Knowledge, Attitude and Preventive Practice towards Breast Cancer among Women Visiting Public Health Facility, Saudi Arabia

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Background: Breast cancer is the highest burden of disease in high and low income countries and it is the leading cause of disability and death. Knowledge is important predictor of breast cancer. The objective of this study is to determine the knowledge, attitude and practice regarding breast cancer among women visiting public health facilities in Hail, Saudi Arabia**.**
Method: It's was a cross-sectional study in the leading public sector hospital and 127 study participants were selected through stratified random sampling technique. Validated and structured questionnaire used. Study participants who scored greater than or equal to mean valued were considered good knowledge, positive attitude and safe practice. Chi square test was used to cross tabulation between socio-demographic characteristics and knowledge, attitude and practice score.
Results: Over all 18.1%, 47.2% and 52% of study participants had good knowledge, positive

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attitude and safe practice for prevention of breast cancer respectively. More than two third (89%) of participants were stated that breast cancer was not curable disease, more than half (67.7%) of were heard about mammogram. Only 10.2% were belief that screening was essential to breast cancer for early diagnosis. More than two third (69,9%) were not practice self breast examination and 69% were stated that fear of disease was major barrier to mammogram test.

Conclusion: The knowledge level among communities member of female regarding breast cancer was in-appropriate. Majority of them were not practicing self breast examination. Health education programme through workshops and seminars will be needed to increase the awareness toward breast cancer among females.

1. INTRODUCTION

Breast cancer is the most common cancer in females worldwide. An estimated report of 2018 revealed that over 6,875,099 women died all over the world due to breast cancer [1]. In the present era of medicine, breast cancer prevalence has increased and potentially endangers lives of females and causes premature deaths [1]. An estimate of 2018 approximately 2.08 million new cases of breast cancer were reported with an incidence rate of 24.2% and worldwide prevalence of 15% among females of all age groups over span of 5 years [1]. Moreover among all cancers mortality rate due to breast cancer was 30.1% [1]. It is estimated that Breast cancer cases will upsurge 4 folds worldwide [2].

China has highest prevalence of breast cancer[1].In Kuwait 2018 estimated incidence of breast cancer is 38.8%, prevalence 44.7 % and Mortality rate 27.5%. Where as In Pakistan according to 2018 estimated incidence of breast cancer is 36.8%, prevalence is 40.8% and mortality rate is 29.9% among all cancers in females of all ages [3].

In Saudi Arabia with a country with total population of 33,554,333, number of new cancer cases are 24,485 and approximately 10518 deaths are due to cancer in both genders [4].Female population is around 14,341,890, among all new cases of cancer in females of all age groups, breast cancer stands 1st with a 2018 estimated incidence of 29.7% and prevalence of 31.7% (over span of 5 years) [5]. Prevalence of breast cancer is particularly high among divorced Saudi females[9]. Mortality rate was 20.3% making it leading cause of death due to cancer in females of all age groups [4].

World Cancer Research Fund International suggested that alcohol consumption, greater birth weight and adult attained height were main etiologies of breast cancer in pre-menopausal females [6]. Whereas in addition to above mentioned factors adult weight gain, height, and greater body fatness throughout adult life (except for greater body fatness in young adulthood which is protective) were main causes in post-menopausal females [6]. Study also suggested that vigorous physical activity protects against premenopausal & postmenopausal breast cancer. Furthermore protective role of lactation was strongly supported [7].

Lebanon has identified the need of screening of breast cancer and is supporting country wide awareness program. Although there is still need for additional campaigns therefore country is planning to make improvements in to educational, cultural and behavioral factors [7]. In Lahore, Pakistan females were found to have weak knowledge about breast self-examination although they had some understanding about breast cancer risk factors [8]. Study concluded great need for generating awareness about breast self-examination, screening of breast cancer and mammography [8].

