

Self-Awareness of Women of Reproductive Age in The Early Detection of Breast Cancer: Systematic Reviews

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Abstract

Background: Advanced breast cancer can be prevented by early detection which can be carried out independently by a woman of childbearing age. The results of breast self-examination are highly dependent on the thoroughness, sensitivity, and intelligence level of the woman. The discovery of risk factors and dangers of breast cancer returned to women's awareness about. Without awareness, women will not carry out examinations, whether it is BSE or mammography, even if they are free of charge. Purpose: This systematic review aims to systematically review international research related to empowering social networks in breast cancer over the last decade as reported in English journals from various countries. Methods: Source tracing strategy from three electronic databases: Proquest, PubMed, EBSCO, MEDLINE with a limit of 2010 to 2020. The inclusion criteria used were articles related to self-awareness and breast cancer published online in English, had space research in communities from various countries. Results: The search results obtained 112 articles, while those that fit the inclusion criteria were 22 articles. Based on the analysis of the 22 articles related to women's self-awareness in early detection of breast cancer, 6 important things were found, namely awareness about risk factors for breast cancer, efforts to detect early breast cancer, knowledge about self-awareness in early detection of breast cancer, strategies for increasing self-awareness, factors that hinder self-awareness in early detection of breast cancer and recommendations for the prevention of advanced breast cancer. Conclusion: The self-awareness of women of childbearing age in conducting breast self-examination is still low. This is indicated by respondents who have a fairly good level of knowledge, have not carried out breast self-examination. Variables that influence self-awareness in carrying out breast self-examination are social networks (mothers, husbands, teachers, students, and breast cancer survivors), level of knowledge, young age, occupation (agricultural workers, textiles, non-health workers and medical workers), social status, and family history of breast cancer.

1. Introduction

Breast cancer is the most common cause of cancer death in women in developed and developing countries. Breast cancer accounts for 34 per cent of all cancer cases among women in India. There has been an increase in the incidence of breast cancer over the last decades. Early breast cancer in developing countries is only 30 percent compared to 60-70 percent in developed countries (Subramanian, Salini, Anandan, & Insuvai, 2018). Breast cancer ranks first of all cancers in women with a prevalence rate of 56.5 per 100,000 women in the world (Parkin, Pisani, & Ferlay, 1999). Globocan also states that the prevalence of breast cancer varies, in Western Europe 177.5 per 100,000 women, East Asia 38.7 percent per 100,000 women, East Africa 26.4 percent per 100,000 women, and Japan 92.3 percent per 100,000 women. Global Cancer Observatory data shows that the most common cancer cases in Indonesia are breast cancer, namely 58,256 cases or 16.7 percent of the total 348,809 cancer cases (WHO, 2019). The incidence of breast

cancer in Cameroon is increasing and is the leading cause of death (Sama et al., 2017). The Indonesian Ministry of Health (2019) stated that the breast cancer rate in Indonesia reached 42.1 people per 100 thousand population. The average death from cancer is 17 people per 100 thousand population. Recent global cancer statistics show an increasing global incidence of breast cancer and this increase is occurring at a more rapid rate in developing countries. Training women how to perform breast self-examination (BSE) can help them to be aware of any abnormalities in their breasts to seek immediate medical consultation. Health behavior can be influenced by the level of awareness about breast cancer (Hassan, Seedhom, & Mahfouz, 2017). Understanding of breast cancer and breast self-examination (BSE) knowledge and practice among teachers is an important first step that will guide the design of interventions aimed at raising awareness across the general population. Breast cancer is the second leading cause of death in the world. The World Health Organization (WHO) states that 43 percent of cancers can be prevented.

However, cancer can be prevented with a healthy lifestyle and diet. Even cancers like breast cancer can be cured if detected early and treated adequately. In addition to knowledge about early detection which is still uneven, the majority of them admit that they don't feel anything even though there is a small lump, thus delaying treatment. YKPI (2019) said that 70 percent of breast cancer patients visit doctors or hospitals at an advanced stage. Another thing that is also a factor for patient delays is the fear of surgery, chemotherapy and radiation, still believing in traditional medicine, shamans, psychics or 'smart people'.

