RESEARCH COMMUNICATION

Awareness and Practice of Breast Cancer and Breast-self Examination among University Students in Yemen

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Abstract

Background: Breast cancer (BC) is the most common cancer among females in Yemen and world-wide, Yemeni women are still facing an increasing threat to it in recent years and optimal chances for survival from BC in women can be achieved by detecting it early by Breast self examination (BSE). Objective: To assess the knowledge, attitude and practice of breast cancer and breast self examination among female university students in Al-Mukalla city-2009. Methods: a cross sectional descriptive study was carried out among 425 female university students in Al-Mukalla city by using self administered questionnaire. Results: the study indicated that majority of participants had low level of knowledge of BC 58.6%. Only 1.4% had gained high level of knowledge. 95.3% of participants believed BC is a serious disease. It was found that despite 76.9% of participants heard about BSE, only 17.4% of them were performing it. 55.9% mentioned lack of knowledge about technique of BSE as a barrier for not practicing BSE. Mass media 81.6 % and 67.3% was the first source of information about BC and BSE mentioned by the participants respectively. Conclusion: the majority of participants heard about BC, but their knowledge and understanding of the disease was very low. The most known method of BC detection was BSE, however the majority never practice it due to lack of knowledge about technique.

Key Words: Breast cancer - awareness - breast self examination - Yemen

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Introduction

BC is an aggressive disease of young women in developing countries (Olopade, 2000). The etiology of BC is also not fully understood, but there is variety of interrelated factors, such as genetic factors, hormones, the environment, sociobiology and physiological factors (American Cancer Society, 2009).

Globally the clear increases in the incidence of, and mortality from BC were observed in both developed and developing countries. The total number of new cases diagnosed annually exceeds one million and this is expected to reach 1.5 million by 2010 (Pisani et al., 2002). BC is the second most common cancer among women in USA and in Turkey (Humphrey et al., 2002; Ministry of Health Turkey, 2009). In Saudi Arabia, more recent data has indicated that it's a significant disease (Ministry of Health Saudi Arabia, 2003). In Kuwait it represented 63.3% of all cancers in Kuwaiti females. The standardized incidence rate was 44.7 per 100000 among Kuwaiti females (Ministry of Health Kuwait, 2003). In Yemen; a study done by capture-recapture technique revealed that BC prevalence for 5 years (2001-2005) was 4623 cases. The crude prevalence rate of BC was20.8 per100,000 (Al Yamani, 2008).

Recommended prevention techniques to reduce breast cancer mortality & morbidity include Breast self examination (BSE), clinical breast examination (CBE) & mammography (Humphrey et al., 2002). Unfortunately, few women actually examine themselves. In fact, the majority doesn't even know how to do BSE (Sen et al., 2002; Siahpush and Sigh, 2003).

In Yemen, study done by Alyamani showed that Yemeni women rarely practice of BSE (Al Yamani, 2008). So, we assume that even university female students have some information about the problem, but they didn't know about BSE, and if they know; they don't practice it regularly. The aim of this study is to assess the knowledge, attitude & practice of female college students toward breast cancer & breast self examination. We expect that our result will help in planning health education programs for young females.

Materials and Methods

Study design

A cross sectional descriptive study was conducted in Al-Mukalla city, from January to April 2009 among female university students regarding their Knowledge, attitude and practice of breast cancer and breast self examination.

Study area and population

The study was carried out in Al-Mukalla city, which

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is the capital city of Hadrmout governorate (South-east of Yemen). The study population was female university students in Hadrmout University of Science &Technology and Alahgaff University in Al-Mukalla city.

Sampling

The sample frame included female university students, assuming that the expected proportion of the factor under study is 50% with absolute precision of 5%. The needed sample size was estimated (using Epi Info program) to be 384 female university students. (Confidence limits 95%). After adding 10% for non response, it turned out to be 425 female university students.

