



Females Awareness and Attitudes Regarding Breast Self-Examination and Breast Cancer in Riyadh Province

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Authors' contributions

This work was carried out in collaboration among all authors. Authors NJA and SMA designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors AA, ASA and FZA managed the analyses of the study and managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i131133

Editor(s):

(1) Dr. Paola Angelini, University of Perugia, Italy.

Reviewers:

(1) Farook Nehad Abed, Al-Imam Al-Adham University College, Iraq.

(2) Priya J. P. Narayan, Swami Rama Himalayan University, India.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/65065>

Original Research Article

Received 20 November 2020

Accepted 23 January 2021

Published 10 February 2021

ABSTRACT

Aim: This study aimed to evaluate the awareness and attitudes of females in Riyadh province regarding breast cancer and breast self-examination.

Methodology: This is a retrospective study that was conducted using a survey that was adapted from previously published studies that were conducted in Northeast Nigeria and Jordan. The survey was distributed both as a paper-based survey or as an online survey.

Results: Most of the respondents who filled the paper-based survey said that they are aware about breast cancer (88%). The main source for their knowledge was social media (67.67%). More than 95% of the respondents who filled the online survey said that they are aware about breast

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cancer. The main source for their knowledge was social media (53.85%). Most of the respondents of paper-based survey respondents said that they heard about breast self-examination but they didn't practice it (54.00%). Most of online survey respondents said that they heard about breast self-examination but they didn't practice it (62.67%).

Conclusion: The results of this study indicate that females had good knowledge about breast self-examination and breast cancer but a high percentage of the females don't practice breast self-examination. It is recommended to increase females' level of knowledge about breast self-examination through intensified awareness programs and also to encourage them to perform the examination regularly.

Keywords: Attitudes; awareness; breast cancer; breast self-examination.

1. INTRODUCTION

Breast cancer is a global health problem and a leading cause of death among women worldwide [1-3]. Breast cancer cause a total of 411,000 deaths every year, these deaths represent about 14% of total female cancer deaths globally [4,5]. In the Arab world, breast cancer is one of the common types of cancer among young age as reported by El Saghir et al. [6].

Delay in the diagnosis and treatment of breast cancer can lead to the diagnosis of the disease at an advanced stage and as a result leads to an increase in death rate and a decrease in the chance of survival [7,8]. In contrast, early cancer diagnosis improves the quality of life of patients and increases the chance of survival [9]. So, it is important to detect breast cancer in its earliest stages, mainly by regular screening of all females.

Unfortunately, a large proportion of women diagnosed with progressed phases of the disease, which can be associated with knowledge insufficiency about screening importance [10]. In Saudi Arabia, breast cancer is the most common type of cancer among females [11-13], nonetheless numerous studies were conducted in Saudi Arabia and have revealed a poor knowledge of females about breast self-examination and breast cancer [14-16].

Females must have enough understanding and knowledge about breast self-examination and breast cancer to help them in conducting breast self-examination on a regular basis and to help in the early diagnosis of the cancer if they notice any changes in their breasts. So, this study aimed to evaluate the awareness and attitudes of women in in Riyadh province regarding breast cancer and breast self-examination.

2. METHODOLOGY

This is a retrospective cross-sectional study examined the awareness of females in Riyadh province with regards to breast self-examination in addition to their knowledge regarding breast cancer.

This study was conducted using a survey that was adapted from previously published studies that were conducted in Northeast Nigeria and Jordan [17,18]. The survey was then translated into Arabic to help the public in its completion, and after that, the survey was validated by face validation and content validation and then it was prepared and distributed both as a paper-based survey or as an online survey.

The questionnaire involved 5 parts; demographic data, breast cancer awareness, the scientific background about breast cancer, knowledge of breast self-examination and attitude toward breast self-examination.

The participation of the females in this study was voluntary and all responses of respondents were confidential in compliance with the Saudi Ministry of Health Institutional Review Board Committee. The data were collected using excel software and the descriptive data were represented as frequencies and percentages.

3. RESULTS

The survey was filled by 300 respondents (150 filled paper based survey and 150 filled the online survey). Table 1 and Table 2 represent the demographic data for the respondents in the paper based survey and the online survey.

Regarding the paper-based, most of the respondents were less than 40 years old (72.00%), married (53.33%), had a graduate degree (64.00%) and housewives (41.99%).

