The Medical Journal of Tikrit University (2025) 31 (2): 355-377
DOI: http://dx.doi.org/10.25130/mjotu.31.2.38

IRAQI Academic Scientific Journals

ISSN: 1813-1638

The Medical Journal of Tikrit University

Available online at:www.mjotu.com

MJTU

The Medical Journal of Tikrit University

Assessment of breast self-examination among women attending al Shirqat hospital regarding the knowledge ,attitudes and practices

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Keywords: *Breast self-examination, knowledge, attitude, practice.*

ARTICLE INFO

Article history:

Received 01 Jul 2025
Accepted 01 Sep 2025
Available online 31 Dec 2025

Citation:

ABSTRACT

Introduction: Breast cancer is prevalent malignancy affecting women globally, with Iraq facing a significant burnden. Breast self-examination is a vital, cost-effective method for early detection ,yet its practice remains low, particularly in developing countries, therefore; this study aimed to identify the knowledge, attitude, and practice of females attending the surgical unit in al Shirqat hospital-Salahdeen on breast self-examination.

Methodology: A cross-sectional study was conducted from 1st October 2024 to 1st April 2025, involving 217 randomly selected female attending in the surgical outpatient clinic in al Shirqat hospital-Salahdeen governorate. Data was collected using a designed questionaire which composed of demographic characteristics of women Knowledge of women about breast self-examination were assessed by score system practice women about breast self-examination were assessed by score system .Use of health belief model (HBM) to collect data about women's perception to breast self-examination and data and analyzed using SPSS version.

Results: The study revealed that the majority of participants (86%) had unsatisfactory knowledge of breast self-examination, and (68%) demonstrated a positive attitude towards breast self-examination. However (78%) exhibited poor breast self - examination practice. Significant association were found between ages, marital status, education level, family history of breast cancer and the levels of knowledge, attitude, and practice of breast self-examination.

Conclusion: The study underscores the necessity of educational programs and health interventions to enhance knowledge and promote regular breast self- examination practice among women, which could lead to earlier detection of breast cancer and potentially improves outcomes.

INTRODUCTION

One of the most common malignancy that affects women worldwide, and Iraq is breast cancer. [1, 2] In Iraq breast cancer is accounting to one third of the cancerous female population according to the Iraqi Cancer Registry. [3] Breast cancer incidence in Iraqi females of all ages has been elevating, and the common vulnerable age group is 60-90 years. [4]

In the previous thirty years, in Iraq, breast cancer was responsible for 19.4% of all newly diagnosed cancers, 34.7% of female's cancers, and 22,5% of malignancy related deaths [5]

The reduction in breast cancer mortality rate can be achieved by screening and early detection of breast cancer appropriate therapy [6]. Breast self-examination is one of the vital and easily performed techniques for the early detection of breast cancer which can be performed by females themselves [7] .

In the developing countries, it was found that breast self -examination is not adapted well by health system causing low awareness and low practice/irregular practice of breast self- examination in public. [8]

Some studies show that up to 90% of breast cancers can be detected by females themselves although performing breast self-examination regularly in women does not necessitate the discovery of illness. [10, 11] In addition, there are factors affecting women's knowledge, practice and attitude toward BSE were reported from the different countries. These are age of women, marital status, level of education and family history of breast cancer [12-14]. These socio-demographic factors which affect knowledge, practice and attitude regarding BSE, raising concerns about disparities in access to health education , particularly as it pertains to women's health issues [15,16].To relate the knowledge, attitude and practice of breast self -examination with different socio economic factors.

The Health Belief Model (HBM) has been widely used to investigate women's belief regarding practice of BSE [17]. This model study women's perceived seriousness and susceptibility to the disease, women's motivation and confidence towards health, perceived benefits and barriers of BSE and determine the women's beliefs and attitude about breast cancer and practice of the breast cancer screening behaviors such as BSE [12, 17].

However; In Iraq, under the Iraqi National Breast Cancer Research Program, monthly practice of BSE has been recommended for women aged more than 20 years hence better observations were found 69.1% of participants had knowledge about BSE and 42.6% of participants had practiced BSE, occasionally regular practice of BSE wan not found [12].

Aim:

The aim of this study is to identify the knowledge, attitude and practices of females attending the surgical unit in al Shirqat hospital- Salahedeen, on breast self - examination.

Objectives:

To identify the knowledge of women regarding breast self- examination. To identify the attitude of women regarding breast self-examination. To determine the

practice of women regarding breast self - examination.

MATERIALS AND METHODS

Study design:

Across sectional study was done in Al Shirqat hospital - Salahdeen governorate, during the period of 1st October - 2024 to 1st April 2025.

Sample size and sampling:

Randomly selected 217 female attending the surgical out patient clinic in Al Shirqat hospital was enrolled in the study. The sample size was calculated according to the following equation [18]:

$N = \frac{z^2 \, x \, P(1-p)}{d^2}$ Where:

N: sample size

Z: statistic for a level of confidence of 95%,which is conventional is 1.96.

P: prevalence of practiced breast self - examination was 42.6% [13-14].

d: degree of precision ,margin of error allowed (a degree of 0.05 was used).

N = 217

$N = \frac{(1.96)^2 \, x \, 0.42(1-0.42)}{(0.05)^2}$ =217

Inclusion criteria:

Any women aged more than or equal to 20 years attending or accompanying the patient attending the clinic and accepted to be enrolled in the study will be included.

Exclusion criteria:

Any women aged more than or equal to 20 years.

Data collection:

Data will be collected through designed questionnaire by the researcher, to test the knowledge, attitude and practice of the students. The questionnaire was originally designed in English and the translated into Arabic language and was validated in a pilot study before finally utilized.

The questionnaire is composed of Demographic characteristics of women such as marital status, age, level of education and family history of breast cancer. Knowledge of women about BSE were assessed by score system consists of 4 questions related to the hearing before of BSE, age of starting BSE, times of doing BSE per year and time of performing BSE with regular menses.

For knowledge outcomes, the score range between 0 and 5 and is calculating by summing the weighted scores of questions. The total Knowledge score was 20 scores . Score less than and equal to 10 (50%) classified as unsatisfactory level of knowledge , score more than 10 (50%) classified as satisfactory level of knowledge [16].

For practice outcomes, the score range between 0 and 5 and is calculating by the weighted scores of the questions. The total practice scores was 20 scores less than and perceived susceptibility to illness (5 items), perceived seriousness of illness (8 items), perceived benefits for the presumed action (6 items), perceived barriers for the presumed action (7 items), confidence in one's ability (11 items) and health motivation (7 items). All the items have 5 response choices ranging from strong dis- agreement (1 point) to strong agree (5 points) .