To obtain this sample all colleges in Hadramout University of Science &Technology and Alahgaff University were included in the study, medical and nursing colleges were excluded because they study this topic, so they have good knowledge about BC and BSE. Then we calculate the number and percentage of female students in each university, college, department and academic level to make the sample reflect all female university students in these two universities. The sample was chosen by probability systematic random sampling method.

Data collection procedures and methods

The data were collected by self administered questionnaire. The questionnaire was pre-tested on convenient sample of 20 female university students, and revised accordingly. The structured self administered questionnaire was used and contained three parts: Part one, for background information such as age, name of university, college and department, academic level and marital status; Part two, regarding BC which includes questions concerning knowledge and attitude -hearing of BC, risk factors and methods of detection; Part three: regarding BSE which includes 8 questions. The collected data were assessed for completeness and accuracy, after that coded to facilitate its entry and analysis to the computer.

The questionnaire was distributed by trained female third year medical students from Hadramout University of Science and Technology to the responding female university students in their lecture rooms. Each correct answer was assigned one mark whereas incorrect answer and non response given zero, so the total maximum score for knowledge was 9 marks. Then the respondents were divided according to their answers into three levels as following: 0-3 marks = low level of knowledge; 4-6 marks = intermediate level of knowledge; 7-9 marks = high level of knowledge. For the source of knowledge of BC it was permissible to give more than one source.

Statistical methods

The data were analyzed by using (SPSS, version 14.0) and some were manually analyzed (open questions).Categorical Variables were described by using frequency distribution and percentage. Mean and std. deviation were calculated for age variable.

Ethical considerations

The research form prepared by the researchers and was evaluated by the family and community medicine department. Written permission was obtained from deanships of collages included in the study before initiating the research.The participants were informed about the aim of study and those who freely agreed to participate were enrolled in the study.

Results

Background characteristics of the study population

The study involved 425 female university students. The mean age of the participants was 21.4 years (SD±1.6).The range was 18-28 years; median and mode were 21 years. Some 92.5 % of female university students were single while 6.1% were married. Eighty seven percentages were from Hadrmout University and 13% were from Al Ahgaf University. About half (57 %) of the participants were in the age group 21-23 years and third of them in the age group 18-20 years (Table1).

In our study we found that 99.5% of the participants had ever heard of BC. Only 12% of the respondents reported that they had positive family history. BC was considered a serious disease by 95.3% of the respondents. The study revealed that the majority of the participants had low level of knowledge 58.6%, only 1.4% had high level of knowledge and the rest of the participants were categorized in the intermediate level of knowledge 40% (Table 1). The commonest source of information about BC was the mass media 81.6%, the second source of information was (lectures or meetings) 45.9% closely followed by information gained from books or journals 45.6 (Table 2). The most important reported risk factor of BC was genetic causes (family history of breast cancer) 61.2% then use of contraceptive pills 39.1% (Figure 1). When the participants asked about the methods of detection of BC, 62.8% said BSE and 32.2 %, 24.7% mentioned doctor and X-rays respectively.

This study revealed that 87.3% of respondents believed that BC could be cured after early detection, whereas 2.4% believed that it is not curable (Table 3).Seventy seven percent (327) of participants had heard about BSE, while 23% did not hear about it. The commonest source of information about BSE was the mass media 68.8%, the second source of information was (lectures or meetings) 44.7% ; closely followed by information gained from books or journal) 41.3% (Table 3). The majority (89.9%) of participants desires to learn the technique of BSE and 10.1% did not desire due to many causes, the most common cause was fear from discovering the cancer 42.1%. Our findings showed that 26.6% of respondents who had heard about BSE reported that they had been trained the technique of BSE, while 73.4% were not trained; however only 37.9% of the students who have been trained were performing BSE.