A Saudi study recommends focused breast cancer awareness programs for both male and female genders particularly consequences of Divorce among females, early diagnosis & management for cancer breast [9].In Vietnam, the usage of breast cancer screening program is low. A cross-sectional study was conducted for identification of breast cancer knowledge, practice and screening barriers among females visiting primary health care centers. It revealed that overall there was poor knowledge about breast cancer and its risk factors particularly in those who never had mammography [10]. Females had false beliefs about mammography; most of females thought it is a painful procedure and lead to 56 % reduction in its usage. Study

concluded the need for more efforts to enhance breast cancer awareness [10].

In Iran, knowledge about breast cancer was 54.4%, breast self-examination 56%, mammogram 90.4% and clinical breast examination 83.8% [11]. Common barriers towards screening methods were unawareness of screening methods, poor training and unavailability of female doctors.52.4 % patients received health information from social media and 8.8% from health care providers [12].

Breast cancer is the topmost malignancy in females all over the world and is on the rise (particularly in developing nations where the mainstream of cases are identified in late stages [13]. In Saud Arabia, conservative cultural community, females has reserved to discuss about intimate issues. Cultural barriers, natural shyness among females to discuss about their problems delays the diagnosis. There are limited researches about this issue in Saudi Arabia, this research will help to find out risk factors and practice regarding breast cancer and will make a policy to decrease burden of this disease, and therefore, the aim of this study is to assess knowledge, attitude and practices related to breast cancer in female population of hail region Saudi Arabia.

2. MATERIALS AND METHODS

2.1 Study Setting, Study Design and Sampling Technique

The study was conducted in the leading public sector hospital, it's a 250 bed hospital and 380 doctors were working in this hospital. It was a Cross sectional survey. A non-random convenient sampling technique was used for selection of females who visiting the out- patient department of the hospital.

2.2 Inclusion, Exclusion Criteria and Sample Size

All females who visited the out- patient department of hospital and age of the participants were more than the 20 years. Those who had breast cancer and history of mastectomy were excluded from the study. Sample size was calculated by world health organization (WHO) software for health studies. Total 127 women sample required to fulfill the

objective of the study at 95% confidence interval, 5% margin of error and 9% prevalence of awareness regarding breast cancer from previous study (15).

2.3 Data Collection

Questionnarie was developed after literature reviewing from data base of web of knowledge, scopus and Pubmed. The questionnaire was translated into Arabic language. Pre-test of questionnaire was done. The questionnaire was divided into socio-demographic characteristics, knowledge, attitude and practice section. Knowledge section comprised of nine questions, attitude section comprised of five questions and practice section has eight questions.

After approval from the hospital administration, questionnaires were distributed among females who visited out -patient department of hospital. After taking the consent and selected participants were filled the form and collected with ensure retrieval of quality data.

2.4 Data Analysis

Data was analyzed in the social package of social science (SPSS) software. Data were checked for errors and duplication. Frequency and percentages were calculated in descriptive analysis. Study participants who scored equal to mean or more were considered as appropriate knowledge, positive attitude and safe practice of breast cancer. Chi-square test was applied to make cross tabulation between socio-demographic characteristics and knowledge, attitude and practice score. P-value<0.05 was considered significant.

3. RESULTS

Mean age of respondents were 46 years with SD 2 years. All the study participants were fall in the age range between 20 and 70 years old. Majority (55.1%) of study participants was married, 52% were get higher education, 57.5% were employed and 23% had family history of breast cancer in the city of Hail, KSA.

At the young age group (20-30 years), majority (52%),(33.1%)(31.5%)of study participants had in-appropriate knowledge, negative attitude and unsafe practice regarding breast cancer. Among study participants, single person had in-Appropriated knowledge and negative attitude, but married person was unsafe practice toward

breast cancer. Study Participants who had higher education, un-employed and family history of breast cancer were in-appropriate knowledge, negative attitude and un-safe practice toward breast cancer [Table-1].

Among study participants, majority (28.34%) know that estrogen used is the risk factor of breast cancer, 40.9% mentioned that clinical examination is the best method of breast cancer. Regarding sign and symptoms of breast cancer, 24.4% were mentioned that nipple discharge is the clinical manifestation of patient with breast cancer. 33.9% of study participants mentioned that biopsy was the diagnostic test of breast cancer,89% believed that breast cancer not curable disease, 98.1% were believed that good prognosis. 67.7% of study participants heard the mammogram, 23.6% stated that mammogram has started at the age of 30 years. [Table 2].