Table 1. Demographic data (paper-based survey, n=150)

Variable	Category	Number	Percentage
Age	29 or less	63	42.00
	30-39	45	30.00
	More than 39	42	28.00
Marital status	Single	56	37.33
	Married	80	53.33
	Divorced	10	6.67
	Widowed	4	2.67
Educational level	Postgraduate degree	1	0.67
	Graduate degree	96	64.00
	High school	32	21.33
	less than High school	20	13.33
	Illiterate	1	0.67
Occupation	Employee	53	35.33
	Housewife	63	41.99
	Student	34	22.67

Table 2. Demographic data (Online survey, n=150)

Variable	Category	Number	Percentage
Age	Less than 30	141	94.00
	30-39	8	5.33
	More than 39	1	0.67
Marital status	Single	131	87.33
	Married	14	9.33
	Divorced	4	2.67
	Widowed	1	0.67
Educational level	Postgraduate degree	4	2.67
	Graduate degree	43	28.67
	High school	83	55.33
	less than High school	19	12.66
	Illiterate	1	0.67
Occupation	Employ	14	9.33
	Housewife	14	9.33
	Student	122	81.33

Regarding the online survey, most of the respondents were less than 40 years old (99.33%), single (87.33%), had a high school level (55.33%) and students (81.33%).

Most of the respondents who filled the paper-based survey said that they were aware about breast cancer (88%). The main source for their knowledge was social media (67.67%). Table 3 represents the breast cancer awareness of the paper-based survey respondents.

More than 95% of the respondents who filled the online survey said that they are aware about breast cancer. The main source for their knowledge was social media (53.85%). Table 4 represents the breast cancer awareness of the online survey respondents.

Table 5 shows the scientific background about breast cancer of paper-based survey respondents. Most of the respondents of the paper-based survey said that no breastfeeding

(52.67%) and family history of breast cancer (42.66%) were the most common risk factors of breast cancer. They also said that the most common symptoms of breast cancer were the changes in breast shape or size (66.67%), breast lump (63.33%) and nipple secretions (51.33%).

Table 6 shows the scientific background about breast cancer of online survey respondents. Most of the respondents said that family history of breast cancer (50.67%), radiation exposure (35.33%) and no breastfeeding (34.67%) were the most common risk factors of breast cancer. They also said that change in the shape or size of the breast (66.67%), breast lump (56.00%) and nipple secretions (52.67%) were the most common symptoms of breast cancer.

Table 7 shows the knowledge of breast self-examination of paper-based survey respondents. Most of the paper-based survey respondents said that they heard about breast self-examination but they didn't practice it (54.00%).

They stated that they didn't practice breast self-examination because they were too busy (44.44%). About 19.75% of them said that no need to practice breast self-examination.

Table 8 shows the knowledge of breast self-examination of online survey respondents. Most of online survey respondents said that they heard about breast self-examination but they didn't practice it (62.67%). They stated that they didn't practice breast self-examination because they were too busy (62.77%). About 23.40% of them

said that no need to practice breast self-examination.

Table 9 shows the Attitude toward breast self-examination of paper-based survey respondents. Most of the respondents agreed that early detection of breast cancer increases the chance of recovery (96.00%), female more than 20 years should practice breast self-examination frequently (68.00%) and that female must be educated about breast self-examination (86.00%).

Table 3. Breast cancer awareness (paper-based survey, n=150)

Variable	Category	Number	Percentage
Are you aware about breast cancer	Yes	133	88.67
	No	17	11.33
Source of breast cancer information (n=133)	Social media	90	67.67
	Relative -friend	19	14.29
	Medical staff	26	19.55
	Television	26	19.55
	Others	24	18.05

Table 4. Breast cancer awareness (Online survey, n=150)

Variable	Category	Number	Percentage
Are you aware about breast cancer	Yes	143	95.33
	No	7	4.67
Source of breast cancer information (143)	Social media	77	53.85
	Relative -friend	19	13.29
	Medical staff	27	18.88
	Television	11	7.69
	Others	25	17.48

Table 5. The scientific background about breast cancer (paper-based survey, n=150)

Variable	Category	Number	Percentage
Risk factors of breast cancer	Family history	64	42.66
	Brassieres use	53	35.33
	First child at the late age	25	16.67
	Medical condition	30	20.00
	Diet	54	36.00
	Anxiety and stress	37	24.67
	Radiation exposure	53	35.33
	Consumption of oral contraceptive	54	36.00
	No breastfeeding	79	52.67
	Advanced age	48	32.00
	Late menopause	34	22.67
	Excessive breastfeeding	1	0.67
	Do not know	11	7.33
Symptoms of breast cancer	Changes in nipple	75	50.00
	Nipple secretions	77	51.33
	Breast lump	95	63.33
	Itching in the breast	24	16.00
	Change in the shape or size of the breast	100	66.67
	Breast pain and soreness	66	44.00
	Do not know	8	5.33