High school female students did not have sufficient knowledge about breast self-examination and a small number of students reported that they had carried out breast self-examination every month (Karayurt, Özmen, & Çetinkaya, 2008). The most common reason for not doing breast self-examination was that 98.5 percent did not know how to do breast self-examination. Most students have little knowledge about risk factors for breast cancer (Karayurt et al., 2008).

According to YKPI, the BSE technique is quite helpful in encouraging women to seek treatment immediately if they find a lump in their breast. However, this technique has a drawback. BSE is highly dependent on the thoroughness, sensitivity, and level of intelligence of women. Therefore, everything returns to women's awareness of the risk factors and dangers of breast cancer. Without awareness, women will not carry out examinations, whether it is BSE or mammography, even if they are free of charge. From year to year the number of breast cancer patients in Indonesia has not changed,

and is still at a fairly high stage. This happens because the awareness to check themselves and seek the right treatment is still not entrenched in Indonesia.

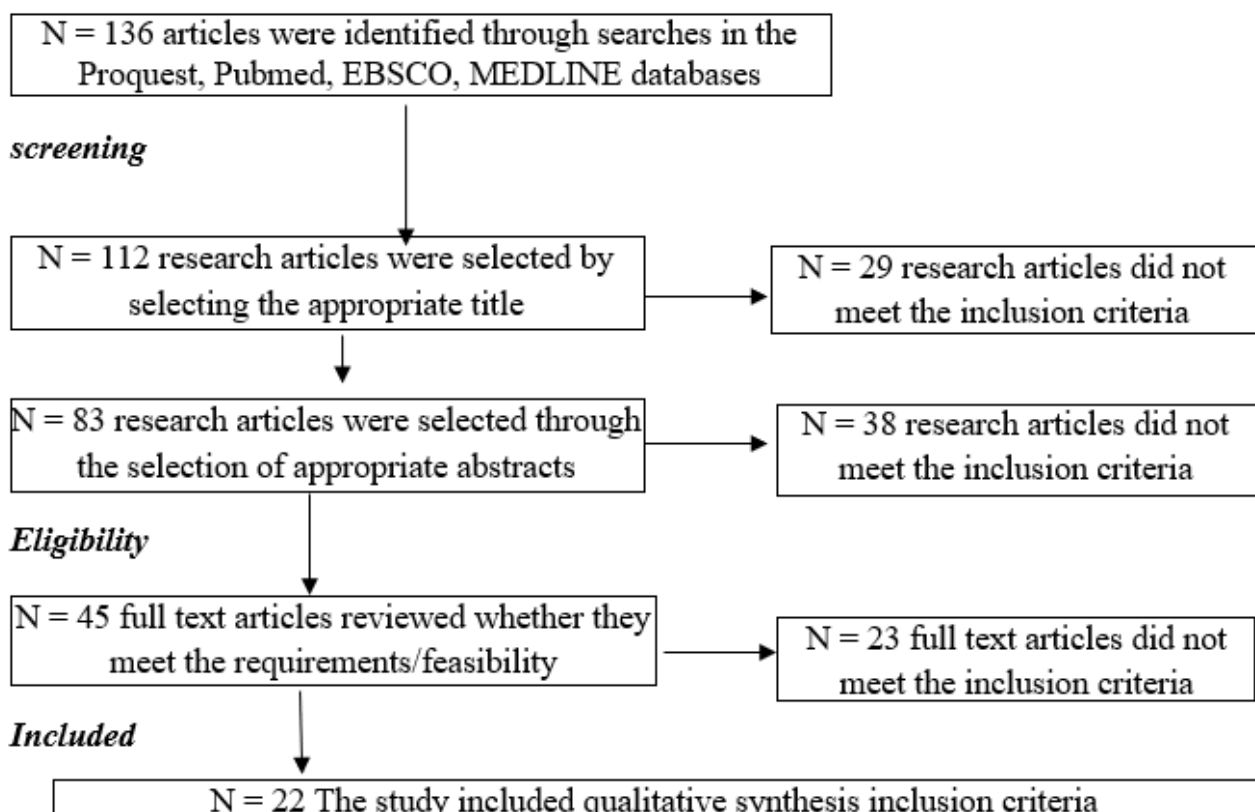
2. Purpose

This systematic review aims to systematically review international research related to women's self-awareness about breast self-examination for early detection of breast cancer to prevent advanced breast cancer over the past decade as reported in English journals from various countries.