Regarding attitude toward breast cancer, 69.3% were strongly agree for breast cancer awareness prompts you to undergo screening, 64.4% were

believed (strongly agree and agree) that surgery is the best treatment of breast cancer, 50.4% were disagree for screening test to find the breast cancer, 43.3% disagree for afraid of breast cancer if screening test done and 41.7% were embracement for breast examination [Table 3].

Among study participants, 88.2% were know the breast self examination, 58.3% were practice monthly breast examination, 28.3% were started breast self examination at the age of 30 years, 35.4% were practice breast self examination before menstruation, 50.4% were practice breast self examination, 37.8% were used hand with palpation of breast for find out breast cancer, 51.2% were visited doctor after found abnormality in the breast, 69.3% were fear of disease which is the main barrier for mammogram [Table 4].

Among study participants, 18.1%, 47.2% and 52% were appropriate knowledge, positive attitude and safe practice toward breast cancer [Fig. 1].

Table 1. Summary of socio-demographic distribution and knowledge, attitude and preventive practice towards breast cancer in City of Hail, KSA (n=127)

Characteristics	Knowledge		Attitude		Practice	
	Appropriate n(%)	In-Appropriate n(%) [p-value]	Positive n(%)	Negative n(%) [p-value]	Safe n(%)	Un-Safe n(%) [p-value]
Age Category (years)						
20-30	10(7.9)	67(52.8)	35(27.6)	42(33.1)	37(29.10)	40(31.5)
31-70	13(10.2)	37(29.1)[0.097]	25(19.7)	25(19.7)[0.716]	29(22.8)	21(16.5)[0.283]
Marital Status						
Married	53(3.1)	4(41.7)	25(19.7)	32(25.2)	39(30.7)	31(24.4)
Single	51(15)	19(40.2)[0.005]	35(27.6)	35(27.7)[0.592]	27(21.3)	30(23.6)[0.376]
Education						
Basic Education	8(6.3)	25(19.7)	12(9.4)	21(16.5)	14(11)	19(15)
Higher Education	15(11.8)	79(62.2)[0.301]	48(37.8)	46(36.2)[0.161]	52(40.9)	42(33.1)[0.229]
Occupation						
Employed	7(5.5)	47(37)	30(23.6)	24(18.9)	31(24.4)	23(18.1)
Un-Employed	16(12.6)	57(44.9)[0.247]	30(23.6)	44((33.9)[0.135]	27.6)	38(29.9)[0.369]
Family History of Breast Cancer						
Yes	11(8.7)	58(45.7)	34(26.8)	35(27.6)	38(29.9)	31(24.4)
No	12(9.4)	46(36.2)[0.499]	26(20.5)	32(25.2)[0.722]	28(22)	31(23.6)[0.479]

Table 2. Study participants knowledge about breast cancer in city of Hail, KSA (n=127)

Knowledge questions	n(%)
Risk of breast cancer	
Smoking	9(7.08)
Alcoholoverconsumption	5(3.93)
Obesity	3(2.36)
Eating fatty food	6(4.72)
Lack of Physical Exercise	3(2.36)
Use estrogen pill	36(28.34)
Early Menstruation at age of 12 years of age	23(18.11)
Late Menopause at age of 50 years of age	17(13.38)
No Children	4(3.14)
No Breastfeeding	11(8.66)
Family History of breast Cancer	10(7.91)
Methods of Breast Cancer screening	
Clinical Examination	52(40.9)
Breast Self Examination	46(36.2)
Mammogram	29(22.8)
Symptoms of Breast Cancer	
Feeling of Breast Lump	6(4.7)
Nipple Discharge	31(24.4)
Skin Changes and Ulceration	15(11.8)
Enlarge Axillary Lymph node	27(21.3)
All above	48(37.8)
Diagnosis test of Breast Cancer	
Clinical Breast Cancer Examination	16(12.6)
Breast Ultrasound	29(22.8)
Biopsy	43(33.9)
All of Above	39(30.7)
Breast Cancer is curable disease	
Yes	14(11)
No	113(89)
Breast Cancer has good Prognosis	
Yes	2(1.6)
No	125(98.4)
How to reduce risk of Breast Cancer	
Quiet Smoking	10(7.9)
Quiet Alcohol	14(11)
Breastfeeding	19(15)
Reduce body weight	7(5.5)
Limit use of Estrogen	10(7.9)
All of Above	67(52.8)
Have you heard about Mammogram	
Yes	86(67.7)
No	41(32.3)
Age at Mammogram advise	
At age of Puberty	9(7.1)
At age of 20 years	33(26)
At age of 30 years	30(23.6)
At age of 40 years	6(4.7)
Don't Know	49(38.6)