All scales are positively related to screening behavior, except for barriers which are negatively associated. And the positive attitude was considered if more than 50% [28].

Ethical considerations:

Participation in the study was voluntary, and each participant was able to with draw from the study at any time. The investigator explained the aim of the study to the participants. Agreement to fill the questionnaire was considered as a consent the study to participate in the study.

Assessing the validity and Dependability of Tools

Authenticity of the Tools

Prior to the collection of data, the tools was examined to clarify its validity. A group of qualified specialists in the domains of community medicine were asked to evaluate the tool and provide feedback on the topics contained in the questionnaire. This process was done in order to attending or accompanying the patient attending the clinic and refused to be enrolled in the study will be excluded.

Dependability of the Tools

The primary factor used to evaluate the quality and sufficiency of an instrument is its reliability. A pilot study with (35) females in al Shirqat hospital - Salahdean was conducted to demonstrate the evaluation tool's clarity and simplicity.

Pilot Study

The pilot was conducted out on (35) female in al Shirqat hospital-Salahdeen for the period from 1st - 4th October, 2024 . In order to detect any difficulties in the questions and overcome these difficulties by modifying the questions. This sample was excluded from the study sample

Data Analysis:

Data will be analyzed with Statistical Package for Social Sciences (SPSS) version 23 and excel sheet. Frequency and proportions will be calculated for the presentation of the data. Comparison of study groups was carried out using chi-square test for categorical data p-value of < 0.05 was considered statistically significant.

RESULTS

Frequency distribution of the studied sample regarding their socio-demographic characteristic. Regarding the socio-demographic characteristics among the studied sample , the age of the respondents ranged from 20 to 55 years with mean age 29.5 ± 8.4 years. Most of the respondents women were aged 20-24 years 97 (44.7%). The marital status showed that the commonest marital status was married 118 (54.4%) . Similarly,the educational level revealed that large proportion 118 (54.4%) had secondary school education level . Positive family history of breast cancer found among near relatives (Mother/Sister /Daughter) 25 (11.5%), and far relatives 17 (7.8%) , as shown in table 1.

With regard to knowledge of BSE, the minority44 (20.3%) of women in the present study heard about BSE. About 20 (45.5%) of women reported that ≥19 years as the age starting BSE, and only 4(9.1%) reported that it should be done monthly ,and 29 (65.9%) reported that it should be done five days after menses, respectively. The commonest source of information of knowledge was internet 21

(47.8%), followed by primary health care 6 (13.6%). As shown in table 2.

There was about 109 (50.2%)thought that breast cancer is a hopeless disease. I think I will not live more than 5 years with breast cancer found among 32 (14.7%) of the respondents, when I think about breast cancer my heart beat faster found among 103 (47.4%). I am afraid even to think about breast cancer 119 (54.8%). If I got breast cancer this will threaten my marital life found among 87 (40.1%) of the respondents. All my life will be changed if I got breast cancer was agreed by 121 (55.8%), I think the problem about breast cancer will persist long was agreed among 125 (58.5%) of the respondents. The thought of breast cancer scare me found among142 (65.5%) of the respondents, as shown in table 3.

Regarding the susceptibility of breast cancer, I am susceptible to breast cancer in the future agreed by 39 (18.0%) of the respondents. I feel that I am susceptible to breast cancer agreed by 19 (8.8%) of the respondents. I think I am susceptible to breast cancer more than any one agreed by 21 (9.7%) of the respondents. My personal chance of getting breast cancer is big agreed by 23 (10.6%). I am highly susceptible to breast cancer next 10 years agreed by 143 (65.8%) of the respondents, as shown in table 4.

Regarding the confidence of BSE, I know how to perform BSE agreed by 119 (54.8%) of the respondents I am confident in performing BSE correctly agreed by 147 (67.8%%) of the respondents. I am sure of the steps of BSE agreed by 109 (50.3%) of the respondents. I can use the correct parts of my fingers when performing BSE agreed by 115 (53.0%) of the respondents. I am confident I can discover breast tumors by performing BSE agreed by 107 (58.5%) of the respondents. I can discover breast tumor at size of big spot agreed by 60 (27.6%) of the respondents. I can discover breast tumor at size of small peas agreed by 91 (42.0%) of the respondents. I am able to discover breast tumors alone through performing BSE agreed by 89 (41.0%) of the respondents. I can discover breast tumor at size of small spot agreed by 141 (65.0%) of the respondents. I am able to differentiate between normal and abnormal breast tissue through BSE agreed by 179 (82.5%) of the respondents. When I look at mirror I can identify abnormal changes in my breast agreed by 165 (76.0%) of the respondents, as shown in table 5.

Regarding the confidence of BSE, I know how to perform BSE agreed by 119 (54.8%) of the respondents I am confident in performing BSE correctly agreed by 147 (67.8%%) of the respondents. I am sure of the steps of BSE agreed by 109 (50.3%) of the respondents. I can use the correct parts of my fingers when performing BSE agreed by 115 (53.0%) of the respondents. I am confident I can discover breast tumors by performing BSE agreed by 107 (58.5%) of the respondents. I can discover breast tumor at size of big spot agreed by 60 (27.6%) of the respondents. I can discover breast tumor at size of small peas agreed by 91 (42.0%) of the respondents. I am able to discover breast tumors alone through performing BSE agreed by 89 (41.0%) of the respondents. I can discover breast tumor at size of small spot agreed by 141 (65.0%) of the respondents. I am able to differentiate between normal and abnormal breast tissue through BSE agreed by 179 (82.5%) of the respondents. When I look at mirror I can identify abnormal changes in

my breast agreed by 165 (76.0%) of the respondents, as shown in table 5.

Regarding the benefit, of BSE, performing BSE monthly help in early detection of breast cancer agreed by 151 (69.5%) of the respondents. Performing BSE monthly help in detection of tumors before going to doctors agreed by 155 (71.4%) of the respondents. Performing BSE monthly will decrease complications of breast cancer if I got it agreed by 155 (71.4%). Performing BSE decrease the chance of making operation if I got it agreed by 35 (16.1%) of the respondents. When I performed BSE I became self-satisfied agreed by 39 (18.0%) of the respondents. Performing BSE decrease the anxiety about breast cancer agreed by 63 (29.0%) of the respondents ,as shown in table 6.