3. Design Method

This article was written using a systematic review design. The study selection process was carried out by identifying research published in the database and focusing on itempowering social networks in breast cancer. The data bases used are Proquest, PubMed, EBSCO, MEDLINE. The initial selection of the study was carried out by searching for keywords through self awareness and breast cancer. The author carried out the selection process which was done manually. If the title and abstract meet the study criteria, then a copy of the full text is taken as a reference. Guidelines in determining the study include:

1. Published in full text during the period 2010 to 2020.
2. The research method used is qualitative and quantitative.
3. tergot themes related to women's self-awareness in early detection of breast cancer.
4. Shows data analysis.



Scheme 1: Systematic Review Data Selection Flow

4. Results

Of the 22 research articles included in the inclusion criteria, it was carried out in several countries, namely Arabia (3 articles), Iran (3 articles), Malaysia (3 articles), India (2 articles), Vietnam (1 article), United States (1 article), China (1 article), Gondar (1 article), Sri Lanka (1 article), Theran (1 article), Cameroon (1 article), Turkey (1 article), Jordan (1 article), Indonesia (1 article), and India (1 article). The research method used is qualitative, pre-experimental, and cross-sectional. All research articles that met the inclusion criteria were published between 2010-2020. The research samples used were high school students, female workers, women of childbearing age, teachers, breast cancer patients, health & community workers, female doctors and non-health workers as well as undergraduate health students. The sampling technique used was the majority purposive sampling. Methods of data collection using a questionnaire. All studies display the research process including the data analysis used, as well as the instruments used for research reported in writing.

The results of the analysis of the 22 articles related to women's self-awareness in early detection of breast cancer found 6 important things, namely awareness about risk factors for breast cancer, efforts to detect early breast cancer, knowledge about self-awareness in early detection of breast cancer, strategies for increasing self-awareness, factors that hinder self-awareness in early detection of breast cancer and recommendations for the prevention of advanced breast cancer.

Breast Cancer Risk Factor Awareness

Based on the results of the study, the risk factor for breast cancer is caused by smoking (Hassan et al., 2017), obesity (Hassan et al., 2017), a family history of breast cancer (Hassan et al., 2017), aging (Suleiman, 2014 and Hassan et al., 2017), nullipara (Hassan et al., 2017). Karayurt, Özmen, and Çetinkaya (2008) added that age, school level, knowledge about breast cancer and knowledge about breast self-examination. Suleiman (2014) added medical conditions, old age, lack of breastfeeding, heredity, late marriage, pregnancy in older women, use of bras, excessive breastfeeding, not being married, and spirituality.

Moderate and high knowledge scores were presented by 46.9 percent. Nearly 40 percent of the participants had knowledge that smoking increases the likelihood of breast cancer and nearly 30 percent of them confirmed that being obese or having a positive family history of breast cancer predisposed them to breast cancer. It found that 28.7 percent and 18.2 percent of them knew that aging and nulliparity increased the chances of breast cancer. Participants with better knowledge scores were 4.8 times more likely to practice BSE (Hassan et al., 2017).

Sociodemographic factors such as education level, income, and marital status influence the percentage

of people who perform breast self-examination. People with a family history of breast cancer and higher levels of education have better knowledge of diagnostic methods and treatment modalities (Subramanian et al., 2018). This statement is supported by Suleiman (2014), that half of the 435 respondents (51.8 percent) are aware of breast cancer. Of these, 99 (22.7 percent) believed breast cancer was caused by a medical condition, followed by old age (71; 16.4 percent), lack of breastfeeding (58; 13.3 percent), heredity (56; 12.8 percent), late marriage (44; 10.3 percent), pregnancy in older women (33; 7.5 percent), bra use (18; 4.1 percent), excessive breastfeeding (17; 3.9 percent), single (14; 3.2 percent), and spirituality (11; 2.6 percent) (Suleiman, 2014). According to Dahiya et al (2018), respondents had knowledge that risk factors for breast cancer were a family history of breast cancer (59.5 percent), smoking (57.7 percent), old age (56.3 percent), lack of physical exercise (51.9 percent), lack of breastfeeding (48.2 percent), late menopause (37.4 percent), and early menarche (34.7 percent). Karthijekan & Karunakaran (2017) added that awareness about risk factors such as positive family history (82.9 percent), use of oral contraceptive pills (58.6 percent), no breastfeeding (68.0 percent), and early menarche (45, 9 percent). Breast lump, recent nipple discharge, breast tenderness and breast skin changes were stated as clinical features by 95.9 per cent, 84.2 per cent, 71.2 per cent and 79.3 per cent, respectively. (Karthijekan & Karunakaran, 2017).

