

## RESEARCH COMMUNICATION

# Mammography Screening: Female Doctors' Attitude and Practice in Sana'a, Yemen

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### Abstract

A cross-sectional study was conducted at the main hospitals in Sana'a, Yemen to determine the attitude and practice of Yemen female doctors on mammography screening. Study subjects were all female doctors who were on duty during the questionnaire distribution. Those who agreed to participate were given the questionnaire to complete. Descriptive statistics were used to analyse socio-demographic variables and variables related to general health. Participants in this study were 105 female doctors with mean age of 32.13 years (SD = 7.17). Thirty-four respondents (36.6%) did not send asymptomatic women for mammography screening. The reasons were because of high cost (58.0%, n=25), availability of other methods (23.3%, n=10), instrument not available (11.6%, n=5) and high risk of radiation (7.0%, n=3). Twenty-five participants (26.9%) sent patients on regular basis if there was a family or personal history of breast cancer. Twenty-three participants (24.7%) sent the patients for mammogram screening every year regardless of the patients' history or symptoms. Although most doctors (36.5%) do not refer patients for mammography screening, seventy-seven (74.0%) indicated that they would refer patients for mammography screening on personal request by the patients. This study showed a low percentage of doctors who referred patients for routine mammography. The major reason given was the high cost of the procedure.

**Key Words:** Mammography screening - attitude, practice - female doctors - Yemen

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### Introduction

Breast cancer is the most common cancer in women worldwide and their incidences have increased significantly in recent decades (Parkin et al., 2005). However, mortality rate of breast cancer has fallen because of the role of early detection and the advances made in its treatment (Elmore et al., 2005). Breast self-examination (BSE), clinical breast examination (CBE), and mammography are the most commonly used methods for breast cancer screening (Akyolcu, 2001; Coleman et al., 2003).

The three methods recommended for detection of breast cancer are BSE, CBE by a health care professional, and mammography; the third being the most effective (Oduanya and Tayo, 2001; Sadler et al., 2001 & Saint-German et al., 1993). Successful treatment of breast cancer depends on early diagnosis and mammography plays a major role in early detection of breast cancer in developed countries. In the United States of America, the American Cancer Society recommended guidelines for performing mammography screening, including a baseline

mammogram for asymptomatic women aged 35-40 years old, mammogram at 1-2 years interval for women aged 40-50 years old, and annual examination above the age of 50 years old. The United States Food and Drug Administration (FDA) reports that mammography is able to find 85 to 90% of breast cancer in women over 50 years old and can discover a lump up to two years before it can be felt. The benefits of mammography far outweigh the risks and inconveniences. Mammography is a special x-ray imaging used to create detailed images of the breast. Mammography uses low dose x-ray; high contrast, high-resolution film; and an x-ray designed specifically for imaging the breasts. Successful treatment of breast cancer depends on early diagnosis and mammography plays a major role in early detection of breast cancer. Mammography has been practiced in Yemen since the 1990s, and this study focused on the use of mammography for breast cancer screening among women in Yemen. Although there is no policy or recommendation exists in Yemen for breast cancer screening, it is believed the study can provide a baseline data to understand the referral practice of female doctors for mammography screening.

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There is no published data on the attitude and practice of female doctors in Yemen on mammography practice. The present study explores the attitude and practice of female doctors on mammography screening in Sana'a City, Yemen and to determine factors influencing them.

## Materials and Methods

### Subjects

The cross-sectional descriptive study was conducted from March 2008 through January 2009 at four main hospitals in Sana'a, Yemen. Study subjects comprised of all female doctors who work day shifts on the Medical and Obstetric and Gynecology wards of the main hospitals in Sana'a city, Yemen. A total of 105 female doctors agreed to fill in the self-administered questionnaire.

### Instrument

Data were collected by questionnaire adapted from a previous similar study in USA (Basset et al., 1986). It was used to survey female doctors in Sana'a, Yemen regarding the referral attitude and practice of screening asymptomatic women above the age of 40 years old. The questionnaire consists of two sections: socio-demographic characteristics, and attitude and practice related to mammography. Socio-demographic characteristics included age, years of employment, country of graduation, and marital status.