Table 3. Study participants attitude toward breast cancer in city of Hail, KSA (n=127)

Attitude questions	Strongly Agree n(%)	Agree n(%)	Neutral n(%)	Disagree n(%)	Strongly Disagree n(%)
Breast cancer awareness prompts you to undergo screening	88(69.3)	27(21.3)	5(3.9)	2(1.6)	5(3.9)
Surgery is best treatment of breast cancer	35(27.6)	34(26.8)	19(15)	34(26.8)	5(3.9)
Screening is essential to find breast cancer	3(1.6)	11(8.7)	0(0)	64(50.4)	50(39.4)
Afraid of breast cancer if screening will done	3(2.4)	8(6.3)	20(15.7)	55(43.3)	41(32.3)
Embracement for breast examination	1(0.8)	4(3.1)	19(15)	53(41.7)	50(39.4)

Table 4. Study participants practice towards Breast Self Examination in the city of Hail, KSA (n=127)

Practice Variables	n(%)
Have you heard Breast self examination	
Yes	112(88.2)
No	15(11.8)
Frequency of Breast Self Examination	
Weekly	4(3.1)
Monthly	74(58.3)
Yearly	11(8.7)
Not Done	38(29.9)
Age at whichBreast Self Examination has started	
At Puberty	38(29.9)
From age of 20 Years	22(28)
From age of 30 Years	36(28.3)
At Menopause	5(3.9)
Don't Know	20(15.7)
Time of Breast Self Examination	
Before Menstruation	45(35.4)
After Menstruation	8(6.3)
Monthly on 7-10 days of Menstruation	19(15)
Yearly	4(3.1)
Don't Know	51(40.2)
Have you Learn Breast Self Examination	
Yes	82(64.6)
No	45(35.4)
Methods of Breast Self Examination	
Breast Examination in front of Mirror	35(27.6)
Palpation of breast with Hand	48(37.8)
Palpation of Axillary lymph now in Armpit with Hand	44(34.6)
Practice after abnormality found in Breast	
Visit doctor	65(51.2)
Lab test	43(33.9)

