ORIGINAL ARTICLE

Breast Cancer in Men: Public Knowledge and Awareness of Saudi People about its Prevalence and Risk Factors

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Abstract

Background: After lung cancer, breast cancer (BC) is the second most prevalent cancer overall and the most common in women. BC can harm men as well, even though it primarily affects women. **Aim:** The objective of our study is to explore public knowledge regarding BC in men and to assess the knowledge about risk factors of BC and the age at which to begin breast screening. **Materials and Methods:** A descriptive cross-sectional study was used for 2 months in the Kingdom of Saudi Arabia (KSA). A sample comprised of 502 males and females from different age groups was used. Data were collected by a structured online questionnaire in the Arabic language. After participants filled questionnaire, all data were entered into the Statistical Package for Social Sciences. **Results:** Of the study group, 53% of participants were female and 47% were male. The majority of the participants (55%) were between the ages of 20 and 30. Of the study group, 27% had a general certificate of secondary education, and 44% had a university degree. About 10% of the study group had a family history of BC, and 49% lived in the Northern border region. 94% of respondents said they knew nothing about male BC or how it is diagnosed. 43% of participants are unaware that BC is influenced by heredity, while 32% believe that from adolescence to age 30, routine BC screening is advised. About 15% believe that gender plays a role in BC risk factors, compared to 8% who believe that genetics plays a role. As a result, women are more knowledgeable than men about BC in men. **Conclusion:** This study found lack of knowledge and misconceptions regarding male BC and breast screening exist among males and females living in KSA. Public education about BC risk factors, early indications, and diagnosis is needed.

Key words: A descriptive cross-sectional study, awareness, breast cancer, knowledge, risk factors

INTRODUCTION

The epidemiology of male breast carcinoma in the Kingdom of Saudi Arabia (KSA) is not known. Male breast cancer (BC) is rare; It makes up <1% of all male carcinomas and <1% of all male BCs.[1] Trends in incidence are less obvious. Male BC incidence grew by 26% and female BC incidence increased by 52% between 1973 and 1998, according to a large population-based analysis conducted by Giordano *et al*.[1] According to more recent data from the American Cancer Society (ACS), while the rate of BC in women has been on the decline,[2] over the past 30 years, the number of cases of BC in men as a percentage of the population has remained relatively constant.[3]

In addition, according to ACS estimates, 1.3 million women globally receive a BC diagnosis each year.[4] Given that 15–20% of males with BC have a blood family with a history of the disease, that statistic has unsettling ramifications for men as well.[5,6] Geographical location affects the incidence of BC for both sexes; North America and Europe have greater rates than Asia.[6,7] Unfortunately, neither the general public nor the primary healthcare community has paid much attention to male BC. Both populations are unaware of the illness and frequently lack knowledge about its possible psychological and physical effects.[8] Male BC has been largely disregarded by the public, the media, and many medical experts, either

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because it is rare in men or because people frequently believe that men cannot get the disease.

To increase awareness, promote early detection, and educate the public and healthcare professionals, new public health efforts are required. Men may be more inclined to learn about the disease's symptoms, conduct routine breast self-examinations (BSEs), and seek medical attention right away if they suspect they may be at risk for it. Men and women were affected by BC differently, both physically and psychologically. Due to the widespread belief that BC is "a woman's disease," little research has been done on the needs and viewpoints of men who have the disease. English-speaking men's awareness and knowledge of male BC were investigated in this qualitative study using a descriptive study approach. Adult men who have at least one maternal blood relative with BC but no personal history of the disease were the focus of the study. The work of Kiss and Meryn (2001), who have worked to better understand how gender affects psychological disparities in men and women with breast and prostate cancer, respectively, served as some inspiration for it.[9]

In comparison to women, men with BC are far more likely to have hormone receptor-positive tumors, nodal metastases, and an advanced stage upon diagnosis.[1] Invasive ductal carcinoma is more common in men with BC; according to the ACS,[3] it is responsible for "at least" 80% of all male BC cases, and some research has shown that it can be identified in up to 87% of these instances.[1] Male BC is more likely to begin close to the nipple and spread there.[3]

In general, men are diagnosed later than women. Some studies have identified BC in males aged 50–93.[5]

This study aimed to assess public knowledge about BC in males to inform clinical practice and gender-specific educational programs.