The most widely known risk factor by students was a personal history of breast cancer (68.7 percent). There is a significant relationship between breast examination practice and age, school level, knowledge about breast cancer and knowledge about breast self-examination (Karayurt et al., 2008). Contrary to Karayurt et al, researchers Mardela, Maneewat, and Sangchan (2017) stated that none of the participants believed that age could increase the risk of breast cancer. The domain that shows women's self-awareness about breast examination is low is knowledge about lifetime risk (31 percent) and knowledge about risk factors, especially the item regarding menstruation at an early age shows a rate of 12.6 percent (Mardela, Maneewat, & Sangchan, 2017).

More than 90 percent of the population believes that breast cancer is hereditary and has little knowledge of other risk factors. Most people do not realize that breast cancer can be cured if detected early. Although 80 percent of the population believe breast self-examination is helpful in early detection, <50 percent of them practice it regularly. <2 percent of population aware of mammograms and treatment modalities (Subramanian et al., 2018). Conversely, respondents who received breast self-examination information had far fewer history of breast-related diseases compared to respondents who did not receive breast self-examination information. (Tuyen,

Dung, Dong, Kien, & Huong, 2019).

The findings indicated that less than a third of participants practiced Breast Cancer Screening (BCS) correctly, whereas less than half of participants were familiar with the latest BCS guidelines. Married women and women with higher education and income levels are significantly more likely to know and practice BCS than women who have lower levels of education and income. The findings show a low level of awareness and low participation rate in BCS among Arab women in Qatar. Socio-economic factors influenced this woman's participation in BCS activities. The strongest predictors for BCS practice were higher education and higher income levels (Truong Donnelly et al., 2015).

The results were found in women aged 15-44 who had a positive family history of cancer, alcohol consumption, risk factors and socioeconomic characteristics. Prevalence of positive family history of cancer (30 percent), dislike of parties (29 percent) and not drinking alcohol (31 percent) in women aged 15-44. Based on the survey, it was found that awareness of a positive family history of breast cancer as a risk factor for breast cancer was 88 percent, while alcohol consumption was 25 percent. Awareness of women with a positive family history of breast cancer is higher than those who do not have a family risk of cancer. Alcohol drinkers are more likely to believe that alcohol is not a risk factor for breast cancer compared to those who do not drink. Ethnic minority women with low education and low income have an awareness of family history as a risk factor. The low awareness of alcohol consumption as a risk factor for breast cancer is the same across all socioeconomic groups (Khushalani, Qin, Ekwueme, & White, 2020).

Efforts for Early Detection of Breast Cancer

Efforts to prevent advanced breast cancer can be done through Breast Self-Examination (Dahiya et al., 2018) and Karthijekan & Karunakaran, 2017) and Mammography (Dahiya et al., 2018).

Breast Self Examination (BSE). Dahiya et al (2018) stated that women aged <30 and unmarried had a significantly higher knowledge score about BSE examinations ($p \leq 0.01$). Karthijekan and Karunakaran (2017) support Dahiya et al's statement with data that 41.4 percent of respondents stated that BSE should be done regularly at least once a month.

Mammography Examination. Besides BSE, mammography has a role in early detection of breast cancer (Dahiya et al., 2018). Dahiya et al stated that 48 percent had knowledge that mammography is needed in early detection of breast cancer, so that awareness among adult women is needed about risk factors and methods for early detection of breast cancer.

Knowledge About Self-Awareness in Early Detection of Breast Cancer

Women's self-awareness in carrying out breast self-examination is classified as lacking. This is due to the variety of knowledge possessed by women of childbearing age. The various levels of knowledge are due to the various levels of education (Tuyen et al., 2019), economy (Alharbi et al., 2018), lack of information (Alharbi et al., 2018), husband support (Tuyen et al., 2019), profession or occupation (Kadivar & Joolae, 2012 and Tuyen et al., 2019).