Regarding the barriers of BSE, performing BSE is a trivial thing disagreed by 115(53.0%) of respondents .Performing BSE is unfavorable thing disagreed by 79(36.4%) of the respondents .No private place at home to perform BSE disagreed by105(48.4%) of the respondents. Feeling of shame and embarrassment when performing disagreed by 19 (8.8%) of the respondents .Performing BSE takes long time disagreed by 31(14.3%) of the respondents. Performing BSE increase my anxiety about liability of having breast cancer disagreed by 29(13.4%) of the respondents. I think getting breast cancer is a destiny and BSE will not change it disagreed by 45 (20.7%) of the respondents.as shown in table 7.

Regarding Motivation factors, keeping my good health is important to me agreed by 110 (54.4%) of the respondents. I wish to discover health problem that occur early agreed by 108 (49.7%) of the respondents. I always seek new information that improve my health agreed by 130 (59.9%) of the respondents. I feel the importance of activities that improve my health agreed by 150 (69.1%) of the respondents. My diet contains complete and balanced meals agreed by 98 (45.2%) of the respondents. I practice exercise at least 3 times weekly agreed by 125 (57.6%) of the respondents. I perform periodic medical checkup agreed by 139 (64.1%) of the respondents, as shown in table 8.

Regarding the BSE self-efficacy of breast self-examination, I know how to perform BSE agreed by 149 (68.6%) of the respondents. I can perform BSE correctly agreed by 125 (57.6 %) of the respondents. I could find breast lump by performing BSE agreed by 151 (69.6%) of the respondents. I am able to find a breast lump that is the size of rather greater filbert agreed by 137 (52.1%) of the respondents .I am able to find abreast lump that is the size of a filbert agreed by 133 (63.1%) of the respondents .I am able to find a breast lump that is the size of a pea agreed by 149 (68.6%) of the respondents. I am sure of the steps to follow for doing BSE agreed by 125 (57.6%) of the respondents. I am able to tell something is wrong with my breast when doing BSE agreed by 151 (67.7%) of the respondents. I am able to tell something is wrong with my breast when I look in the mirror agreed by 110 (50.7%) of the respondents. I can use the correct part of my fingers when examining my breasts agreed by 156 (71.8%) of the respondents, as shown in table 9.

With regard to practice of BSE, less than one-half 86 (39.6%) of women reported that they have practiced BSE for 1 to12 times with an average 3.7 ± 2.3 times per year. Home was the main place for the majority of women where to do BSE 79

(88.4%) .The average age of initiation of BSE was 22.7 ± 6.6 years, only 3 (3.5%) reported performing BSE in less than one month, as shown in table 10.

Regarding the level of Knowledge of BSE, the results revealed that (86%) of the studied sample had unsatisfactory knowledge as show in figure 1. Regarding the level of practice of BSE, the results revealed that (78%) of women had poor practice *as* shown in figure 2.

The relation between the socio – demographic characteristics of the respondents and their total levels of knowledge, attitude and practice towards BSE. Regarding the relation between the socio – demographic characteristics of the respondents and their total Knowledge levels towards BSE, the majority of women of age 35-44 years (90.9%) had unsatisfactory knowledge levels towards BSE with statistically significant differences between age and levels of knowledge towards BSE in which P value < 0.05. Single women had the highest percentage (96.1%) of unsatisfactory knowledge level towards BSE with statistically significant differences between marital status and levels of knowledge towards BSE in which P-value < 0.05. The highest percentage of unsatisfactory level of knowledge towards BSE was among illiterate women (94.4%) with statistically significant differences between level of education and levels of knowledge in which p-value < 0.05. About (80%) of women with positive family history of near relatives (Mother/Sister Daughter) had unsatisfactory knowledge level towards BSE with statistically significant differences in which P-value < 0.05, as shown in table 11.

Regarding the relation between the socio-demographic characteristics of the studied sample and their total practice levels towards BSE, the majority of women of age 20-24 (92.8%) had poor practice towards BSE with statistical significant differences between age and levels of practice towards BSE in which P-value < 0.05. The highest percentage of poor practice towards BSE was among single (89.6%) with statistically significant differences between marital status and levels of practice towards BSE in which P-value < 0.05. About (83.3%) of women had illiterate with statistically significant differences between levels of education and levels in which P-value < 0.05. About (60%) of women with poor practice towards BSE had positive family history of breast cancer among near relatives with statistically significant differences between family history of breast cancer and levels of practice towards BSE in which P-value < 0.05, as shown in table 12.

DISCUSSION

The BSE is an effective and cost-free technique to detect breast anomalies, which occasionally result in breast cancer [21]. In low resourced and destructed health infrastructure areas such as Al Shirqat city in Iraq, access to advanced imaging technologies is a challenge .The BSE serves as an essential alternative and critical method in early detection of breast tumors. The current study explored to assess the knowledge, practice barriers towards BSE among women attending Al Shirqat hospital in Iraq.

Distribution of the participants according to their domographic information through data analysis revealed that most of the participants (44.7%) were aged (20-24). These findings goes with Shiryazdi SM

2014 in Iran [17] who found the greatest age group was 20-24 years (58.3%).The results reported that the mean age of the participants was 29.5 ± 8.4 years, this goes with Khalili AF et al 2010 in Iran [7] who found that mean age 30.1 ± 7.4 years. Also Gangane N et al 2025 in India [27] who found the mean age of women was 28.6 years . The results revealed that high percentage of women were married (54.4%). This goes with Ibrahim SQ et al 2016 in Kurdistan Iraq [20] who found that (64.7%) of women were married. Also Jembere W 2019 in South Ethiopia [23] found that (58.8%) of women were married.

Regarding the education level, the results concluded that (54.4%) of respondents were secondary educational level. This goes with Baloushah S et al 2020 in Palestine [25] who found that (49.5%) of respondents were secondary educational level. Also Othman A et al 2015 in Jorden [2] found (48.1%) of respondents were secondary educational level.

The results revealed that positive family history found among (11.5%) of participants with positive family history of near relatives and (7.8%) of far relatives. This is in line with Al Shafi M et al 2024 in Syria [30] that found about (14.8%) of women with positive family history of near relatives and (23.6%) of far relatives.

Regarding the knowledge of BSE in the current study, (20.3%) of women had heard about BSE This goes with Al-Fathy MY et al 2013 in Iraq [28] that reported (30%) of women had heard about BSE.The results revealed less than half (45.5%) of women reported ≥19 years as the age of starting BSE. This study supported by Al-fathy MY et al 2013 in Iraq [28] who found about (42%) of women opinioned that ≥19 years age of starting BSE

Also Ebrahim S. 2014 in Iraq [33] found about (50.5%) of respondents thought that ≥19 years age of starting BSE. The results reported that monthly BSE to be done per year was among (9.1%) of women .This in line of Noroozi A et al 2011 in Iran [12] who found about (7.6%) of women were performed BSE monthly.