The secondary goal was to assess knowledge about the risk factors of BC and the age at which to begin breast screening.

MATERIALS AND METHODS

Research design and setting

A descriptive cross-sectional study was used for 2 months in KSA.

Study subjects

A sample comprised of 502 males and females from different age groups living in KSA was used.

Inclusion criteria

- Living in KSA
- Both sexes (males and females) agreed to participate in the study.

Tool of data collection

The researcher created a systematic online questionnaire based on a literature review and translated it into Arabic.

The structured online questionnaire aimed to collect data about the socio-demographic characteristics.

Chronic diseases among the study group, dietary habits of the study group, family history of BC among participants, knowledge and attitude about BC: Previous knowledge about BC in men and its diagnosis, opinions about the prevalence of BC according to gender, knowledge about genetics as a risk factor for BC, recommended age for regular screening of breast for BC, opinions regarding the most important risk factors for BC and whether the participant performed breast screening for BC previously.

Statistical analysis

At the end of filling out the questionnaire by participants, all data have been entered into the Statistical Package for Social Sciences.

RESULTS

The participants in this study are about 502 KSA men and women. Of the study group, 53% of participants are female, and 47% are male. According to the sociodemographic characteristics listed in Table 1, over half of the participants (55%) were between the ages of 20 and 30, 24% were between the ages of 31 and 40, 12% were under the age of 20, and only 9% were above the age of 40. In addition, almost 44% of the research group had a university degree, and 27% had a general certificate of secondary education. 14% had a diploma, 4% had a master's or doctoral degree, and 1% were illiterate. 49% of the participants live in the northern border region, compared to 22% in the Eastern, 16% in the central, 9% in the southern, and 4% in the western regions.

As shown in Table 2, only 7% of the study group reported having chronic diseases, 1.4% of them reported having hypertension, 1.6% having diabetes, 1.4% having asthma and 0.4% having Behcet's syndrome.

Only 7% identified healthy food (vegetables and fruits) as the frequently consumed meal type, and 8% reported that fast food/high-fat foods are the frequently consumed meal types. However, 83% consume all types of food, such as fast

Table 1: Distribution of the study sample according to their sociodemographic characters (*n*=502)

Variable	Categories	Frequency	Percentage
Sex	Male	264	53
	Female	238	47
Age	<20 years	58	12
	20–30 years	274	55
	31–40 years	122	24
	41–50 years	40	8
	Older than 50 years	8	1
Educational status	Doctorate or master degree	21	4
	University education	221	44
	Diploma	68	14
	General certificate of secondary education	138	27
	Not completed secondary education	47	10
	Illiterate	7	1
Residence in KSA	Northern border region	244	49
	Southern region	45	9
	Eastern Region	112	22
	Western Region	22	4
	Central Region	79	16

KSA: Kingdom of Saudi Arabia

Table 2: Chronic diseases among study group (*n*=502)

Variable	Categories	Frequency	Percentage
Do you have any chronic diseases	Yes	37	7
	No	465	93
Chronic diseases mentioned by study group	hypertension	7	1.4
	Diabetes	8	1.6
	Asthma	7	1.4
	Gluten sensitivity	1	0.2
	Anemia	1	0.2
	Kidney failure	1	0.2
	Thyroid disturbances	1	0.2
	Irritable bowel syndrome	1	0.2
	Behcet's syndrome	2	0.4

food/high-fat foods, healthy food (vegetables and fruits), and meat [Table 3].

10% of the study group have a family history of BC, 75% of them reported that the affected relatives were females and 25% were males (Figure 1).