Tuyen et al (2019) stated that overall, 22.7 percent of the participants demonstrated sufficient knowledge of BSE; 15.2 percent performed monthly BSE; and 7.7 percent fully perform all 5 steps of BSE (Tuyen et al., 2019). The mean age of the respondents was 26.7 (SD = 1.9) years. The results showed that most of the female students had inadequate knowledge about breast cancer. The student's total knowledge score was 60.7 percent (Hadi, Hassali, Shafie, & Awaisu, 2010). Indian students had significantly less knowledge about breast cancer compared to their Chinese and Malay counterparts ($p < 0.05$). However, more than two-thirds of students are aware of the recommendations for breast self-examination (BSE) and clinical breast examination (CBE). Furthermore, the students had a positive perception of the outcome of breast cancer treatment (Hadi et al., 2010).

This is in contrast to the research by Mekonnen and Asefa (2019) which examined female undergraduate nursing students. shows that respondents know things related to BSE (55.7 percent), 95 percent of respondents have knowledge about breast self-examination, and 56.7 percent have a good attitude about BSE. 11.3 percent of respondents have practiced BSE (Mekonnen & Asefa, 2019).

Hadi Alharbi et al., (2018) shows the level of individual knowledge about breast cancer in both moderate (31.2 percent) and poor (15.8 percent) women. Knowledge of women who are moderate (28.2 percent) and poor by 15.8 percent (Alharbi et al., 2018). The findings of this study have provided evidence that women in North Saudi Arabia lack proper information about breast cancer and early detection measures (Alharbi et al., 2018). Liu et al (2018) support Alharbi's statement, that respondents had a poor level of breast cancer awareness. In-depth knowledge about breast cancer such as early symptoms and risk factors was not found among them (Liu et al., 2018). Television broadcasts and relatives or friends with breast cancer are the main sources of information about breast cancer. 72.8 percent had heard about breast cancer as a cancer that often affects women and 63.3 percent knew that a family history of breast cancer was a risk factor for breast cancer. More than half of them are aware that a breast lump can be a symptom of breast cancer.

There is a low prevalence of sufficient BSE knowledge (22.7 percent) and practice (15.8 percent) among female textile workers in Hanoi and Ho Chi Minh City (Tuyen et al., 2019). Contrary to this study,

93.1 percent of doctors and 24.7 percent of non-medical personnel felt confident about knowledge. 37.6 percent of doctors and 26.1 percent of non-health workers carry out breast self-examination every month (Kadivar & Joolae, 2012). Doctors aged 40 years or less (31.25 percent) and doctors aged \geq 40 years (18.75 percent) had clinical breast examinations and mammograms within 12 months prior to data collection date (Kadivar & Joolae, 2012). Non-medical personnel aged 40 and over had clinical breast examinations (27.59 percent) and had mammogram examinations (17.24 percent) in the same time period (Kadivar & Joolae, 2012). Despite the higher knowledge and socioeconomic class of doctors, there was no significant difference in screening behavior between doctors and non-health care personnel. (Kadivar & Joolae, 2012).

The prevalence of insufficient BSE knowledge was higher among participants with lower vs. above secondary school education, and those whose husbands were farmers or workers compared to other sectors (Tuyen et al., 2019). This prevalence shows a negative relationship with receiving information about BSE. The prevalence of insufficient BSE practices is also higher among women whose husbands are farmers or workers compared to other sectors (Tuyen et al., 2019). Donnelly et al (2014) stated that most of the respondents (90.7 percent) were aware of breast cancer, less than half had awareness of BCS practices (28.9 percent) knew about breast self-examination and 41.8 percent had done clinical breast examinations (Prasandi, A., & Diana, H. 2020). 26.4 percent of respondents know that mammography is recommended in the national screening guidelines. 7.6 percent of respondents who have knowledge about the three activities of breast cancer screening (Donnelly et al., 2014).

Sources of Information About Early Detection of Breast Cancer

Based on the results of the research, sources of information to increase self-awareness for early detection of breast cancer are newspapers/magazines, lectures, and the internet (Karthijekan & Karunakaran, 2017); information from television or radio (Sama et al., 2017., Yanti, E. M., Wirastri, D., & Rosidi, A. 2021), information from doctors and the media (Donnelly et al., 2014), and information from mothers (Kratzke, Vilchis, & Amatya, 2013).

