Original Article:

Awareness about Male Breast Cancer in Indian Expatriates in the Middle East – A Pilot Study.

Authors:
Sajad Ahmad Salati,
Associate Professor of General Surgery, Unaizah College of Medicine, Qassim University, KSA

Address for Correspondence
Dr. Sajad Ahmad Salati,
Associate Professor of General Surgery,
Unaizah College of Medicine
Qassim University, KSA.
E-mail: docsajad@yahoo.co.in.

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Abstract: Objective: The pilot study was conducted to understand the level of awareness about male breast cancer in Indian expatriates in the Middle East. Methods: A cross-sectional survey was conducted in a random sample of Indian expatriate males in Al-Qassim region of Saudi Arabia. A self-designed questionnaire was used to study the awareness levels related to male breast cancer. Results: Awareness related to male breast cancer was poor in 81% of the participants of the study. Conclusion: Awareness regarding male breast cancer among Indian men working in Saudi Arabia is low. Therefore special attention should be given to educate this community about male breast cancer.

Key Words: Male breast cancer, Awareness, Social media, Breast self-examination

Introduction:
Due to the relatively higher incidence and being the focus of the health care programmes, a fair level of general awareness is found regarding the female breast cancer. Male breast cancer, on the other hand, is less common and hence often ignored in the community. The studies from India reveal that medical attention is often sought at an advanced stage [1] due to lack of awareness and that the breast cancer in Indian males is aggressive in nature and seen at a relatively early age.[2]

There has been no study till date, to assess the perceptions regarding this disease in the Indians working in the middle-east. It was against this backdrop, a pilot study was undertaken with an objective to explore the perceptions and opinions about male breast cancer in Indian males working in the Middle East.

Materials and Methods
A descriptive cross-sectional study with purposive sampling was conducted on 1200 male expatriates of Indian origin, working in various sectors in the twin cities of Buraidah and Unaizah of Al Qassim region of Saudi Arabia from September 2018-November 2018. A random sample was taken for study and the sample size was estimated by using a single proportion formula with an acceptable margin error (d) at 5%. Analyses of data were done with SPSS (Statistical Package for Social Sciences) for Windows version 11.5 and Microsoft Excel-2017 and the data were expressed as mean, range and numbers (with percentages). For the analyses, the significance level was set at p-value less than 0.05, with a confidence interval of 95%. The participants were explained the purpose of the study as per the ethical guidelines of Helsinki and the ones who agreed to participate in the study were requested to answer a self-designed questionnaire after assuring them of confidentiality. Subjects associated with health care sector and those with history of any breast disorder in the past were excluded. The excluded groups were presumed to have possibility of acquiring greater information about the disease and hence potentially bias the results.

A self-designed anonymous questionnaire comprising closed-end questions to assess the knowledge about male breast cancer was used for the study. The entire interview was supposed to take about 10 minutes. The interviews were conducted in major shopping malls and old city markets (Souq, Haraaj) on weekends and in industrial zones (Sanaya) in evening hours of weekdays.

The questionnaire had four sections and was filled in English in MS Excel format but the interview was held in English, Arabic, Urdu or Hindi as per the ease and preference of the subject.

The Section 1 contained demographic data (age, educational qualifications, and nature of job). The Section 2 had questions related directly to the level of awareness about male breast cancer. It has two subsections 2 A and 2 B. In the subsection 2 A, the subjects were asked if they were aware that men have breasts. The subjects who had affirmative response for this question were moved to subsection 2 B and asked further 11 questions to assess their level of awareness about breast cancer. One mark was awarded for correct response and no mark was awarded for wrong and ‘not sure’ responses. On the basis of score attained in this section, the awareness levels in subjects was categorized as Good awareness (Score 8-11), Average awareness (Score 4-7) and Poor awareness (Score 0-3).

The Section 3 sought the information from the subjects about the most important source of information about day to day affairs. All the subjects (including the ones dropped out in second subsection of second section of the questionnaire) were included in this section. After the third section, all the subjects were briefly informed about the flag signs of male breast cancer.
cancer, and about a simple technique of self-breast examination.

In Section 4, the immediate impact of the interview on the subject was assessed by asking if the interaction was helpful and if he would pass on the information to the others.

**Results**

The results obtained after analysis of the data obtained in the study are as shown in Table 1-4 and Fig 1-3 and a total of 1200 subjects participated in the study.