About 17.4 % of respondents who heard about BSE reported having performed it, from this only 24.6 % performed BSE monthly and the majority of the students performed BSE irregularly 61.4 % (Table 4). Also we found that 55. 9% did not practice BSE as a result of lack of knowledge about the technique of BSE and 24.1%, 28.1% due to undesire to practice BSE and fear to find a

Table 1. Level of Knowledge about Breast Cancer, Al-Mukalla city, Yemen

Age group	High	Intermediate	Low	Total
18-20 years	3 (2)	53 (38)	84 (60)	140 (33)
21-23 years	2 (2)	103 (42)	139 (57)	244(57)
≥24 years	1 (2)	14 (34)	26 (63)	41 (10)
Total	6 (1)	170 (40)	249 (59)	425 (100)

Data are No. and (%)

Table 2. Sources of Information about BC & BSE

Source	Cancer		Self-examination	
Relatives	74	(17.4)	47	(14.7)
Husband	4	(0.9)	4	(1.3)
Mass Media	347	(81.6)	220	(68.8)
Books or journals	194	(45.6)	132	(41.3)
Lectures or meeting	195	(45.9)	143	(44.7)
School or University	112	(26.4)	95	(29.7)
Health personnel	77	(18.1)	71	(22.2)
Other sources**	15	(3.5)	13	(4.1)
Total	422*	(100)	320*	(100)

Data are No. and (%); *Permissible to give more than one answer for the question; **Other sources include: Publications, Internet, Friends, and Community

Table 3. Response toward Possibility of Cure

Response	No.	Percentage
Yes always	16	(3.8)
Yes after early detection	371	(87.3)
Unable to treat it	10	(2.4)
I don't know	28	(6.6)
Total	425	(100)

Table 4. BSE Practice

Question	Answer	No.	(%)
Do you practice BSE	Yes	57	(17.4)
	No	270	(82.6)
If not, why?*	No knowledge	151	(55.9)
	Unwanted	65	(24.1)
	No time	32	(11.9)
	Habits & beliefs	26	(9.6)
	Fear	76	(28.1)
	Other	11	(4.1)
If yes, how frequently?	Daily	1	(1.8)
	Weekly	5	(8.8)
	Monthly	14	(24.6)
	Yearly	2	(3.5)
	Irregular	35	(61.4)

*It was permissible to give more than one answer

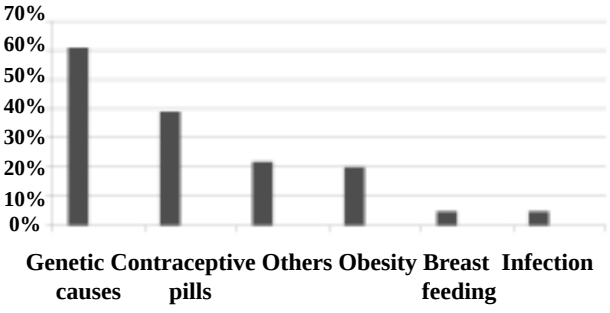

Figure 1. Knowledge of Risk Factors for Breast Cancer

lump respectively (Table 4). The majority mentioned that BSE is important for early detection and treatment of the disease (69.2%).

Discussion

This study provides information which was not known before for this target group in this setting. The 99.5% of female university students whoe had ever heard about BC is similar with the finding reported in Nigeria in Ibadan University (Chioma and Asuzu, 2007), and in Ilorin University (Salaudeen et al., 2009). In this study (95.3%) of respondents said that BC is a serious disease, this is higher than the result found in the study done at Ilorin University in Nigeria where 75.3% of respondents said that BC is dangerous (Salaudeen et al., 2009).

In our study most of female university students had low knowledge of risk factors for BC. The most widely known risk factor by respondents was genetic factors (family history) 61.2% followed by using contraceptive pills 39.1% and obesity 20.9%. This is lower than the results of a study conducted in Saudi Arabia which revealed that the widely known risk factors reported by the respondents were positive family history 80%, oral contraceptive use 53%, and bbesity 36% (Alsaif, 2004). Other study also conducted in Saudi Arabia revealed that the most common reported risk factor was non practicing breast feeding 52.7%, which is different with our findings. Hormone therapy, positive family history, repeated exposure to radiation on the breast, history of breast lump and obesity were not considered common risk factor of BC by most of female teachers (38.6%, 22.1%, 17.8%, 3.0% and 1.1%) respectively (Danash and Al-Mohaimeed, 2007) while other study conducted in Selangor, Malaysia revealed that the widely known risk factor reported by the respondents was positive family history 84.6% which is higher than our study (Parsa et al., 2008). A study conducted in Turkey among high school students showed that the widely known risk factor was family history of BC 67 %, similr to our results (Özgul et al., 2008).