Karthijekan & Karunakaran stated that 23.4 percent of the respondents were nurses and 76.6 percent were medical students. Ethnically, 55.9 percent were Sinhalese, 20.2 percent were Tamil and 23.9 percent were Muslim. The majority of participants (96.8 percent) heard about breast cancer. Information was obtained from newspapers/magazines (78.8 percent), lectures (60.8 percent) and the internet (66.2 percent). Most of them (82.9 percent) heard of breast self-examination (BSE) but only 33 percent had ever done it; of them, 9.6 percent did it because a family member had breast cancer (Karthijekan &

Karunakaran, 2017).

Sama et al (2017) showed that 64.5 percent of respondents had heard about breast cancer mainly from television or radio. According to Kratzke et al (2013), mother's advice plays an important role in providing information to her child to do breast self-examination. This is possible because the mother has given birth and cared for the child since they were in the womb, so the mother's advice must be good for her child.

Strategies To Increase Self Awareness

The strategy for increasing self-awareness is the screening approach (Tazhibi & Feizi, 2014), education (Subramanian et al., 2018), age (Donnelly et al., 2014), knowledge (Sama et al., 2017), a family history of breast cancer (Tazhibi & Feizi, 2014), information from television or radio (Sama et al., 2017), information from doctors and the media (Donnelly et al., 2014), mother's advice (Kratzke, Vilchis, & Amatya, 2013) and have attended breast self-examination training (Dahlui et al., 2012).

Tazhibi and Feizi (2014) suggested that the most effective predictors of high levels of awareness were higher educational qualifications, attending screening and public education programs, personal problems, and family history of breast cancer. The majority of respondents have a level of knowledge about breast cancer with poor to moderate criteria. High level of awareness about screening approach (33.2 percent), risk factors (31.9 percent), early warning signs (26.7 percent) and modalities of breast cancer therapy (35.8 percent).

Regarding breast cancer screening practice, less than a third practiced it correctly, 13.9 percent of participants had monthly breast self-examination, 31.3 percent had clinical breast exams once a year or once every two years, and 26.9 percent of women 40 years of age or older have a mammogram once every year or two (Donnelly et al., 2014). Awareness of breast cancer screening is significantly related to practice, level of education, and acceptance of information about breast cancer and screening from various sources, especially doctors and the media (Harlianty, R. A., & Paramastri, I. 2020).

Sama et al (2017) showed that 64.5 percent of respondents had heard about breast cancer mainly from television or radio. Of the respondents who had heard about breast cancer, 21.4 percent had sufficient knowledge about risk factors and signs/symptoms. Some (53.3 percent) think breast cancer can be prevented through vaccination while more than a third (38.7 percent) think breast cancer can be cured spiritually. Less than half (47 percent) of respondents who had heard of breast cancer had heard of breast self-examination, but only 38.5 percent had practiced it (Sama et al., 2017).

According to Kratzke et al (2013), predictors for BSE practice were mother's advice, age, self-efficacy, and recommendation of BSE provider. Data reported using a survey were obtained from 546 college women with an average age of 16-30 years (Kratzke

et al., 2013). Nearly 36 percent took the mother's advice and 55 percent performed breast self-examination. Possible predictors for receiving maternal advice were age, self-efficacy, and family history of breast cancer. Predictors for BSE practice were mother's advice, age, self-efficacy, and recommendation of BSE provider. Family history of breast cancer and knowledge are not significant predictors of BSE practice (Kratzke et al., 2013).

People with a family history of breast cancer and higher levels of education have better knowledge of diagnostic methods and treatment modalities (Subramanian et al., 2018).

The interactive effect of test time and group of each dependent variable was significant. The mean difference between the pre-test and post-test in measuring the three dependent variables is significant. On the other hand, the mean difference between the post-test and the control test is not significant for any of the dependent variables. However, the mean difference between the pre-test and the control test was significant for all three variables (Babakhanloo, Jalilvand, & Shoghi, 2017). Teaching self-talk and positive empathy techniques has a positive effect on reducing deficient attitudes, hopelessness, and suicidal thoughts (Apriliawati, D. 2020).

