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Breast Cancer Risk factor awareness and utilization of screening program: A cross-sectional study among women in the Northern Emirates

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Abstract

Background: Breast cancer is the principal cause of cancer deaths among women worldwide. Among Emirati females, breast cancer ranked first accounting for 23.1% of the total cancers. Around 58% of the cases occurred were reported from northern emirates. United Arab Emirates is having higher percentage of expat female population than Emirati women. There is lack of data regarding the knowledge and attitude about breast cancer in this mixed population.

Aim: The aim of this study was to determine the knowledge and attitude of women towards breast cancer, risk factors and the screening program in women above the age of 19 years residing in northern emirates of the UAE.

Materials and Methods: This is a multi-center based study conducted in selected northern emirates of the UAE. This study employed cross-sectional design involving women above the age of 19 years. The study was conducted among 400 women who attended three hospitals in Ajman, Sharjah and Fujairah. Pre-tested, content validated questionnaire was used for data collection. Descriptive and inferential analysis was performed.

Results: About 85.2% of participants had heard about breast cancer. Among all, 47.9% felt breast cancer is more frequent than other cancers. While inquiring about symptomatology, most of the respondents had incorrect knowledge (79.8% for painless breast lump, 78.6% change in breast size, 76.3% nipple discharge). Subjects were queried for breast cancer screening (BSE) and were observed to have poor knowledge. Regarding practice of those with correct knowledge on BSE 34.2% of the participants had correct practice.

Conclusion: The result shows that while substantial number still remains ignorant of breast cancer issues, a good number of those who have knowledge were yet to translate knowledge and attitudes into practice.

Keywords: Attitude, Awareness, Breast cancer, Knowledge, northern UAE

Introduction

Breast cancer is the most common cancer among women in almost all countries worldwide. The risk of getting cancer is higher in developed countries, but cancers in the developing countries are more fatal because of lack of awareness and late presentation at health units. Only 19% of the world population live in the developed countries where 46% of new cancer cases occur (¹-³). Worldwide, more than one million new cases of female breast cancer are diagnosed annually. It is the most commonly-occurring neoplasm in women accounting for over one-fifth of the estimated annual 4.7 million cancer diagnoses in females (⁴). Breast cancer typically has been portrayed as a “disease of affluence” and its incidence is currently estimated to be 2.7 times higher in more industrialized than in less industrialized countries (⁵).
Cancer is the third leading cause of death in the UAE following cardiovascular diseases and road traffic accidents. During the year 2002, among Emirati females, breast cancer ranked first accounting for 23.1% of the total cancers. Of all the breast cancer cases 22% were detected in Abu Dhabi, 21.1% in Sharjah and 19.7% in Dubai. The crude incidence rate of breast cancer in UAE is 9.4 (4) and age standardized rate 19.4/100,000 person years (5-8). Effective screening can facilitate early detection and dramatically reduce mortality rates. The interface between those screening patients and those most needing screening is complex and women in remote rural areas face additional barriers that limit the effectiveness of cancer prevention programs. Community outreach strategies, can improve the utilization of screening program (9-13).

Utilization of services depends on the stage of change in behavior. It is seen that action and maintenance in health seeking behavior can be improved by interventions addressing these stages of behavior change (14).

Spencer et al in their review pointed out those behavioral studies on mammography showed that the educators need to address the individual perceptions on risk and barriers and not just the benefits of screening while motivating the women for regular screening. Social acceptance of the program as well as the feeling of self-efficacy to practice the method is important in changing from contemplation to action(15). So the objective of this study was to determine the awareness and attitude of women towards breast cancer, risk factors and the screening program in women above the age of 19 years residing in northern emirates of the UAE.

**Materials and Methods**

This multi-center based study was conducted in selected northern emirates of the UAE. This study was conducted by Department of Obstetrics and Gynaecology of Gulf Medical College hospital and Research Centre, Ajman, United Arab Emirates. This study employed cross-sectional design involving women above the age of 19 years.

The study was conducted in three hospitals in Ajman, Sharjah and Fujairah. For the calculation of the sample size, the proportion of females with knowledge on breast cancer was considered as 50%, significance level as 5% and marginal error as 5% (10% of the prevalence). Hence the minimum sample size required for this study was 400.