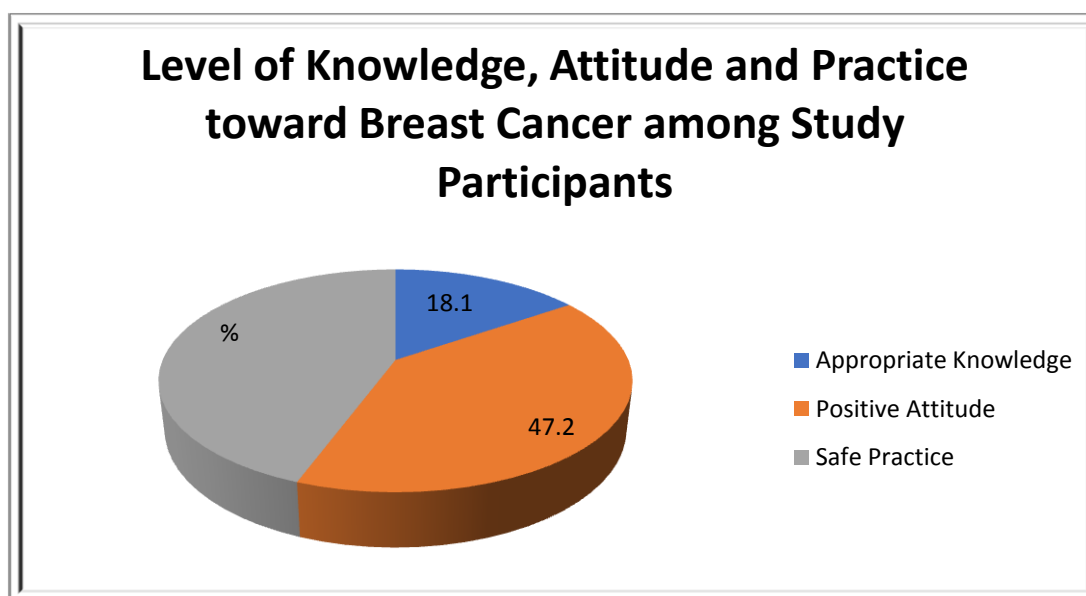| Practice Variables	n(%)
Quran reading over it	19(15)
Barriers of Mammogram test	
Not Accessible	11(8.7)
Family permission	3(2.4)
Not willing	18(14.2)
Fear of Disease	88(69.3)
Cultural barrier	7(5.5)

Fig. 1. Study participants overall KAP level towards Breast Cancer, Hail City, KSA

4. DISCUSSION

The study found that significant gap between Knowledge and preventive practice toward breast cancer. The overall knowledge level of breast cancer was 18.1% which is consistent with the previous studies results, these studies were conducted in Turkey, Jordan, Iraq, Libya and Nepal [13-17]. In-Appropriate Knowledge level might be due to lack of awareness regarding breast cancer. Self awareness is the best method to detect early breast cancer. The Knowledge of risk factor of breast cancer, practice of self examination regularly which help to seek medical help early as possible to early diagnosis of breast cancer.

Most of study participants stated that nipple discharge (24.4%) is the main sign and symptoms of breast cancer; this result is consistent of other study result which was conducted in Angola [18]. Many females were not aware about risk factor of breast cancer and when they seek to assistant with doctor because they believed that it will cure by itself. The

previous study found that only 30% of females were aware of sign and symptoms of breast cancer and seek assistance from doctor [19].

Study result found that clinical examination (40.9%) is the best method for screening, which is consistent with the study result of Pakistan [20]. Low level of knowledge was the most important reason for not practice of breast self examination, same result also found in the previous study [21], in which only 9% of community females were practice Breast self examination. The common reason for not performing breast self examination were don't know the standard method of breast self examination, some believed that they fall in the risk of breast cancer or fear of having the disease or shy. Young females feel shy to see their own body parts because of cultural difference between eastern and western societies.

Almost (47%) of study participants were positive attitude toward breast cancer. This result is consistent with the other studies results which

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were conducted in Iraq and India [22-23]. The disgrace for present of breast cancer in the society, its repercussion for its management like body shape altered, which discourages the females to treatment early. Women empowerment and increased education level will lead to females for early treatment of breast cancer. Second improved facility provided in the primary health care centre will help to improved practice of breast self examination.

This study result found that fear of disease is the important barrier of mammogram. This result is consistent with other studies result [24-27]. It is needed to understand the barrier for screening method of breast cancer and intervention to early detection and prevention of breast cancer.

The study has several limitations. First it's a cross-sectional study which do not caused temporal relationship between outcome and independent variable. Second sample size was limited which caused result is biased. It is recommended to studies design should be cohort which determine the temporal relationship and should be carried out for time intervals for evaluating the effectiveness of education programme.

5. CONCLUSION

The study found that knowledge level was not appropriate but practice regarding breast self examination was satisfactory. There is need to increase level of awareness regarding breast cancer through media especially social media. Additional counseling may increase the knowledge level among females regarding breast cancer.

CONSENT

Informed written consent was received for publication of the manuscript and figure.

ETHICAL APPROVAL

Research involving human participants: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Research involve human participants, research approved from ethical review committee from hospital, confidentiality of data has maintained.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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