Dahlui et al (2012) conducted a study on women of childbearing age in Malaysia and showed that the average score of knowledge about the causative factors and risk of breast cancer was 3.41 out of 5. Meanwhile, 41.5 percent of respondents scored above average. Of the respondents who carried out breast self-examination, half of 58.5 percent had practiced BSE. The respondents did this regularly every month. Implementation of Clinical Breast Examination (CBE) by nurses (40.7 percent) and doctors (37.3 percent). Mammogram implementation is 14.6 percent. Significant predictors of BSE were good knowledge of breast cancer, being married and attending CBE. Significant predictors for CBE include being married, good knowledge of breast cancer, and social support for breast cancer screening (Dahlui et al., 2012).

These results indicate that increasing awareness of the risk of breast cancer is urgently needed, especially among women with moderate to high risk of developing breast cancer in Indonesia (Mardela et al., 2017).

Self-Awareness Inhibiting Factors in Early Detection of Breast Cancer

The results of the current study indicate that the level of awareness about the fundamentals of breast cancer is still low despite good knowledge of breast self-examination (Tazhibi & Feizi, 2014; Suleiman, 2014; Tuyen et al., 2019; Karthijekan & Karunakaran, 2017), states that breast cancer sufferers have never been taught to breast self-examination (Loh & Chew, 2011), the belief that breast cancer is

hereditary (Subramanian et al., 2018), low participation of women (Donnelly et al., 2014), recognize breast cancer as a disease, but their deep knowledge about it is poor (Liu et al., 2018 and Suleiman, 2014) and worry or anxiety about breast cancer (Khakbazan, Roudsari, Taghipour, Mohamadi, & Pour, 2014).

The results of the current study indicate that the level of awareness among the study population about the underlying causes of breast cancer is low (Tazhibi & Feizi, 2014). Meanwhile, Suleiman (2014) stated that 34.9 percent of students are aware of Breast Self Examination (BSE), but only 11 percent do it. The current status of breast cancer awareness in Jordanian students and their use of BSE is insufficient (Suleiman, 2014). Most women are aware of breast cancer as a disease, but their in-depth knowledge about it is poor (Liu et al., 2018).

Findings showed that 80 percent of breast cancer survivors self-detected a breast lump, although 85 percent of women reported that they had never been taught about BSE. More than 70 percent of women think that lack of knowledge/skills regarding proper BSE practice is the main obstacle to more regular BSE practice. After educational interventions on BSE and breast awareness, we found reports of an increase from 17 percent (at pre-test) to 67 percent (at post-test) of self-reported monthly BSE practices (Loh & Chew, 2011). This is supported by the low level of education and not being provided with BSE information which is associated with inadequate knowledge and practice of BSE among Vietnamese female textile workers (Tuyen et al., 2019). Knowledge about breast cancer is good, but less than half of students have done breast self-examination in their lifetime (Karthijekan & Karunakaran, 2017). Cognitive (55.7 percent), Affective (56.7 percent), and Psychomotor (11.3 percent) indicated that participants had poor KAP on BSE (Mekonnen & Asefa, 2019).

More than 90 percent of the population believes that breast cancer is hereditary and has little knowledge of other risk factors. Most people do not realize that breast cancer can be cured if detected early. Although 80 percent of the population believe breast self-examination is helpful in early detection, <50 percent of them practice it regularly. <2 percent of population aware of mammograms and treatment modalities (Subramanian et al., 2018).

The low participation rate in BCS among Arab women in this study indicates a strong need to increase awareness of the importance of breast cancer screening in Qatari women. Without this awareness, adherence to the latest breast cancer screening recommendations in Qatar will remain low (Donnelly et al., 2014).

The main concepts that emerged from the data analysis were categorized under four categories: symptom recognition, symptom labeling, interactive understanding, and facing cancer fears (Khakbazan et al., 2014). Recognition of symptoms through breast

self-examination, monitoring of symptoms and using prior knowledge to differentiate normal from abnormal symptoms and accompanied by the perception of being at risk for breast cancer led to symptom labeling (Khakbazan et al., 2014). Social interactions with selective disclosure and receiving assurances from consultants lead to confirmation or redefinition of the situation. The perceived seriousness of the situation and the social significance of breast cancer as a stigmatized and incurable disease associated with loss of femininity are reasons for patient worry and fear. (Khakbazan et al., 2014).