### Table 1: Socio-Demographic data

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Number (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 20</td>
<td>47</td>
<td>3.9</td>
</tr>
<tr>
<td>21-30</td>
<td>394</td>
<td>32.8</td>
</tr>
<tr>
<td>31-40</td>
<td>487</td>
<td>40.6</td>
</tr>
<tr>
<td>41-50</td>
<td>186</td>
<td>15.5</td>
</tr>
<tr>
<td>&gt; 50</td>
<td>86</td>
<td>7.2</td>
</tr>
</tbody>
</table>

### Profession

- Office goers /Professionals: 64 (5.4%)
- Construction workers: 102 (8.5%)
- Farmer workers: 82 (6.8%)
- Casual labours /Cleaners: 97 (8.1%)
- Transport (Drivers, helpers): 173 (14.4%)
- Mechanics: 230 (19.2%)
- Shopkeepers/salespersons: 452 (37.6%)

### Education level

- Up to High school: 665 (55.4%)
- Secondary school: 392 (32.7%)
- Graduate /Diploma: 111 (9.2%)
- Postgraduate: 32 (2.7%)

Out of 1200 subjects, 524 (44%) were aware that men do have breasts like women and 676 (56%) were either unaware or else not sure as shown in Fig 1.

![Fig 1: Awareness level about the presence of breasts in males](image)

The score attained by 524 subjects who were interviewed in subsection 2 B of the questionnaire ranged from 2-10 as shown in Fig 2 and on the basis of the score 36 (7%) subjects were placed in Good awareness (Score 8-11), 63 (12%) in Average awareness (Score 4-7) and 425 (81%) in Poor awareness (Score 0-3) categories as shown in Fig 3.

### Table 2: Results of questionnaire related to the level of awareness related to male breast cancer (n= 524)

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes (n)</th>
<th>No (n)</th>
<th>Not sure (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can men get breast cancer like women?</td>
<td>102</td>
<td>190</td>
<td>232</td>
</tr>
<tr>
<td>Would you like to see doctor on priority (taking off from the routine work) if you have</td>
<td>372</td>
<td>122</td>
<td>30</td>
</tr>
<tr>
<td>Ulceration of the skin</td>
<td>25</td>
<td>304</td>
<td>195</td>
</tr>
<tr>
<td>Puckering or dimpling</td>
<td>362</td>
<td>38</td>
<td>124</td>
</tr>
<tr>
<td>Discharge from the nipple</td>
<td>321</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>Turning inward of the nipple (Inversion)</td>
<td>15</td>
<td>155</td>
<td>127</td>
</tr>
<tr>
<td>Lump or thickening in the area of the breast</td>
<td>122</td>
<td>134</td>
<td>268</td>
</tr>
<tr>
<td>Redness or scaling in and sound the nipple</td>
<td>311</td>
<td>24</td>
<td>189</td>
</tr>
<tr>
<td>Bothersome pain in the area of the breast</td>
<td>202</td>
<td>144</td>
<td>178</td>
</tr>
<tr>
<td>Difference in fullness of the two breasts (asymmetry)</td>
<td>67</td>
<td>125</td>
<td>332</td>
</tr>
</tbody>
</table>

### Fig 2: Score attained in male breast cancer awareness questionnaire

**Fig 3: Categorized level of awareness related to male breast cancer**

<table>
<thead>
<tr>
<th>Sources of information (n=1200)</th>
<th>Number (n) and percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>0</td>
</tr>
<tr>
<td>TV channels</td>
<td>276 (23%)</td>
</tr>
<tr>
<td>Internet /Social media</td>
<td>830 (69%)</td>
</tr>
<tr>
<td>Newspaper</td>
<td>94 (8%)</td>
</tr>
</tbody>
</table>

**Table 3: Sources of information**

**Fig 3: Categorized level of awareness related to male breast cancer**

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Discussion

Kingdom of Saudi Arabia (KSA) is the largest country in the Middle East, with an area of 2.124 million sq. km. (nearly 2/3rd the size of India). It occupies 80% of the Arabian Peninsula and is the 14th largest country in the world. There are about 11.67 million expatriates in the country, mainly from South and Southeast Asian countries. Indians are the largest expatriate community, numbering over 3 million (March 2017), of which, it is estimated that about 70% are blue collar category (labor) workers.[3] This large number statistically means that Indian expatriates in Saudi Arabia outnumber the individual population of 14 states of India.[4] Hence it is very important to study the healthcare related issues of this segment of population to define the potential means and policies for improvement. This pilot study is one such small attempt in this direction.