Concerning the screening methods for detecting the disease our study reported that 62.8% of respondents said that BSE is the screening method for detection of the disease followed by clinical breast examination 32.2%, this result is similar to that reported in Saudi Arabia (Buraidah) among female teachers showed that the most familiar detection method was BSE 43.4% then clinical breast examination (CBE) 28.2% (Danash and Al-Mohaimeed, 2007). In Selangor and Malaysia female teachers said that the screening methods for detection BC was BSE 98% and clinical breast examination 79.3 %. (Parsa et al., 2008).

Regarding the curability from BC, our study revealed that (87.3%) of respondents said that BC could be cured if early detected, 2.4% believed that BC is not a curable disease, and 6.6% of them did not know, whereas in Nigeria 57.7% of female undergraduates believed that BC is a curable disease, and 42.3% believed that there is no cure from BC (Salaudeen et al., 2009). Also other study among Iranian women reported that 55% of them said that early detection will not increase the chance of survival

(Parsa and Kandiah, 2005).

Concerning the source of knowledge about BC, the results of this study were similar to that reported among female university students in Nigeria in which the common source of knowledge about BC was mass media (T.V & radio) 51.5%, followed by health worker and schools 44.7%, 21.5% respectively. (Chioma and Asuzu, 2007). Also another study carried out in Nigeria, showed that mass media (T.V& radio) was the common source of knowledge about BC 68.1% followed by health worker and friends 14.6%, 10.7% respectively (Salaudeen et al., 2009). In Turkey a study showed that mass media was the common source of knowledge about BC 48.6%, followed by health professionals and books and journals 44.4%, 38.9% respectively (Salaudeen et al, 2009). Also the study conducted in Buradah, Saudi Arabia revealed that mass media was the most common source of knowledge (Danash and Al-Mohaimeed, 2007). while study among Kuwaiti women revealed that the common source of knowledge was friends 51.3% then mass media, health pamphlets and doctors 34.9%, 9.5% , 2.5% respectively (Al Qattan and Saleh, 2008).

A study done in Sudan, reported similar percentage as our study, 66.5% of respondents has heard about BSE (Abdelrahman and Yousif. 2006). But the results of other studies were different from the results of our study. Two studies reported lower percentage (Özgul K, 2008; Seif and Aziz, 2000), other three studies reported higher percentage than our study (Kayoed et al., 2005; Chioma and Asuzu, 2007; Salaudeen et al., 2009).

The very encouraging finding in our study is that 89.9% of female university students wished to learn the method of BSE, this was similar with that reported results in the Nigerian study (Chioma and Asuzu, 2007) as well as that reported in Saudi study (Milaat, 2000).

Our study showed that the more than two thirds of the respondents who know about BSE believe that BSE is important for early detection and treatment of the disease; this is in a agreement with that reported in Kuwait study (Al Qattan and Saleh, 2008). In this study only 17.4% of participants who know about BSE were performing it; this may be due to insufficiency of education programs organized to increase breast health awareness. A study done in Turkey showed that 28.8% of participants perform BSE, which is higher than what we found in this study (Sevil et al., 2005). The study done in Saudi Arabia showed that 66% of the subjects were practicing BSE (Alsaif A, 2004), this is different from our results. Other study done in Saudi Arabia (Buraidah) showed that about 67.6% of total participants had never performed BSE (Danash and Al-Mohaimeed, 2007). In Turkey, a study done showed that 71.1% of participants practice BSE.(Yücel et al., 2004).