### Procedure

Permission was obtained from the hospitals to conduct the study before data were collected. Those who agreed to participate were given the questionnaire to complete. The questionnaire was administered in a suitable room in the ward where participants worked. The form took about 20-30 minutes to complete.

### Data Analysis

Descriptive statistics were used to analyse socio-demographic and related variables to general health. Student-t test was used to determine differences between groups. The overall significance level was set at  $p \leq 0.05$ .

## Results

### Socio-demographic factors

Participants in this study were 105 female doctors with the mean age of 32.13 years ( $SD = 7.17$ ). Majority of the participants (72.9%) had ten years or less of work experience. Single participants made up to 51.0% of the subjects whereas 49.0% were married. Among those who were married, majority of them (75.0%) have three children or less. Majority of the participants graduated from the local universities (81.3%); while 18.7% graduated from overseas universities (Table 1).

Thirty-four (36.6%) of the respondents do not send asymptomatic women for mammography screening (Table 2). For those who do not send asymptomatic women for mammography screening, the reasons for not sending was because of high cost (58.1%), availability of other methods (23.3%), instrument is not available (11.6%) and high risk

**Table 1. Subjects' Socio-Demographic Characteristics**

Variables	N	%
Age (years)		
≤ 30	60	58.2
> 30	43	41.8
Marital Status		
Married	47	49.0
Single	49	51.0
Number of children (married participants)		
≤ 3	33	75.0
>3	11	25.0
Years of employment		
≤ 10	35	72.9
>10	13	27.1
Country of graduation		
Local university	61	81.3
Overseas university	14	18.7

**Table 2. Referral Pattern of Asymptomatic Women Over 40 Years Old for Routine Mammography Screening**

Referral pattern	N	%
Never	34	36.6
Every 1-3 years if there is family or p <sup>1</sup>	25	26.9
All patients every year	23	24.7
Every 2-3 years regardless of p <sup>2</sup>	10	10.7
Every 4 years regardless of p <sup>2</sup>	1	1.1
Total	93	100.0

<sup>1</sup>personal history of breast cancer, <sup>2</sup>patients' history or symptoms

**Table 3. Reasons for not Sending Patients for Mammography Screening**

Reason	N	%
High cost	25	58.1
Other methods available	3	23.3
Instrument not available	5	11.6
Radiation risk	10	7.0
Total	43	100.0

of radiation (7.0%) (Table 3). Twenty-five participants (26.9%) sent the patients for mammography screening on regular basis if there is family or personal history of breast cancer; whereas twenty-three participants (24.7%) sent the patients for mammography screening every year regardless of the patients' history or symptoms. Although most doctors (36.5%) do not refer patients for mammography, seventy-seven (74.0%) indicated that they would refer patients for mammography screening on personal request by the patients (Table 4).

### Factors related to practice of mammography screening

Age, marital status, years of experience, country of graduation, family history of breast cancer, history of self-breast-related diseases, practicing breast self-examination and had clinical breast examination significantly influenced the practice of underwent mammography screening among female doctors (Table 5).

## Discussion

This study shows a low support for mammography

**Table 4. Attitude and Practice of Female Physicians Regarding Mammography Screening**

Variable	N	%
Do you refer a woman over 40 years of age for mammogram screening every year if she requests annual screening regardless of risk factors or symptoms?		
Yes	77	74.0
No	27	26.0
Do you perform breast self-examination?		
Yes	83	79.0
No	22	21.0
Have you had a physician given you a breast examination?		
Yes	65	61.9
No	40	38.1
Have you had a mammogram?		
Yes	26	25.7
No	75	74.3

