*
Source of information about BCS – Doctor		
No (reference)		
Yes	7.44 (4.49 – 12.30)	<0.001*
Source of information about BCS - Media		
No (reference)		
Yes	1.91 (1.23 – 2.97)	0.004*
Predictors of Mammogram Awareness		
Age (Wald $\chi^2(2)=1.52$)		0.038*
35-39 years (reference)		
40-49 years	0.97 (0.67 – 1.42)	0.890
50 + years	1.71 (1.06 – 2.75)	0.027*
Education of Participant (Wald $\chi^2(2)=16.50$)		<.001*
≤Primary/intermediate school(reference)		
Secondary/Trade school	2.27 (1.34 – 3.85)	0.002*
Education of Participant’s Husband (Wald $\chi^2(2)=1.37$)		0.504
≤Primary/intermediate school(reference)		
Secondary/Trade school	1.34 (0.80 – 2.24)	0.267
University	1.35 (0.78 – 2.32)	0.286
Source of information about BCS – Family or Friend		
No (reference)		
Yes	1.59 (1.04 – 2.42)	0.033*
Source of information about BCS – Media		
No (reference)		
Yes	2.22 (1.39 – 3.54)	0.001*

SUMMARY

A previous study on the same sample found that having BCS awareness was one of the strongest predictors for BCS practice. In the current study, participants were found to have:
- Low levels of BCS awareness (BSE 28.9%, CBE 41.8%, mammography 26.4%) and participation rates (13.9% of participants reported performing a monthly BSE, 31.3% had a CBE within the last 1-2 years, and 26.9% of participants 40 years of age or older had a mammogram done within the last 1-2 years)
- Participants were significantly more likely to be aware of BCS recommendations if they were married, they (or their husbands) had higher education levels, their doctor talked to them about breast cancer and was understandable, or if they received information about BCS from a variety of sources.
- CBE awareness was additionally associated with being 40-49 years old, while mammogram awareness was associated with nationality (non-Qatari), living area (urban), and employment status (employed).
- Based on multivariate logistic regression analysis, BCS predictors included higher education levels (for women or their husbands), having a doctor who talked to participants about breast cancer; or receiving BCS information from a doctor, family/friend, or media.

CONCLUSIONS

Low levels of awareness and participation rates in BCS among Arabic women indicate the need for awareness of and compliance with the most recent breast cancer screening guideline recommendations in Qatar. Receiving information about BCS from health care professionals (especially physicians), the media, and family members/friends are strong predictors of awareness and participation in BCS activities. In addition to doctor recommendations for BCS, emphasis should be put on creating national screening guidelines for recommended practices, a non-opportunistic national screening program, a more established national cancer registry, long-term research on breast cancer and BCS behaviors, and a multi-sectorial and multi-disciplinary approach of raising awareness of breast cancer prevention and compliance with national screening guidelines.

However, having awareness of breast cancer and its screening may not be enough. Additional research on other social determinants of health that may act as barriers or facilitators to screening practices are needed to further understand the complex factors that affect Arab women’s awareness of BCS and promote effective, long-term compliance.

REFERENCES

Azaiza F, Cohen M. Between traditional and modern perceptions of breast and cervical cancer screenings: a qualitative study of Arab women in Israel. Psychooncology. 2008 Jan;17(1):34-41.
Bener A, Alwash R, Miller CJ, Denic S, Dunn EV. Knowledge, attitudes, and practices related to breast cancer screening: a survey of Arabic women. J Cancer Educ. 2001 Winter;16(4):215-20.
Donnelly, T. T., Al-Khater, A., Al-Kuwari, M., et al. Study exploring breast cancer screening practices amongst Arabic women living in the State of Qatar. *Avicenna*, 2011(1).
Donnelly TT, Al Khater A, Al-Bader SB, et al. Breast cancer screening among Arabic women living in the State of Qatar: Awareness, knowledge, and participation in screening activities. Avicenna. 2012 May; 2012(2).
El Saghir NS, Khalil MK, Eid T, et al. Trends in epidemiology and management of breast cancer in developing Arab countries: a literature and registry analysis. Int J Surg. 2007 Aug;5(4):225-33.
Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. CA Cancer J Clin. 2011 Mar-Apr;61(2):69-90.
Dandash KF, Al-Mohaimeed A. Knowledge, attitudes, and practices surrounding breast cancer and screening in female teachers of Buraidah, Saudi Arabia. Int J Health Sci (Qassim). 2007 Jan;1(1):61-71.
WHO. Breast cancer: Prevention and control, 2011 [http://www.who.int/cancer/detection/breastcancer/en/index.html]