Galary KM et al 2020 in Kurdistan Iraq [22] also reported that about (6.5%) of women were performed BSE monthly. Segni M et al 2016 in Ethiopia [10] also found about (5.5%)of women were performed BSE monthly. The findings of result revealed about (65.9%) of women reported that BSE should be done five days after menses. These findings are supported by study of Hussein D et al 2024 in Ethiopia [31] who found about (39.1%) of women performed BSE 5 days after menses.

Segni M et al 2016 in Ethiopia [10] found about (38%) of women believed that appropriate time to do BSE a week after menses.The results revealed that the commonest source of information of knowledge was internet (47.8%), followed by primary health care (13.6%). This goes with Al Shazly HA et al 2020 in Egypt [35] who found that the commonest source of Information was mass media (68.4%), followed by medical team (14%).

Also Kandasamy G et al 2024 in Saudi Arabia [14] found (51.4%) of women relied on media as source of information of knowledge towards BSE. Ebrahim S 2014 in Iraq [33] reported that the commonest source of information was mass media (36.3%), followed by health personnel (27.4%)

Regard seriousness of breast cancer, the results revealed that about (50.2%) of women thought that breast cancer is hopeless disease. I think I will not live more than 5 years with breast cancer agreed by (14.7 %) of women, when I think about breast cancer my heart beat faster agreed by (47.4%) of women. I am afraid even to think about breast cancer .

agreed by (54.8%) of women. If I got breast cancer this will threaten my marital life agreed by (40.1%) of women. All my life will be changed if I got breast cancer agreed by (55.8 %) of women. I think the problem about breast cancer will persist long agreed by (58.5%) of women. This in contrast of out finding a study done by Shkur Azez S 2021 in Iraq [19] who reported about (48.5%) of women believed that breast cancer can be treated.

Abolfotouh MA et al 2015 in Saudi Arabia [21] who found that about (5.1%) of women thought that breast cancer a hopeless disease. I think I will not live more than 5 years with breast cancer agreed by (8.8%) of respondents. When I think about breast cancer my heart beat faster agreed by (29.5%) of women .I am afraid even to think about breast cancer agreed by (29.5%) of women .I am afraid even to think about breast cancer If I got breast agreed by (37.6%) of women. if I got breast cancer this will threaten my marital life agreed by (29.8%). All my life will changed if I got breast cancer agreed by (34.3%). I think the problem about breast cancer will persist long agreed by (42.3%).

The results revealed that about (65.5%) of women agreed that the thought of breast cancer scare me .This goes with Abolfotouh MA et al 2015 in Saudi Arabia [21] who found about (70.4%) of women agreed the thought of breast cancer scare me. Also Asmare K et al 2022 in Ethiopia [29] reported about (87.1%) of women agreed that I am afraid to think about the breast cancer. Sujindra E et al 2015 in India [38] reported about (84.8%) of women opinioned that I might have breast cancer in the future. Qasim N et al 2024 in Iraq [39] found about (23.1%) of women thought that I avoid BSE because I worry about having breast cancer.

Regarding susceptibility of breast cancer, the results revealed about (18%) of women agreed that I am susceptible to breast cancer in the future. I feel that I am susceptible to breast cancer agreed by (8.8%) of women. I think I am susceptible to breast cancer more than anyone agreed by (9.7%) of women. My personal chance of getting breast cancer is big agreed by (10.6%) of women. This in line of Abolfotouh MA et al 2015 in Saudi Arabia [21] who found about (6.7%) of respondents thought that I am susceptible to breast cancer in the future. I feel that I am susceptible to breast cancer agreed by (7.6%) of women. I think I am susceptible to breast cancer is big agreed by (4.8%) of women. My personal chance of getting breast cancer is big agreed by (4.1%) of women. In the present study, about (65.8%) of women thought that I am highly susceptible to breast cancer next 10 years. This in contrast to study Abohatouh MA et al 2015 in Saudi Arabia [21] who hound that about (3.5%) of women thought that I highly susceptible to breast cancer next 10 years.

Regarding the confidence of BSE, the results revealed that I know how to perform BSE agreed by (54.8%) of women. I am confident in performing BSE correctly agreed by (67.8%) of women. I am sure of the steps of BSE agreed by

(50.3%) of women .I can use the correct parts of my fingers when performing BSE agreed by (53%) of women . I am confident I can discover breast tumors by performing BSE agreed by (58.5%) of women. I can discover breast tumor at size of big spot agreed by (27.6%) of women .I can discover breast tumor at size of small Peas agreed by (42%) of women .I am able to discover breast tumors alone through performing BSE agreed by (41%) of women. I can discover breast tumor at size of small spot agreed by (65%) of women. I am able to differentiate between normal and abnormal breast tissue through BSE agreed by (82.5%) of women. When I look at mirror I can identify abnormal changes in my breast agreed by (76%) of women.

This in contrast to the study of Abolfotouh MA et al 2015 in Saudi Arabia [21] who found that I know how to perform BSE agreed by (35.6%) of women. I am confident in performing BSE correctly agreed by (30.7%) of women. I am sure of the steps of BSE agreed by (25.6%) of women. I can use the correct parts of my fingers when performing BSE agreed by (29.1%) of women. I am confident I can discover breast tumors by performing BSE agreed by (18.7%) of women. I can discover breast tumor at size of big spot agreed by (45%) of women. I can discover breast tumor at size of small peas agreed by (18.4%) of women. I am able to discover breast tumors alone through performing BSE agreed by (14.3%) of women. I can discover breast tumor at size of small spot agreed by (11.1%) of women. I am able to differentiate between normal and abnormal breast tissue through BSE agreed by (15.2%) of women. I can identify abnormal changes in my breast agreed by (40.6%) of women.

Regarding benefits of BSE, the results revealed that performing BSE monthly help in early detection of breast cancer agreed by (69.5%) of women. Performing BSE monthly help in detection of tumors before going to doctors agreed by (71. 4%) of women. Performing BSE monthly will decrease complication of breast cancer if I got it agreed by (71.4%) of women. Performing BSE decrease the chance of making operation if I get it agreed by (16.1%) of women.

This goes with Kandasamy G et al 2024 in Saudi Arabia [14] who found about (67.3%) of women agreed that doing BSE can be beneficial. I would like to undertake BSE since I always worry that I may have breast cancer agreed by (51.6%) of women.