A baseline assessment of awareness on various parameters related to risk factors of breast cancer among women was assessed. Current level of knowledge and practice involved in the prevention, early diagnosis and treatment of breast cancer was assessed. Utilization of healthcare facility by the participants for early diagnosis and treatment of breast cancer was determined. Participant’s perspective on availability, accessibility, affordability and acceptability of screening programs of breast cancer was studied in detail.

The research tool comprises of structured close-ended and open-ended questions. List of responses for the close-ended questions was printed below each question to facilitate on the spot marking by the interviewer. For the open-ended questions space was provided to write down the replies in verbatim.

The research tool was provided with the information in the following areas:

a. Demographic parameters
b. Questions concerning history of breast cancer, family history of cancer
c. The subjects’ awareness of cancers, attitude of study subjects towards risk factors of breast cancers, screening programs, preventable nature of cancers, importance of early diagnosis and awareness regarding cancer screening, the risk factors for cancers, the subject’s exposure to the risk factor

Ethics Committee approval was taken from Ethics and Research committee of Gulf Medical University. An informed consent form was prepared and written signed consent was obtained before administering the questionnaire and the identity of all the participants was kept confidential.

Approval was sought from the authorities prior to the conduct of the research. A face to face interview was conducted by the investigators after obtaining consent from the study subjects.

Data were entered into excel spread sheet. Analysis was performed using SPSS version 22. A descriptive analysis of the baseline data was carried out first. All variables were analyzed in aggregate and by socio-demographic information. Tests were considered significant when the p value < 0.05. Univariate analysis was carried out for each factor and the odds ratio and corresponding 95% confidence intervals were presented. A multivariate analysis was done by incorporating significant variables.

**Results**

Four-hundred and one (401) women in the northern emirates participated in the study. Majority of respondents were of age group between 26–39 years (64.8%). Of the total, 59.10% respondents were literate and majority were Asian (73.1%). Married women were more (77.6%) as compared to unmarried (16.7%) (Table 1).
On considering the reproductive history, 83.6% had their menarche at age group 11–14 years. 73.1% opined that the best age for marriage is > 25 years and 84.2% subjects had children, 53% preferred to have 3–5 children. Maximum respondents (51.2%) had their first child in the age group of 19–25 years. 87.2% had breast fed their child (Table 2).

25% of participants had family history of malignancy out of which 68% had 2nd degree relatives. 44% had breast cancer. (Table 3)

Regarding breast cancer and screening programs, the questionnaire includes 13 questions from knowledge part and 2 from practice part. The participants who had correct knowledge and practice, a score of 1 was given and a score of 0 was assigned to the participants who had incorrect knowledge and practice. A variable “knowledge score on Breast cancer” will be available when scores of each knowledge questions for each sample are added and it range from a minimum score of 0 to maximum score of 13. In the obtained knowledge score, score of 0 is considered as “no knowledge”, a score from 1–7 as “below average score” and score >7 as “above average score”. In the knowledge part, some sub-topics are not applicable for participants to answer if they don’t have knowledge about its main topic. Such “not applicable cases” are also taken with a zero score. In the scoring system, the missing information was also considered with a 0 score since they would have chosen any of the option if they had knowledge about it. With respect to Breast cancer majority of the participants had below average knowledge (Table 4)

Respondents were probed for their level of knowledge about breast cancer and awareness about screening programs. The variables included were awareness about common symptoms of breast cancer; knowledge of breast self–examination, etc.
342 (85.2%) of the respondents had heard about breast cancer. 47.9% felt breast cancer is more frequent than other cancers. While inquiring about symptomatology, most of the respondents had incorrect knowledge (79.8%) for painless breast lump, 78.6% change in breast size, 76.3% nipple discharge). Subjects were queried for breast cancer screening (BSE) and were observed to have poor knowledge. (Table 5).

Regarding practice of those with correct knowledge on BSE 34.2% of the participants had correct practice. But 65.8% had knowledge, but not practicing correctly. 4.6% were practicing BSE every month without the proper knowledge.