According to the results in Table 4, 65% of participants believe that BC is more common in women, and 94% said they know nothing about BC or how it is diagnosed. 43% of people are unaware that BC is influenced by heredity. 32% of respondents believe that routine BC screening should begin between adolescence and the age of 30, 33% believe that routine BC screening should begin between the ages of 30 and 50, and 28% are unsure.

Concerning the significant BC risk factor, 15% believe that gender is the main cause, and 8% believe that genetics is mainly the risk factor. 29% are unsure, and 14% believe that radiation and hormonal therapy are involved. 90% had never screened for BC before [Table 4].

Only 10% of the study group performed screening for BC and the majority of them are females (Figure 2).

Table 3: Diet habits of the study group (*n*=502)

Variable	Categories	Frequency	Percentage
Frequently consumed meal types identified by participants	Fast food/high-fat foods	42	8
	Healthy food (vegetables and fruits)	36	7
	Meat	10	2
	All the above-mentioned	414	83

Table 4: Knowledge and attitude about BC (*n*=502)

Variable	Categories	Frequency	Percentage
Do you have previous knowledge about BC in men and its diagnosis?	Yes	31	6
	No	471	94
Do you think that BC is more common in males or females	Male	18	4
	Female	325	65
	Males and females	159	31
Do you think that genetics play a role in BC	Yes	148	29
	No	139	28
	Don't know	215	43
Regular screening of breast for BC is recommended at the age	From puberty to 30 years	163	32
	30–50 years	166	33
	After the age of 50	35	7
	Don't know	138	28
In your opinion which is the most important risk factor for BC	Genetics (family history)	43	8
	Gender (male, female)	77	15
	Hormonal therapy and radiation	68	14
	Smoking	18	4
	Obesity	25	5
	Sedentary lifestyle	9	2
	All mentioned factors	117	23
	Don't know	145	29
Do you ever perform breast screening for BC	Yes	48	10
	No	454	90

BC: Breast cancer

DISCUSSION

The present study aimed to determine men's awareness of BC. 87% of the study's participants were in the 20–50 age range, and while 44% had a university degree, only 27% had a general certificate of secondary education. This study is comparable to one conducted by Al Diab *et al*., (2013), who found that most of their respondents were educated and between the ages of 20 and 50.[10]

Both men's and women's knowledge levels were evaluated in this study, and it was found that women knew more about BC than men did. This is in line with a previous study by Sariego *et al*.,[11] which found that women knew more about BC than men and that younger participants appeared to know more about BC than older participants.[12] Males had less understanding of BC than females, according to a study by Al-Musa *et al*.,[13] One probable explanation is that older people are more likely to have multiple illnesses at the same time, making it challenging for them to identify the cause of the symptoms.