Multivariate analysis identified the following variables predicting breast cancer awareness: young age, occupation (agricultural worker), high household social status, history of breast hyperplasia, and high behavior prevention score (Liu et al., 2018).

5. Recommendations for Prevention of Advanced Stage Breast Cancer

Breast Self Examination (BSE) or Breast Self Examination (BSE) and clinical breast examination (SADANIS) or Breast Clinical Screening (BCS) are not carried out properly. Recommendations from experts for further research to increase self-awareness of women of childbearing age regarding breast self-examination are:

1. Physicians, public health educators and mothers are needed to provide breast cancer prevention education targeting college women (Kratzke et al., 2013).
2. Increased efforts to implement mass media and public health campaigns regarding the impact of breast cancer on women's health and the benefits of early detection of breast cancer must be accompanied by increased participation of health care providers in conveying this message to the population. (Donnelly et al., 2014).
3. Universities and other stakeholders should plan to promote the provision of information, education and communication targeting women, and the general public to raise awareness for breast self-examination (Mekonnen & Asefa, 2019 and Tuyen et al., 2019).
4. The need for breast cancer awareness campaigns, which must also emphasize the importance of early detection and reporting of breast cancer (Hadi et al., 2010 and Hadi Alharbi et al., 2018).
5. More publicity and education programs to raise breast cancer awareness are needed and urgent, especially for elderly women and agricultural workers (Liu et al., 2018).
6. It is advisable to make an awareness program about breast cancer and regular BSE patterns (Hassan et al., 2017).
7. Today's opportunistic SADANIS behavior must be extended to the active calling of women to SADANIS (Dahlui et al., 2012). The presence of

SADANIS is a strong factor in promoting BSE and mammography, educating women about the importance of breast cancer screening and about how to do BSE.

8. These findings reinforce the ongoing need for further breast cancer education through conducting public and professional programs intended to raise awareness among young women, single and those with little education and no family history. (Tazhibi & Feizi, 2014).
9. Although most of the students were aware of the presence of breast cancer, their overall knowledge of its risk factors and clinical presentation was insufficient with concomitant low BSE practices. These highlighted gaps warrant an intensification of sensitization campaigns and educational programs to raise knowledge levels and enhance prevention strategies that will assist in reducing the burden of breast cancer. (Sama et al., 2017).
10. There is a need to increase the knowledge of young girls about the risks of breast cancer and the benefits of early detection. In fact, health care professionals can develop effective breast health care programs and help young women to acquire good health habits (Karayurt et al., 2008).
11. Women should be encouraged to self-monitor to detect abnormalities in their breasts. Appropriate educational interventions are urgently needed to encourage women to engage in regular BSE (Suleiman, 2014).
12. Health education programs are very important to encourage and improve BSE knowledge and practice for women.
13. Additional research is needed to explore the impact of economic factors on health-seeking behavior in Middle Eastern countries with a high national gross domestic product where health services are free or subsidized by the government; BCS promotion and intervention strategies in these countries should focus on raising awareness about breast cancer, the costs and benefits of early screening for this disease, especially among women at low risk. (Truong Donnelly et al., 2015).
14. Provision of self-management education incorporating BSE, an inexpensive method available, should be introduced in primary and breast care clinics. This strategy promotes women's self-efficacy contributing to the cancer control agenda in countries with less available resources in Asia Pacific. Longer follow-up may be important to test adherence to positive BSE behaviors (Loh & Chew, 2011).
15. Because almost three-quarters of participants believed that BSE could aid in the early diagnosis of breast cancer, which was not supported by evidence, future studies should explore the ramifications of promoting BSE at the potential cost of mammography screening. (Dahiya et al., 2018).
16. It is suggested that programs aimed at

shortening patients' delays in breast cancer should focus on increasing women's knowledge and self-awareness about breast cancer, in addition to improving their social confidence.(Khakbazan et al., 2014).

17. Teaching self-talk and positive empathy techniques has a positive effect on reducing deficient attitudes, hopelessness, and suicidal thoughts. Moreover, the results attest to the sustainability of the effect of the intervention on the size of the dependent variable(Babakhanloo et al., 2017).
18. This study emphasizes that entangled cognitive, emotional, and sociocultural responses that affect understanding of the seriousness of symptoms require further investigation(Khakbazan et al., 2014).

6. Bibliography

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