Abolfotouh MA et al 2015 in Saudi Arabia [21] found about (78.5%) of women believed performing BSE monthly help in early detection of breast cancer .Performing BSE monthly help in detection of tumors before going to doctors agreed by (69.1%) of women. Performing BSE monthly will decrease complications of breast cancer if I got it agreed by (64.1%) of women. Performing BSE decrease the chance of making operation if I got it agreed by (54%) of women. Asmare K et al 2022 in Ethiopia [29] reported that (60.1%) of women believed that BSE can give benefit.

Masawa G et al 2024 in Tanzania [36] reported about (73.9%) of women believed that BSE is important for preventing breast cancers, and about (59.4%) of women wanted BSE because it does not result in positive cancer test.

Marzouni HZ et al 2013 in Iran [37] reported about (67.2%) of women believed

that performing BSE monthly help in early detection of breast cancer, (85.7%) of women thought yearly BSE by physician can lead to early diagnosis, (83.3%) of women believed that BSE would have positive effects in early diagnosis of breast cancer, and (72.5%) of women believed that it is necessary to train all of women on performing BSE correctly.

Sujindra E et al 2015 in India [38] reported about (89.2%) of women believed that BSE can help in early diagnosis, and (50.4%) of women thought BSE should be performed monthly. The findings concluded about (18%) of women thought that when I performed BSE I became self-satisfied. Performing BSE decrease the anxiety about breast cancer agreed by (29%) of women. These findings in contrast of study done by Kandasamy G et al 2024 in Saudi Arabia [14] who found about (57.2%) of women agreed that I feel satisfied after completing BSE, and about (55.7%) of women agreed that I feel comfortable doing BSE once month. Also Abolfotouh MA et al 2015 in Saudi Arabia[21] reported that about (50.9%) of women agreed that when I performing BSE I became self-satisfied ,and about (63%) of women agreed that performing BSE decrease the anxiety about breast cancer.

Regarding barriers of BSE, about (54.4%) of women agreed performing BSE is a trivial thing . Performing BSE is unfavourable thing agreed by (49.7%) of women. No private place at home to perform BSE agreed by (59.9%) of women. Feeling of shame and embarrassment when performing BSE agreed by (69.1%) of women. Performing BSE takes long time agreed by (45.2%) of women. Performing BSE increase my anxiety about liability of having breast cancer agreed by (57.6%) of women.I think getting breast cancer is a destiny and BSE will not change it agreed by (64.1%) of women. This is contrast to study done by Al Suroj HR et al 2018 in Saudi Arabia [6] who found (31.7%) of women feel discomfort during the screening, (38.8%) they do not have free time, (29.2%) they feel embarrassed from the screening and (36.1%) they fear of positive results.

Kandasamy G et al 2024 in Saudi Arabia [14] also found about (78.8%%) of women believed that it is essential to self-examine your breasts. I find nothing embarrassing about BSE agreed by (43.3%) of women, It is not time-wasting to perform BSE agreed by (58.7%) of women.

Abolfotouh MA et al 2015 in Saudi Arabia [21] found about (4.7%) thought that performing BSE is a trivial thing. Performing BSE is unfavorable thing agreed by (14.6%) of women. No private place at home to perform BSE agreed by (6.1%) of women. Feeling of shame and embarrassment when performing BSE agreed by (12.2%) of women. Performing BSE takes long time agreed by (7.4%) of women. Performing BSE increase my anxiety about liability of having breast cancer agreed by (21.7%) of women. I think getting breast cancer is a destiny and BSE will not change it agreed by (6.7%) of women.

Baloushah S et al 2020 in Palestine [25] found about (40%) of women had the perception that they had no disease and therefore did not need a BSE. Other barriers included the lack of Knowledge (37.9%), the fear of detecting cancer (9.8%), not thinking it is necessary (6.4%), the perception that it is time consuming (2.5%), the feeling that it deviates privacy

(2.5%), and the feeling of embarrassment (0.9%).

Regarding motivation factors, the results revealed about (54.4%) of women believed that keeping my good health is important to me. I wish to discover health problems that occur early agreed by (49.7%) of women. I always seek new information that improve my health agreed by (59.9%) of women. I feel the importance of activities that improve my health agreed by (69.1%) of women. My diet contains complete and balanced meals agreed by (45.2%) of women. I practice exercise at least 3 times weekly agreed by (57.6%) of women. I perform periodic medical checkup agreed by (64.1%) of women. This goes with Shkur Azeez S et al 2021 in Iraq [19] who found about (40.2%) of women believed that unhealthy lifestyle is risk factor for breast cancer. No alcohol use, healthy nutrition, healthy weight, regular exercise, no hormone therapy , avoiding exposure to radiation and environmental pollution are important in preventing breast cancer agreed by (39.7%) of women.

Also Abolfotouh MA et al 2015 in Saudi Arabia [21] found about (95.3%) of women believed that keeping my good health is important to me. I wish to discover health problems that occur early agreed by (94.4%) of women. I always seek new information that improve my health agreed by (84.3%) of women. I feel the importance of activities that improve my health agreed by (78.6%) of women. My diet contains complete and balanced meals agreed by (42.5%) of women. I practice exercise at least 3 times weekly agreed by (37%) of women. I perform periodic medical checkup agreed by (36.7%) of women.

Regarding BSE self-efficacy, the results revealed that I know how to perform BSE agreed by (68.6%) of women. I can perform BSE correctly agreed by (57.6%) of women. I could find a breast lump by performing BSE agreed by (69.6%) of women. I am able to find a breast lump that is the size of rather greater filbert agreed by (52.1%) of women .I am able find abreast lump that is the size of a filbert agreed by (63.1%) of women. I am able to find a breast lump that is the size of pea agreed by (68.6%) of women. I am sure of the steps to follow for doing BSE agreed by (57.6%) of women. I am able to tell something is wrong with my breast when doing BSE agreed by (67.7%) of women. I am able to tell something is wrong with my breast when I look in the mirror agreed by (50.7%) of women. I can use the correct part of my fingers when examining my breast agreed by (71.8%) of women. This in line of study done by Mageed EM et al 2021 in Iraq [24] who found about (59.4%) of women know how to perform BSE, (54.3%) check breasts in front of the mirror regularly, (71.2%) check armpit during BSE.

Ansari S et al 2020 in India [26] found that (50%) of women very confident- I am sure I know the method used for BSE, (43.3%) of women use the tips of finger to perform BSE, (27.9%) of women thought breast lamps found by BSE.

