

Breast Self-Examination (BSE) and Attitude towards Breast Self-Examination (BSE) among Women: A Narrative Review

Najwa Izzati, Omar Al-Alela, Ramadan M- Elkalmi, Mohammad Jamshed Siddiqui, Siti Zaiton Binte Mat-so-ad, Qamar uddin Ahmed, Siti Hadijah Shamsudin, Shazia Qasim Jamshed*

Kulliyyah of Pharmacy, International Islamic University Malaysia, Kuantan Campus, 25200, Pahang, Malaysia.

Received on 25 April 2013, Accepted on 10 May 2013, Available online from 10 June 2013

Abstract

The prevalence of breast cancer augments together with the technical global development and modernization. Breast carcinoma is one of the leading causes of death in women. A literature search was conducted in July-October 2012 to explore the published articles regarding awareness of breast cancer and breast self-examination (BSE) in Asian settings. This review included studies which measured knowledge regarding breast cancer and studies on attitude, practice and barriers to breast self-examination by using qualitative (one-to-one interview, concept mapping) or quantitative methods (cross-sectional survey) or both. The search was initiated through several keywords: breast cancer, breast cancer awareness, statistics of breast cancer, breast self-examination, etc. Other included electronic databases were Science Direct, Sage, Life Science, Springer Link, BioMed Central, Proquest and EBSCOhost. The search was limited to full paper articles published in English between 2000- 2012 and only seventeen full text articles were included in review. The studies included in review are from Hong Kong, Australia, UK, Iran, Qatar, Nigeria, and Malaysia. This review highlights the awareness of breast cancer by means of BSE and attitude towards BSE. Proactive educational measures by healthcare professionals and mass media campaigns are therefore suggested to enhance BSE screening and breast cancer awareness among women.

Keywords: Malaysia, Breast Self-Examination (BSE), Breast cancer

INTRODUCTION

Breast cancer is a word that is relatively easy to be uttered but left a deep frightening impression on women. With the passage of times, the prevalence of breast cancer augments together with the technical global development and modernization. Irrespective of whether First World countries or Third World countries, the health of women is at stake as breast carcinoma is the leading causes of death in women aged 30 years and above [1]. According to GLOBOCAN (2008), a project done by International Agency for Research on Cancer (IARC) was deemed to provide statistics on the incidence, prevalence and mortality rates of cancers in 184 countries and reported that breast cancer is affecting women in 145 countries [2]. Out of those 145 countries, countries like US, UK, Australia, Canada and Denmark were ranked higher than Africa and Asia [2].

For Asian countries, National Cancer Registry reported that the crude incidence rate of breast cancer (the annual incidence rate of number of cases per 100,000 study populations) in eastern Asia varied from 20.6% in Thailand to 23.3% in Korea. In Malaysia this is slightly raised to 29.4% with Singapore and Philippines touching a higher value of 54.1% and 55.2% respectively [3]. Despite the less common incidence in Asia compared to Western countries, breast cancer dwells as major national health problems to Malaysian women with peak age of breast cancer presentations being 40-49 years in contrast to the Western settings where breast cancer arise in a quite later age of 50-59 years[4]. Besides this report, the Malaysian Cancer Registry report in 2006 declared that 1 out of every 19 Malaysian women might have the chance to develop breast cancer[5]. However, the Malaysian statistics have not

*Corresponding author E - mail: pharmacist1992@live.com

been reviewed for almost 5 years and, therefore, the incidence might be as high as 1 in 11 women like other developed countries [6].

As mortality rate from breast cancer is overwhelmingly scary, the improvement of the estimated survival rates due to screening and modern therapeutic measures show light at the end of the tunnel. The death rate starts to decline with an average of 73% survival rates in developed countries and an average of 57% in developing countries [7]. Better prognosis of breast cancer is only expected provided the disease is detected at an early stage and, therefore, awareness and knowledge about the disease and self-assessment seems to be an essentiality.