**Table 5. Factors that Influenced Attitude and Practice of Female Physicians to Refer Women for Mammography Screening**

Variables	N (%)	t	p value
Age (years)			
≤ 30	60 (58.2)	3.52	0.001
> 30	43 (41.8)		
Marital status			
Single	49 (51.0)	4.71	0.006
Married	47 (49.0)		
Years of experience			
≤ 10	35 (72.9)	7.94	0.001
> 10	13 (27.1)		
Country of graduation			
Local university	61 (81.3)	5.58	0.001
Overseas university	14 (18.7)		
Underwent CBE <sup>1</sup>			
Yes	65 (61.9)	4.98	0.001
No	40 (38.1)		
Practicing BSE <sup>2</sup>			
Yes	83 (79.0)	3.15	0.007
No	22 (21.0)		
Family history of breast cancer			
Yes	19 (18.1)	2.66	0.034
No	86 (81.9)		
History of breast-related diseases			
Yes	10 (9.70)	5.46	0.002
No	93 (90.3)		

<sup>1</sup>clinical breast examination, <sup>2</sup>breast self-examination

screening by Yemeni female doctors, 36.6% (34) of them do not send patients for routine mammography screening. Similar findings by Bello et al. (2007) where he reported that one hundred and thirty-five of the Nigerian doctors (64.0%) do not send asymptomatic women for screening.

Twenty-five female doctors (58.0%) do not send asymptomatic women for mammogram screening because of the high cost. Similar findings reported by Bello et al 2007 in which thirty-two doctors (23.7%) believed the cost is high. This may be due to mammography screening service where it is neither provided free nor covered by the Ministry of Health; the high cost of mammography screening may influence the decision of the female doctors not to refer the patients for screening. Similar findings were reported by Grady et al (1996) where the cost of

mammography is undoubtedly the major factor influencing the doctors' referrals.

Eighty-three of the participants (79.1%) practice BSE, 65 (61.9%) underwent breast-self-examination, and 26 (25.7%) underwent mammography screening. Being well informed about mammography has a positive impact on attitude towards the benefits of this screening method and the likelihood that it will be prescribed (Osborn et al., 1991; Haggerty et al., 1999). This is true for the findings of this study in which there is a positive impact on the doctors who practice BSE, and had CBE ( $p = 0.007$  and  $p = 0.001$ , respectively). Interestingly, 74.1% agreed that they would send patients for mammography screening if the women request for it regardless of symptoms or positive family history. Similar findings were reported by Bello et al. 2007 where 164 doctors (78.1%) agreed that they would send patients for mammography screening if the women request for it regardless of symptoms or positive family history.

#### *Factors affecting doctors' attitude and practice*

In this study, age is a significant factor ( $p=0.001$ ) that influences the attitude and practice of doctors. This may be because of the duration of experience; at the same time the experience plays a significant role in doctors practice ( $p=0.001$ ). Probably, a doctor who has more experience may treat and refer more patients. From this study, there is a significant influence of country of graduation, and it could be because of the training received. In contrast, Grady et al (1996) reported that foreign medical graduates and doctors report lower referral rates in all age groups of women. Doctors who are residence-trained showed referral pattern of higher rates for younger women and lower rates for the oldest women. It is possible that continuous medical education could lessen these differences based on doctors' characteristics. Interestingly, family history of breast cancer and history of self-breast-related diseases were significantly influencing the practice of female doctors in referring patients for mammogram screening. This may be due to more awareness among the doctors about the breast cancer screening because they experienced it in the family or have breast-related disease. Breast-self examination and had undergone clinical breast examination significantly influenced the practice of mammogram screening among female doctors; self-awareness probably contributes to the awareness towards their patients.

#### *Limitation*

One of the study limitations is self-selection bias in which these doctors are better educated or more professionally involved than other doctors who refused to complete the questionnaire. The other limitation is that since this study was conducted in the main hospitals in Sana'a city and only the female doctors on duty were interviewed, this study may not represent the entire female doctors in Yemen.

In conclusion and for recommendations, this study shows a low percentage of doctors who referred patients for routine mammography screening. The major reason given was the high cost of the procedure. It is

recommended the government offers the mammogram screening free for women above 40 years old and low price for the women below 40 years old. Both primary care doctors and specialist doctors should encourage their patients to have routine mammography - recommendation from a doctor is the most important motivator for patients. Doctors should be trained and involved in continuous medical education to keep themselves updated all the time.

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