Regarding the practice of BSE, the results revealed about (39.6%) of women practiced BSE for 1-12 times with an average of 3.7 ± 2.3 times per year .This goes with Shkur Azeez S 2021 in Iraq [19] who found about (41.9%) of women practiced BSE. Abolfotouh MA et al 2015 in Saudi Arabia [21] also found that (41.6%) of women reported that they have practiced BSE for 1-12 times with an

average of 4.1± 6.3 times per year. Sujindra E et al 2015 in India [38] found about (33.3%) of women practiced BSE. The results concluded that home was the main place for the majority of women (88.4%) to do BSE. This goes with Abolfotouh MA et al 2015 in Saudi Arabia [21] who found about (75%) of women preferred to do BSE at home. Sujindra E et al 2015 in India [38] also found (73.3%) of women preferred to do BSE at home. The results revealed that average age of initiation of BSE was 22.7±6.6 years. This in line with Abolfotouh MA et al 2015 in Saudi Arabia [21] who found the average age of initiation of BSE was26.8 ± 7.7 years. The findings reported only (3.5%) of women performing BSE in less than one month. These findings supported by Sujindra E et al 2015 in India [38] who reported about (53.3%) of women performing BSE less than one month.

Regarding the level of knowledge of BSE, result revealed that (86%) of women had unsatisfactory knowledge. This goes with Galary KM et al 2020 in Kurdistan Iraq [22] who reported about (82.5%) of women had poor knowledge towards BSE. Also Kandasamy G et al 2024 in Saudi Arabia [14] found about (77.6%) of women had poor knowledge towards BSE. Abo Elnour SA et al 2024 in Egypt [34] who found about (69.50%) of women had poor knowledge towards BSE.

Regarding the level of attitude among women ,the results demonstrated that (68%) of women had positive attitude towards BSE. This in line of study done by Alwan N et al 2018 in Iraq [5] who found about (89.7%) of women had positive attitude towards BSE. Also Asmara K et al 2022 in Ethiopia [29] who found about (54%) of women had positive attitude towards BSE. Al Shazly HA et al 2020 in Egypt [35] found about (76.4%) of women had positive attitude towards BSE. Regarding the level of practice of BSE, the results revealed that (78%) of women had poor practice. This goes with Galary KM et al 2020 in Kurdistan Iraq [22] who found about (71.5%) of women had poor practice. Also Al Shafi M et al 2024 in Syria [30] found about (75.2%) of women had poor practice. Al Shazly HA et al 2020 in Egypt [35] found about (60.8%) of women poor practice.

Regarding the relation between the socio-demographic characteristics of the women and their total Knowledge levels towards BSE, the results revealed that the majority of women aged 35 - 44 years (90.9%) had unsatisfactory knowledge level towards BSE with statistically significant differences between age and levels of knowledge towards BSE in which P-value < 0.05. This goes with Hanson V et al 2017 in Nigeria [32] who about (87.3%) of women aged 31-40 years had poor knowledge level of BSE with statistically significant differences between levels of knowledge towards BSE and age in which P-value < 0.05. The results reported that single women had the highest percentage (96.1%) of unsatisfactory knowledge level towards BSE with statistically significant differences between marital status and levels of knowledge in which P value < 0.05. These findings are unsupported by a study done by Hanson V et al 2017 in Nigeria [32] who found about (83.1 %) of married women had unsatisfactory knowledge level of BSE with statistical significant differences between marital status and levels of Knowledge in which P-value < 0.05. The findings of study revealed that the highest percentage of unsatisfactory level of knowledge towards BSE was among illiterate women (94.4%)

with statistical significant differences between levels of education and levels of knowledge in which P- value < 0.05. This finding is supported by Hanson V et al 2017 in Nigeria [32] who reported about (86.3%) of women had no education and poor knowledge with statistically significant differences between levels of education and levels of knowledge in which P- value < 0.05.

The results revealed about (80%) of women with unsatisfactory level of knowledge towards BSE had positive family history of breast cancer among near relatives with statistically significant differences between family history of breast cancer and levels of knowledge towards BSE in which P-value < 0.05. This goes in contrast of study done by Al Shazly HA et al 2020 in Egypt [35] who found that knowledge level Improved with positive family history of breast cancer about (44%) of women.

Regarding the relation between the socio-demographic characteristics of the women and their total attitude levels towards BSE the results revealed that the majority of women aged 25- 34 years (83.3%) had positive attitude towards BSE with statistically significant differences between age and levels of attitude towards BSE In which P-value < 0.05. This goes with Asmara K et al 2022 in Ethiopia [29] in which the majority of women aged 30-39 years with statistically significant difference in which P-value < 0.05. The results revealed that about (92.9%) of divorced women had positive attitude towards BSE with statistical significant differences between marital status and levels of attitude towards BSE in which P-value < 0.05. This goes with Qasim N et al 2024 in Iraq [39] who found about (38.5%) of divorced women had positive attitude towards BSE with statistically significant differences in which P-value < 0.05. The finding reported about (88.2%) of collage educational women had positive attitude towards BSE with statistical significant differences between level of education and levels of attitude towards BSE in which P-value < 0.05. This in line of study done by Asmara k et al 2024 in Ethiopia [29] in which the majority of women had collage educational level with positive attitude towards BSE and there was statistical significant differences in which P-value < 0.05.

The results revealed about (96%) of the respondents with positive attitude towards BSE had positive family history of breast cancer among near relatives (Mother /Sister/Daughter) with statistically significant differences between family history of breast cancer and levels of attitude towards BSE in which P-value < 0.05. This goes with Qasim N et al 2024 in Iraq [39] who found about (39.1%) of women with positive attitude toward BSE had positive family history of breast cancer with statistically significant differences in which P-value< 0.05.

Regarding the relation between the socio-demographic characteristics of women and their total practice levels towards BSE, the results revealed that the majority of women at age 20-24 years (92.8%) had poor practice towards BSE with statistical significant differences between age and levels of practice towards BSE in which p-value < 0.05.

This study is in contrast with Ebrahim S 2014 in Iraq [33] who found about (63%) of women aged 21-24 years had poor practice with no statistically significant differences between age and levels of practices in which P-value > 0.05. The

results revealed the highest percentage of poor practice towards BSE was among single (89.6%) with statistical significant differences between marital status and levels of practice in which P-value < 0.05. This in line of Ebrahim S 2014 in Iraq [33] who reported about (65.5%) of women had poor practice were single and no statistical significant differences between marital status and levels of practice in which P-value > 0.05.

The findings revealed about (83.3%) of women had illiterate with statistical significant differences between levels of education and levels of practice in which P-value <0.05. These findings supported by Hanson V et al 2017 in Nigeria [32] who found about (86.3%) of women had illiterate with statistical significant differences between levels of education and levels of practice of BSE in which P-value < 0.05.