Table 10 shows the Attitude toward breast self-examination of online survey respondents. Most of the respondents agreed that early detection of breast cancer increases the chance of recovery (95.33%), females more than 20 years should practice breast self-examination frequently (76.00%) and that females must be educated about breast self-examination (96.67%).

4. DISCUSSION

Most of the respondents in the present study agreed that they are aware regarding breast

cancer and that the main source for their knowledge was social media. Alomair et al. [19] reported that the majority of the respondents in their study showed a moderate level of knowledge regarding breast cancer [19]. Ewaid et al. [20] reported that the main source of breast cancer information was television and radio [20]. Dundar et al. [21] reported that health-care professionals are the main source of breast cancer information [21]. Moreover, similar to our results, Ibnawadh et al. [22] stated that the most reported source of breast self-examination information was social media (50.14%) [22].

Table 6. The scientific background about breast cancer (Online survey, n=150)

Variable	Category	Number	Percentage
Risk factors of breast cancer	Family history	76	50.67
	Brassieres use	38	25.33
	First child at the late age	21	14.00
	Medical condition	37	24.67
	Diet	36	24.00
	Anxiety and stress	22	14.67
	Radiation exposure	53	35.33
	Consumption of oral contraceptive	29	19.33
	No breastfeeding	52	34.67
	Advanced age	27	18.00
	Late menopause	19	12.67
	Excessive breastfeeding	8	5.33
	Do not know	29	19.33
Symptoms of breast cancer	Changes in nipple	78	52.00
	Nipple secretions	79	52.67
	Breast lump	84	56.00
	Itching in the breast	29	19.33
	Change in the shape or size of the breast	100	66.67
	Breast pain and soreness	71	47.33
	Do not know	16	10.67

Table 7. Knowledge of breast self-examination (paper-based survey, n=150)

Variable	Category	Number	Percentage
Knowledge of breast self-examination (BSE)	Never heard of BSE	33	22.00
	Heard about BSE but without BSE practice	81	54.00
	Heard of BSE and practicing it	36	24.00
Why not practice BSE (n=81)	Too busy	36	44.44
	Not needed	16	19.75
	Inconvenient	1	0.67
	Others	28	34.57

Table 8. Knowledge of breast self-examination (Online survey, n=150)

Variable	Category	Number	Percentage
Knowledge of breast self-examination (BSE)	Never heard of BSE	21	14.00
	Heard about BSE but without BSE practice	94	62.67
	Heard of BSE and practicing it	35	23.33
Why not practice breast self-examination (n=94)	Too busy	59	62.77
	Not needed	22	23.40
	Inconvenient	13	13.83
	Others	0	0.00

Table 9. Attitude toward breast self-examination (paper-based survey, n=150)

Variable	Category	Number	Percentage
Early detection of breast cancer increases the chance of recovery	Agree	144	96.00
	Disagree	1	0.67
	Neutral	5	3.33
Female more than 20 years should practice breast self-examination frequently	Agree	102	68.00
	Disagree	16	10.67
	Neutral	32	21.33
Female must be educated about breast self-examination	Agree	129	86.00
	Disagree	3	2.00
	Neutral	18	12.00

Table 10. Attitude toward breast self-examination (Online survey, n=150)

Variable	Category	Number	Percentage
Early detection of breast cancer increases the chance of recovery	Agree	143	95.33
	Disagree	1	0.67
	Neutral	6	4.00
Female more than 20 years should practice breast self-examination frequently	Agree	114	76.00
	Disagree	10	6.67
	Neutral	26	17.33
Female must be educated about breast self-examination	Agree	145	96.67
	Disagree	2	1.33
	Neutral	3	2.00

Alhaji and Moawed [23] indicated that among female high school students in Riyadh City in 2015, none of the students had an excellent knowledge regarding breast cancer and that social media was the most common source of information about breast cancer [23].