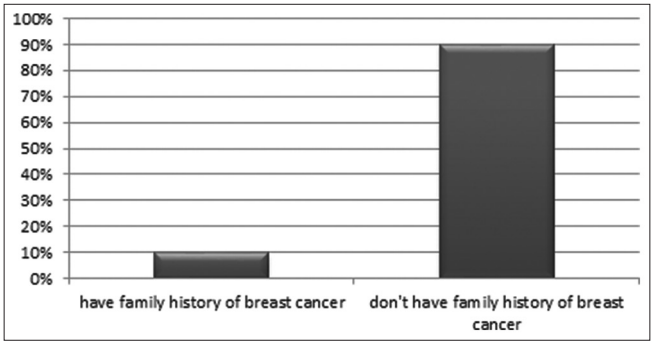

Figure 1: Family history of breast cancer

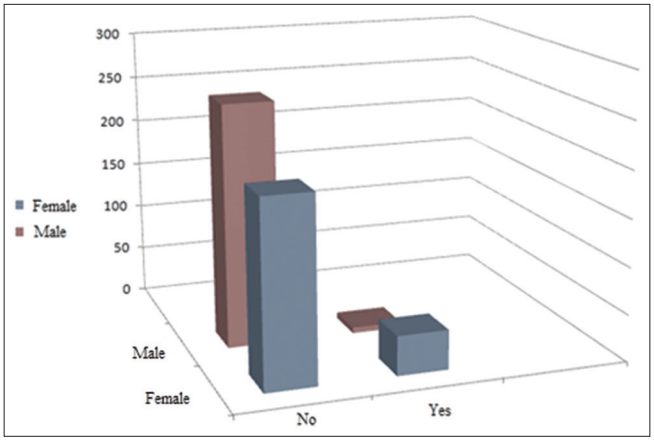

Figure 2: Screening for breast cancer among males and females

The primary risk factor for BC is family history. Surprisingly, only 8% of the study group knew that family history is a significant risk factor for BC, which is < the findings by Farsi *et al*.,[14] In our study, 10% of the participants had a family history of cancer, making them more likely to develop BC than the general male population. Hadi *et al*.,[15] did a study in Malaysia in which family history was the most widely recognized risk factor among participants (86.62%), which is greater than the findings of a study conducted in Yemen by Ahmed,[16] but consistent with a cross-sectional assessment of knowledge and belief on BC done among British women.[17] According to the study of Dandash and Al-Mohaimeed,[18] in KSA, most participants (57.5%) were aware that having a close relative with BC and a family history were known risk factors for the disease. 4% of the participants stated that smoking cigarettes might be one of the risk factors for male BC. A small percentage of them (14%) also mentioned that exposure to radiation and hormonal therapy are risk factors for BC. Individuals do not know enough about male BC.

The literature suggests that hormone levels may contribute to male BC, although the cause is unknown. Undescended testes, congenital inguinal hernia, orchiectomy, orchitis, and infertility regularly increase BC risk.[19]

Radiation therapy, Klinefelter's syndrome, and positive family history are risk factors for male BC. About 4% of all cases and 15% of patients with a first-degree relative who has BC had BRCA2 gene mutations.[20] Men are 2.5 times more likely to acquire BC if a female relative has a family history of the disease. Similar to women, patients who have received mantle radiation treatment for Hodgkin's disease are at a higher risk of developing BC in the future, if they are exposed to radiation from the chest wall.[21]

Unfortunately, literature on men's BC knowledge in KSA or other Arabic countries is not available to compare with this study's results, but the study group's poor knowledge of male BC may be due to the literature they received covering women's BC. Most brochures on breast reconstruction, BC, and self-examination focused on women's BC. According to a related earlier study by Thomas *et al*.,[19] most participants were unaware that BC might strike men.[22]

Mammography may be useful for screening men with a strong family history of BC and/or with BRCA gene mutations, even though there are no male BC screening criteria, according to the ACS.[3] The ACS recommends yearly mammograms for women 45–54 to identify cancer before symptoms occur.[23]

Alharbi *et al*.,[24] and Baig *et al*.,[25] found that BSE, clinical breast exams (CBE), and mammograms can diagnose BC early. Over half of women (55.8%) seldom or never undertake BSE, indicating low knowledge.[26] In this study, only 10% had previously breast-screened for BC, and most of them were female, so providers should discuss BC with all men, especially those with a family history of breast, ovarian, or prostate cancer or other risk factors. Physicians should consider CBE and monthly breast self-evaluations for these men's routine health exams.

The strength of the present research is related to the location where the study was conducted as it included participants from different residence areas in KSA, with different education but the study also has limitations as a small sample size, and included both males and females. Hence, further research with a larger, more diverse sample of males only is needed.

CONCLUSION

Finally, this study found that Saudi men and women misunderstood male BC and breast screening. Only a small percentage of survey participants knew about male BC. Public education about risk factors, early warning signs, and BC diagnosis is needed. Better treatment, knowledge, and screening may have reduced BC mortality. It is hoped that these findings will motivate healthcare professionals to better communicate with male patients who have a family history of BC and to take into consideration gender when creating interventions for disease prevention and health promotion. To identify and prevent BC, it is also critical to raise knowledge of the screening process through seminars, social media, and breast companions.

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