The results revealed about (60%) of women with poor practice towards BSE had positive family history of breast cancer among near relatives with statistically significant differences between family history of breast cancer and levels of practice of BSE in which P-value <0.05. This goes with Khalili AF et al 2010 in Iran [7] who found about (61.5%) of women with poor practice towards BSE had positive family history of breast cancer among near relatives with statistically significant differences between family history of breast cancer and levels of practice of BSE in which P-value < 0.05.

CONCLUSION

BSE is a key strategy to early detection of breast cancer and subsequently critical for effective treatment and care of the disease. The findings in this study have shown significant low levels of knowledge and practice of BSE among women in Al Shirqat city. This pattern may be similar to other rural communities women, especially rural women, on importance of BSE as preventive measure for breast cancer is paramount, Although there was lack of knowledge and practice about BSE, the positive attitude towards BSE was encouraging which was about (68%). Those who presented negative attitude toward BSE were to some extent tend to not perform it in fear of discovering breast cancer. Age, marital status, education and family history of breast cancer were found to correlate positively with knowledge, attitude and practice

RECOMMENDATION

To Ministry of Higher Education and Scientific Research; Integrate Breast Health and Cancer Awareness into Curricula. Mandate the inclusion of breast cancer awareness and BSE training in curricula for medical nursing , midwifery, and public health students. Promote Community Based learning and Outreach. Also encourage medical colleges to involve students community health education projects.

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TABLES

Table 1: Frequency distribution of the studied sample regarding their socio-demographic characteristics (n=217)

socio-demographic characteristics	Frequency	Percent %
Age (years)		
20-24	97	44.7%
25-34	78	35.9 %
35-44	22	10.1%
45 and above	20	9.3%
Mean ± SD	29.5 ± 8.4	
Marital status		
Single	77	35.5%
Married	118	54.4%
Divorced	14	6.5%
Widowed	8	3.6%
Level of education		
Illiterate	36	16.6 %
Primary education	46	21.2%
Secondary education	118	54.4%
Collage	17	7.8%
Family history of breast cancer		
Negative	175	80.7%
Near relatives (Mother/Sister/ Daughter)	25	11.5 %
Far relatives	17	7.8%

Table 2: Women's knowledge on BSE

knowledge about BSE	no. (n=217)	%
Have you heard about BSE		
Yes	44	20.3
No	173	79.7
Age of BSE starting (n=44)		
<19 year	14	31.8
≥ 19 year	20	45.5
Don't Know	10	22.7
How often could BSE be done per year (n=44)		
Daily	2	4.5
Weekly	4	9.1
Monthly	4	9.1
Once per year	19	43.2
Don't know	15	34.1
When BSE should be performed with regular menses(n=44)		
Regular day of each month	6	13.6

5th days after menses	29	65.9
Don't Know	9	20.5
Source of information (n=44)		
Television	2	4.5
Radio	4	9.1
Educational camping public	1	2.3
Internet	21	47.8
Medical- journal	2	4.5
Primary health care	6	13.6
Friends	4	9.1
Other	4	9.1

Table 3: The seriousness of breast cancer.

Seriousness		I think the problem about breast cancer will persist long	All my life will be changed if I got breast cancer	If I got breast cancer this will threaten my marital life	I am afraid even to think about breast cancer	when I think about breast cancer my heart beast faster	I think I will not live more than 5 years with breast cancer	Breast cancer is a hopeless disease
strongly Disagree disagree	frequency	37	55	69	59	67	121	59
	Percent%	17.1	25.3	31.8	27.2	30.9	55.8	27.2
Neutral	frequency	55	41	61	39	47	64	49
	Percent%	24.4	18.9	28.1	18.0	21.7	29.5	22.6
Agree/ strongly Agree	frequency	125	121	87	119	103	32	109
	Percent%	58.5	55.8	40.1	54.8	47.4	14.7	50.2

The thought of breast cancer scare me	45	20.7
	30	13.8
	142	65.5

Table 4: The susceptibility of breast cancer

Susceptibility		I am susceptible to breast cancer in the future	I feel that I am susceptible to breast cancer	I think I am susceptible to breast cancer more than anyone	My personal of chance getting breast cancer is big	I am highly susceptible to breast cancer next 10 years.
strongly Disagree disagree	frequency	123	143	153	131	37
	Percent%	56.7	65.9	70.5	60.4	17.1
Neutral	frequency	55	55	43	63	37
	Percent%	25.3	25.3	19.8	29.0	17.1
strongly /Agree agree	frequency	39	19	21	23	143
	Percent%	18.0	8.8	9.7	10.6	65.8

Table 5: The confidence of BSE

I know how to perform BSE	Confidence		
27	frequency	strongly Disagree disagree	
12.4	Percent%		
71	frequency	Neutral	
32.7	Percent%		
119	frequency	strongly /Agree agree	
54.8	Percent%		

Benefits		When I look at mirror I can identify abnormal changes in my breast	I am able to differentiate between normal and abnormal breast tissue through BSE	I can discover breast tumor at size of small spot	I am able to discover breast tumors alone through performing BSE	I can discover breast tumor at size of small peas	I can discover breast tumor at size of big spot	I am confident I can discover breast tumors by performing BSE	I can use the correct parts of my fingers when performing BSE	I am sure of the steps of BSE	I am confident in performing BSE correctly
strongly Disagree disagree		21	21	31	75	63	70	59	47	55	35
		9.7	9.7	14.3	34.6	29.0	32.2	27.2	21.7	25.3	16.1
Neutral		31	17	45	53	63	87	31	55	53	35
		14.3	7.8	20.7	24.4	29.0	40.0	14.3	25.3	24.4	16.1
strongly Agree agree		165	179	141	89	21	60	107	115	109	147
		76.0	82.5	65.0	41.0	42.0	27.6	58.5	53.0	50.3	67.8

Table 6: The benefits of BSE

Performing BSE is unfavorable thing	Performing BSE is a trivial thing	Barriers		Performing BSE decrease the anxiety about breast cancer	When I performed BSE I became self-satisfied	Performing BSE decrease the chance of making operation if	Performing monthly BSE will decrease complications of breast cancer if got it	Performing BSE monthly help in detection of tumors before going to doctors	Performing BSE monthly help in early detection of breast cancer	
79	115	frequency	strongly Disagree disagree	121	147	165	23	21	29	frequency
36.4	53.0	Percent%		55.8	65.9	76.0	10.6	9.7	13.4	Percent%
53	61	frequency	Neutral	33	35	17	39	41	37	frequency
24.4	28.1	Percent%		15.2	16.1	7.8	18.0	18.9	17.1	Percent%
85	41	frequency	strongly Agree agree	63	39	35	155	155	151	frequency
39.2	18.9	Percent %		29.0	18.0	16.1	71.4	71.4	69.5	Percent%