Most of the respondents in the present study said that family history of breast cancer and females who don't breastfeed their babies were the main risk factors of breast cancer. Alomair et al. [19] stated that family history, no breastfeeding, intake of oral contraceptives, diet, use of brassieres and radiation exposure are the main risk factors of breast cancer [19]. Elsayed and Mohammed reported that radiation exposure, late menopause, early menarche and family history are the main risk factors of breast cancer [24]. Furthermore, Godfrey et al. [25] stated that among female university students in Kampala, Uganda in 2016, the main risk factors for breast cancer were family history of breast cancer, a low-fat diet, the use of oral contraceptives, cigarette smoking and exposure to radiation [25]. Centers for Disease Control and Prevention reported that there are risk factors of such as genetic mutations, getting older, not being physically active, some reproductive history, having dense breasts, being overweight or obese after menopause, family history of breast cancer, personal history of breast cancer or certain non-cancerous breast diseases, taking hormones,

previous treatment using radiation therapy and women who took the drug diethylstilbestrol, drinking alcohol, not breastfeeding and never having a full-term pregnancy [26].

Most of the respondents in the present study said that change in the shape or size of the breast, breast lump and nipple secretions were the most common symptoms of breast cancer. Elsayed and Mohammed stated that change in breast size/shape, nipple secretions and changes, breast lumps, breast soreness and pain are the main symptoms of breast cancer [24]. Additionally, Godfrey et al. [25] reported that the main symptoms and signs of breast cancer include nipple discharge, change in breast shape and size, a lump under the armpit and painless breast lump [25]. Alhaji and Moawed [23] reported that the warning signs of breast cancer include sense of mass under the armpit, the presence of a mass in the breast and pain in the breast area [23]. Centers for Disease Control and Prevention reported also that the most common warning signs of breast cancer include a new lump in the breast or underarm, irritation or dimpling of breast skin, thickening or swelling of part of the breast, pulling in of the nipple or pain in the nipple area, redness or flaky skin in the nipple area or the breast, pain in any area of the breast, any change in the size or the shape of the breast and nipple discharge other than breast milk including blood [26].

Most of the respondents said that they heard about breast self-examination but they didn't practice it. More than half of the respondents who didn't practice breast self-examination said that they didn't practice it because they were too busy. Ewaid et al. [20] reported that the knowledge of women about breast cancer was poor, and that the breast self-examination practice was very low and only 25.4% of the students practiced breast self-examination [20]. Alwan et al. [27] reported that about 48.3% of the females practiced breast self-examination and that stated that the most common reason for not doing breast self-examination was a lack of knowledge of how to practice it correctly [27].

Zavare et al. [28] reported that females' knowledge regarding breast cancer and the practice of breast self-examination is inadequate [28]. Suleiman said that 34.9% among female Jordanian students were aware of breast self-examination, but only 11% had performed it [18]. Furthermore, Jahan et al. [29] reported that 69.7% of the women had never heard about breast self-examination, and that about 18.7% of them reported that they practice breast self-examination [29]. Ahmed et al. [30] stated that although about 71.4% of the females knew what breast self-examination was, only 33.1% had performed it [30]. Dadzi et al. [31] stated that about 64.9% of the females had good knowledge of breast cancer and that only 37.6% of them practice breast self-examination [31]. Moreover, Koc et al. [32] reported that around 73.3% of the female university students had heard about breast self-examination and that only about half of them stated that they practice breast self-examination [32].

Most of the respondents agreed that early detection of breast cancer increases the chance of recovery, female must be educated about breast self-examination, and that female more than 20 years should practice breast self-examination frequently. Jahan et al. [29] reported similar results and found a positive attitude toward breast self-examination [29].

In the present study, there were a large difference in the demographic data for the respondents who participated in the paper based survey and in the online survey. The response of the respondents to the questions was similar regarding knowledge about breast cancer and breast self-examination. Moreover, their attitude and practices toward breast self-examination were also similar.

5. CONCLUSION

The results of this study found that females had good knowledge about breast self-examination and breast cancer but a high percentage of the females don't practice breast self-examination. Recommendations are suggested to increase females' level of knowledge about breast cancer and practice of breast self-examination and also to encourage them to perform breast self-examination regularly through more intensified awareness programs. Moreover, as the study showed that social media were the main source of information regarding breast cancer. It must be effectively employed in teaching women the best way of breast self-examination, especially for females who don't reach these campaigns and activities.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the authors.

ACKNOWLEDGEMENT

This Publication was supported by the Deanship of Scientific Research at Prince Sattam bin Abdulaziz University.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

The peer review history for this paper can be accessed here:
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