Among 120 participants who had correct knowledge of doing BSE every month, 85% were aware of the performing BSE in relation to menstruation and practicing it correctly as 1 week after menstruation. 36.3% were correctly practicing without proper knowledge of it. (Table 6)
Table 5. Participant’s knowledge on Breast cancer and screening programs (N=401)

<table>
<thead>
<tr>
<th>Knowledge on Warning signs of Breast cancer</th>
<th>‘Knowledge on Breast Cancer’</th>
<th>Correct Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Painless breast lump or thickening (yes)</td>
<td></td>
<td>81</td>
</tr>
<tr>
<td>Change in the size/shape of the breast (yes)</td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>Discharge/blood from the nipple (yes)</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td>Dimpling of the breast skin (yes)</td>
<td></td>
<td>129</td>
</tr>
<tr>
<td>Inversion/dry skin of nipple region (yes)</td>
<td></td>
<td>141</td>
</tr>
<tr>
<td>Small nodules all over the breast (No)</td>
<td></td>
<td>146</td>
</tr>
<tr>
<td>Small size breast (No)</td>
<td></td>
<td>219</td>
</tr>
<tr>
<td>Large size breast (No)</td>
<td></td>
<td>170</td>
</tr>
</tbody>
</table>

| Knowledge on Breast cancer screening | Appropriate age to start BSE (≥20 years) | 51 | 12.7 |
|                                     | How often BSE should be performed (Monthly) | 120 | 29.9 |
|                                     | Appropriate time to do BSE (1 week after menstruation) | 61 | 15.2 |

| Knowledge on Breast cancer | Methods to identify breast cancer (Mammography/Ultrasound) | 32 | 8.0 |
| Frequency of breast cancer compared to other cancers (Most frequent cancer) | 192 | 47.9 |

Table 6. Comparison between knowledge & practice on BSE (N=401):

<table>
<thead>
<tr>
<th>Comparison between knowledge and practice on BSE</th>
<th>Correct Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Correct knowledge regarding Practicing BSE (N=401) (Every month)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>41</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
</tr>
</tbody>
</table>

| Correct knowledge regarding performance of BSE in relation to menstruation (N=120) (1 week after menstruation) |        |        |       |
| Yes                                             | 34    | 6      | 40    |
| No                                              | 29    | 51     | 80    |
Discussion

Awareness on prevention

According to the results, most of the respondents (85.2%) heard about breast cancer although less than half correctly stating that it is the commonest cancer among women. These were higher compared to the observations in an Italian study (78%) by Montazeri et al \[16\]. This may be due to increasing effort on awareness campaign in the past few years especially in the urban areas, or possibly due to the fact that a fair number had tertiary education which has been reported to be positively associated with better knowledge and attitude.

Study suggested that the level of knowledge was overall poor among majority of participants. Participants knowledge (awareness) about breast cancer screening (Prevention) was very low (8%). 70–75% of participants had “below to no knowledge” score. Knowledge scores were better (above average) among participants with higher education, married woman and with participants of Asian ethnicity. Similar were the observations made by Adebamowa CA et al in his study among Nigerian women\[17\]. The results of the study showed that there remains a lack of awareness about breast cancer screening and consequent underutilization of screening services.

Practice and attitude

On analysis of knowledge translating into practice it is observed that only 34.2% of participants with correct knowledge practiced Breast Self-Examination (BSE) as a screening tool. Out of these 85% of them practiced it correctly one week after the menstruation.65.8% of participants in spite having the correct knowledge about BSE did not practice it. Similar low practice levels (12.7%) were seen in a survey of Arab women\[18\]. The results are consistent with another Saudi Arabian study\[19\]. While there is a strong relationship between knowledge and practice, it seems that Knowledge would not always translate to practice in all cases. The need for a more focused cancer education is obvious.

Conclusion

The majority of respondent have had a poor knowledge about breast cancer and the screening modality for prevention of the same. The findings highlighted lack of knowledge and information on factors that may have contributed to women. Long term education should be started to provide the needed information. One third of participants had good practice score while others had low practice score. The women in UAE should be well informed about the breast cancer and encouraged to do screening (BSE).

Recommendations

Increasing the women’s awareness is an important first step towards cancer screening and prevention in UAE. This can be promoted by informing the women on their susceptibility to breast cancer and encouraging a belief that active and regular screening can detect the cancer at early (pre—cancerous) stage, thereby enabling the early treatment and attaining a lower incidence and mortality. The national health care system should facilitate the development of effective strategies (well defined national cancer screening program) which are needed to ensure that women get screened at the appropriate ages and regular intervals and creating an effective environment for utilization of screening services by overcoming the barriers identified.

Limitations

Being a multi centric study there could have been a variation in the method of interviewing the participants which may have influenced the results. Secondly, women may have responded in a positive manner to the questions to present themselves in a socially desirable way. Similarly, responses are all self—reported and may not reflect true events.

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