A study among Muslim women with Middle-East origin living in USA reported that 74% of them never perform BSE (Rashidi and Rajarom, 2000), and 40.7% among Asian Indian women living in the United States reported they never perform BSE (Sadler et al., 2001). BSE practices appear to be correlated to the level of education and good health care services in these countries compared to developing countries as our country. In Ilorin, Nigeria study 54.8% of the respondents perform BSE (Kayoed et al., 2005).

In this study, the findings regarding regular BSE are different from the results of a study done in Turkey which showed that 20% of the students reported that they performed BSE irregularly and only 6.7% of those who practice BSE was performed it regularly every month, (Özgul K, 2008).The study done in Ilorin, Nigeria Revealed that a higher proportion of respondents were practicing BSE monthly 71.8% and 12.5% once yearly (Kayoed et al, 2005), also in Singapore a study showed that 62.7% of nurses practice BSE every month (Chong et al., 2002).

A study done in Selanor, Malaysia revealed that only 19% performed BSE monthly which is nearly similar to our study, (Parsa P, 2008). A study reported that out of 284 Norwegian women doctors, only 31% practice BSE on monthly basis and 19% practice BSE once a year or never practice at all,(Rosvold et al., 2001), also our study results were similar to that reported in Kuwaiti women which showed that only 21.6% performed BSE monthly (Al Qattan and Saleh, 2008). These studies suggest that the percentage of adult females performing BSE monthly is low in our country as well as all over the world.

Concerning the barriers of not practicing BSE (the women were allowed to state more than one reason), we found that the most common barriers reported were lack of knowledge about the technique of BSE 55.9%, followed by undesire to practice BSE and fear to find a lump 24.1%, 28.1% respectively. The study in Turkey showed that the most common reasons for not doing BSE were "not knowing how to perform BSE" (98.5%), "not expecting to get BC" (45.6%) and "not having a close relative with BC" (42.9%) (Salaudeen et al., 2009).

Consistent with the results of this study, in many studies, students noted that they did not perform BSE because they did not know how to perform it (Ludwick and Gaczkowski, 2001) and that they did not have a family history of BC. (Grunfeld et al., 2002). Other study done among Kuwaiti women reported that the main reasons for not performing BSE were, fear of cancer discovery 13.4%, forgetfulness 14.6%, failure to realize the importance of BSE 15.3% and lack of knowledge about the technique of BSE 28.9% (Al Qattan and Saleh, 2008).

A study in Egypt revealed that the most frequent cited reason of not practicing BSE 50% was the fear to find a lump, and 35.2% mentioned forgetfulness. Those who mention no time and culture and health beliefs represent similar percentage 31.1%, dislike to touch one's own breasts represent 23%.also unavailability of specialized centers was reported by only 20.5% Seif and Aziz, 2000). Other study in Iran found that the commonest reason given for not doing BSE was lack of knowledge on how to do it 48%. Other reasons include: forgetfulness 20%, fear of finding a mass 17%, not necessary 9%, and lack of time 4% (Parsa and Kandiah, 2005).

Regarding the source of knowledge about BSE, our study revealed that mass media was the main source of knowledge in 67.3 % and (lectures or meetings) were the second source 43.7%, study done in Ilorin university, Nigeria revealed that common source of knowledge was

media 68.1% followed by health worker and friends 14.6%, 10.7% respectively (Salaudeen et al., 2009). The Turkey study reported that media was the main source of knowledge about BSE 48.6%, then health professionals 44.4% and books or journals 38.9%. (Özgul et al., 2008),also media was the main source for knowledge of BSE reported by female secondary school teachers in Nigeria 29.7%, while the second source was friends 28.2% (Kayoed et al., 2005), as well as in Selangor, Malaysia media was the most common source of knowledge (Parsa , 2008), whereas in Kuwait friends were the main source of knowledge about BSE 38.7% then media 27% which disagrees with our study (Seif and Aziz, 2000)..

In conclusion, the majority of participants heard of BC as a disease entity, but their level of knowledge and understanding about the disease was very low. Most of participants believed that BC is a serious disease, and could be cured after early detection.

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