Table 7: The Barriers of BSE

I think getting breast cancer is a destiny and BSE will not change it	Performing BS& increase my anxiety about liability of having breast cancer	Perform BSE takes long time	Feeling of shame and embarrassm ent when performing BSE	No private place at home to Perform BSE
45	29	31	19	105
20.7	13.4	14.3	8.8	48.4
47	39	49	17	41
21.7	18.0	22.6	7.8	18.9
125	149	137	181	71
57.6	68.6	63.1	83.4	32.7

Table 8: Motivation factors of BSE

I feel the importance of activities that improve my health	I always seek new information that improve my health	I wish to discover health problem that occur early	Keeping my good health is important to me	Motivation factors		
						strongly Disagree disagree
23	8	19	25	frequency		
10.6	3.7	8.8	11.5	Percent%		
44	79	90	74	frequency		Neutral
20.3	36.4	41.5	34.1	Percent%		
150	130	108	110	frequency		strongly Agree agree
69.1	59.9	49.7	54.4	Percent%		

I am sure the steps to follow for doing BSE	I am able to find a breast lump that is the size of a pea	I am able to find abreast lump that is the size of a filbert	I am able to find abreast lump that is the size of rather greater filbert	I could find abreast lump by performing BSE	I can perform BSE correctly	I Knew how to perform BSE	BSE self-efficacy (confidence)			
							frequency		strongly Disagree disagree	
45	29	31	45	17	45	29	Percent %			
20.7	13.4	14.3	20.7	7.8	20.7	13.4	frequency		Neutral	
47	39	49	59	49	47	39	Percent %			
21.7	18.0	22.6	27.2	22.6	21.7	18.0	frequency		strongly Agree agree	
125	149	133	137	151	125	149	Percent %			
57.6	68.6	63.1	52.1	69.6	57.6	68.6				

I perform periodic medical check up	I practice exercise at least 3 times weekly	My diet contains complete and balanced meals
38	17	32
17.5	7.8	14.7
40	75	87
18.4	34.6	40.1
139	125	98
64.1	57.6	45.2

Table 9: The BSE self-efficacy of BSE

I am able to tell something is wrong with my breast when	21	9.7	49	22.6	151	67.7
I am able to tell something is wrong with my breast when	47	21.7	60	27.6	110	50.7
I can use the correct part of my fingers when examining	19	8.8	42	19.4	156	71.8

Table 10: Women's practice on BSE

BSE practice	no. (n=217)	%
Have you done BSE before (n=217)		
Yes	86	39.6
No	131	60.4
Number per year (Mean ± SD)		3.7 ± 2.3
Where do you perform BSE (n=86)		
Home	76	88.4
Early detection programs	1	1.2
Private hospitals	3	3.5
Governmental hospitals	6	6.9
The last time performed BSE (n=86)		
Less than 1 month	3	3.5
Less than 1 year	11	12.8
More than 1 year	72	83.7

Table 11: Relation between socio-demographic characteristics of the studied sample and their total levels of knowledge towards BSE.

Variables	Levels of Knowledge			
	Satisfactory (n=30)		Unsatisfactory (n=187)	
	No	%	No	%
Age				
20-24	9	9.3	88	90.7
25-34	14	7.9	64	82.1
35-44	2	9.1	20	90.9
45 & above	5	25	15	75
X^2 (P-value) 19.34 (0.00023)				
Marital status				
Single	3	3.9	74	96.1
Married	20	17	98	83
Divorced	5	35.7	9	64.3
Widowed	2	25	6	75
X^2(P-value) 15.43 (0.0015)				
Level of education				
Illitrate	2	5.6	34	94.4
Primary school	5	10.9	41	89.1
Secondary school	12	10.2	106	89.8
Collage	11	64.7	6	35.3
X^2 (P-value) 32.74 (0.0000004)				
Family history				
Negative	18	10.3	157	89.7
Near relatives (mother/sister/Daughter)	5	20	20	80
Far relatives	7	41.2	10	58.8
X^2 (P-value) 13.32 (0.001)				

Table 12: Relation between socio-demographic characteristics of

Variables	Levels of Practice			
	Good (n=48)		Poor (n=169)	
	No	%	No	%
Age				
20-24	7	7.2	90	92.8
25-34	26	33.3	52	66.7
35-44	11	50	11	50
45 & above	4	20	16	80
X^2 (P-value) 28.18 (0.0000033)				
Marital status				
Single	8	10.4	69	89.6
Married	35	29.7	83	70.3
Divorced	3	21.4	11	78.6
Widowed	2	25	6	75
X^2 (P-value) 10.09 (0.018)				
Level of education				
Illiterate	6	16.7	30	83.3
Primary school	9	19.6	37	80.4
Secondary school	24	20.3	94	79.7
Collage	9	52.9	8	47.1
X^2 (P-value) 10.4 (0.01)				
Family history				
Negative	29	16.6	146	83.4
Near relatives (Mother/Sister/Daughter)	10	40	15	60
Far relatives	9	52.9	8	47.1
X^2 (P-value) 16.79 (0.0002)				

FIGURES

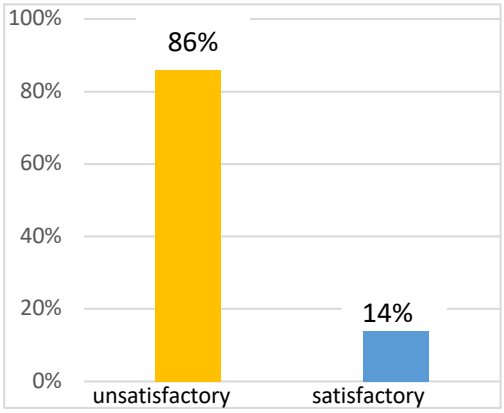

Figure 1: The level of female's knowledge

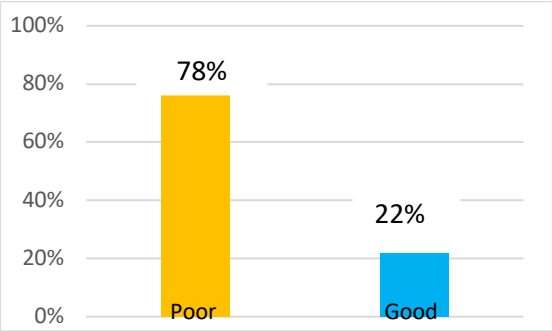

Figure 2: The level of practice of BSE among studied sample