The socio-demographic data as shown in Table 5 revealed the participant subjects to be mostly (83.4%) of 21–40 age group employed with wide range of sectors, and 88.1% had education levels up to secondary school. The lesser number of professionals and office-goers (with higher academic qualifications) in this study may be explained by the fact that the study was conducted in Al -Qassim region is an agricultural state and most of the offices are located in bigger metropolitan cities like Riyadh, Damman and Jeddah.

The earliest recorded case of male breast cancer (MBC) is described Edwin Smith papyrus, an ancient Egyptian medical treatise, believed to be a copy of a work dating from 3000 BC; in modern times, John of Arderne is reported to be the first to identify this disease in a male patient.[5] Though overall incidence of male breast cancer is still low (about 1%) but the incidence has shown a steady increase by 26% over the past 25 years.[6] In Indian population, the studies of male breast cancer have variably reported the incidence. Chikaraddi et al.[7] and Rai et al. [8] have reported an incidence rate of 0.4 - 0.5% Sundriyal et al.[9] in their study found to be 1.03 % which is consistent with the worldwide incidence but a study conducted in Kashmir have reported a relatively high incidence of 4.1%. [10] In most of the studies from India and abroad, the workers found that most of the patients reported at an advanced stage of the disease (Stage 3 and 4) and lack of awareness has been suggested as an important contributory factor for this delay. [9][11] However in a recent study by Ram et al. [12] published in 2017, majority of patients reported at Stage 2 and the authors terming the early presentation as a welcome trend attributes it to raising awareness among the population in the metro cities. In this present study, only 44% (512 out of 1200) participants were aware of the fact that men too have breasts like women (even though small) and 56% (n-688) were either not sure or else believed otherwise. In the 512 subjects, 81 displayed poor awareness of common features of male breast cancer. The concept of breast self-examination is virtually unknown to the subjects as only 22 out 512 (4%) had heard about it. These are worrisome figures, keeping in view that lack of awareness is proven factor leading to delay in presentation of cancer patients. But many other studies published recently paint a similar unsatisfactory picture in other population groups also.

In a study conducted in male students of postgraduate level at the Management and Science University, Malaysia, significantly high percentage had misconception regarding male breast cancer and breast self-examination were found.[13] Thomas E [14] conducted a study in men at higher risk of breast cancer given their positive family history. She found that 79% weren’t aware, and were surprised to find out, that men could get breast cancer. Most of the participants of that study couldn’t identify any symptoms other than a lump in the breast and about 43% voiced the concern that a diagnosis of breast cancer would cause them to question their masculinity. McAllister et al in their study raised concern about the fact that men in high risk families are very often excluded from family conversations about breast cancer even when men have risks of inheriting cancer risks similar to females.[15]

The source of information for most (92%) of the Indian expatriates participating in this study were social media and television channels. 63% consider internet as an important source. These media tools can be utilized to promote the material related healthcare issues of importance in the population segment. Currently there are global efforts being made to use social networking sites effectively for health promotion due to their potential to reach a large population and the possibility for two-way engagement.[16-18]

As many as 94% of participants felt that the interaction during conduct of this study was fruitful and 91% expressed the desire to transmit the message to their friends and family. This is a highly encouraging statistics pointing towards willingness of the subjects to participate in health-related meets and to outreach the learnt message. In the study conducted by Thomas E [14], the participants actively promoted newer ideas of promoting health related issues. In relation to male breast cancer, Al-Haddad [19] stresses the role of nurses in raising awareness regarding the possible occurrence of breast cancer in men, the associated risk factors, and methods of prevention. Al- Haddad also believes that the society seems unaware that men can develop breast cancer, ultimately contributing in part to late diagnoses in men.

The present study was planned to be a pilot project as health related literature on Indian expatriates is sparse in general and absent with relation to male breast cancer. The sample size is small and the area covered is only two cities of one region of KSA. But it’s hoped that this study calls for attention towards spreading awareness about breast cancer in men and has potential to inspire larger scale studies at higher institutional level in future, to address and understand the health related issues of millions of Indians in the Middle East. That understanding could potentially lead to the development and implementation of programs that improve health in the long run.

Conclusion

This study provides insight into awareness and knowledge of male breast cancer in Indian expatriates in the Middle-East. The awareness level is poor and there is need to devise strategies to improve this scenario. Judicious use of social media and television can be helpful in this regard.

Acknowledgements

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References