However, the irony is that even though most women are conscious on the emergence and threats of breast cancer but they believe that the chances of getting breast cancer is low and, thus, to address health screening is not a priority for them. It is a general perception that until and unless they have family members with breast cancer or either they are in an age to get breast cancer or they could be married or sexually inactive could be liable to get breast cancer. Meanwhile, in Asian countries, the cultural and religious factors and social norms become the main barriers in breast cancer screening. It is stated that the inability to act without husband's permission, fear of being not accepted, and embarrassment are among the reasons for their hesitation to visit medical institutions for check-ups [8,9]. Keeping the axiom in mind that prevention is better than cure, these social, cultural and religious perceptions have to be changed as they contribute to late diagnosis and complications of the disease. In Malaysia, it is reported that more than half Malaysian women seek for medical attention only when the breast cancer is in the later stage (stage 3 or stage 4) where little or no benefit can be derived from any form of therapy[10, 11].

Bachok and associates (2012) stated that even though there are a lot of awareness campaigns being held in Malaysia, they are still not effective in encouraging

people to come early for consultation [12]. To make it worst, Malaysian women waited for 3 months before seeking medical attention; although being presented with a mean size lump of 4.2 cm causing almost 70% breast cancer in Malaysia [7]. In comparison to Western countries, more than 80% of breast cancer is being detected at early stage with mean lump diameter is 2 cm [7].

The need to further explore the current awareness and extent of knowledge on breast cancer among Malaysian women is vital as it seems that the Malaysian community is still not aware of the fatal consequences of breast cancer. Once the level of awareness of the community is successfully investigated, easier approach can be taken by the health care practitioners to motivate the women to routinely and correctly conduct breast screening examination; breast self-examination (BSE), mammography and clinical breast examination (CBE). The development of breast clinics in Malaysia has been stagnated due to lack of cancer treatment facilities, specialists and manpower [7] women themselves are responsible to take proactive measures in notifying any physical changes on their breast and refer any abnormalities to the physicians. This is one of the most effective key steps to detect breast cancer at an early stage as this can facilitate early treatment interventions resulting in better quality of life [13].

METHODS

A literature search was conducted in July-October 2012 to explore the published articles regarding awareness of breast cancer among general public globally, in Asian setting generally and in Malaysia specifically. This review included studies which measured knowledge of public regarding breast cancer and studies on the attitude, practice and barriers to breast self-examination by using either qualitative (one-to-one interview, concept mapping) or quantitative methods (cross-sectional survey) or both. Articles which were selected in the review were in forms of research articles.

The searching of articles was initiated by using Google Scholar search engine through several keywords: breast cancer, awareness of breast cancer, breast cancer in Malaysia, statistics of breast cancer, breast self-examination. Other included electronic databases were Science Direct, Sage, Life Science, Springer Link, BioMed Central, Proquest and EBSCOhost. The search was limited to full paper articles published in English between 2000- 2012 in order to have proper understanding on recent breast cancer phenomena and screening. The articles were limited to include only breast cancer among women only. Besides electronic databases, the articles search was also performed by using the reference links provided in the retrieved articles. In order to select precise articles, the titles and abstract were first being examined followed by examining the whole paper provided if there were any remaining doubts and better explanation needed.

RESULTS

From thirty seven full text articles retrieved from the databases and reference link, only seventeen full text articles regarding awareness of breast cancer among citizens of specific countries were finalized and chosen to be included in this review. The other twenty articles excluded were not related to breast cancer. Only articles that have relation with awareness of breast cancer, such as breast self-examination (BSE) and as well as attitude and practice of BSE were included. Meanwhile, abstracts were also not included in this study due to the limited access to full-text articles as most of the abstracts were from subscribed databases. The results of the retrieved articles are discussed in the forthcoming sections. The studies included in the review are from Hong Kong, Australia, UK, Iran, Qatar, Nigeria, and Malaysia.

Hong Kong

Sophia and her cliques have done an astounding job in improving breast cancer awareness among women in Hong Kong by using a community-based outreach program. Seven hundred and seventy-seven (n=777) women with wide range of age (20 to >60 years old)

have participated in this study which investigates the level of awareness of Hong Kong women before and after the breast health education program. The content of program conducted was designed to be easily understandable, culturally appropriate with simple and clear instructions on how to conduct BSE correctly [13]. The understanding of the participants on breast carcinoma was compared by answering questionnaire before and after the program. As expected, almost every participant was able to give correct answers after the educational outreach program and correctly narrate exact time and proper technique in conducting BSE. Most participants knew they had to use fingertips while performing BSE (n=698; 93.7%) and they knew 2-3 days post-menstruation is the best day to practice BSE (n=559; 77.7%). They also stated correctly that bathing is the most appropriate time to practice BSE (n=619; 84.3%). Majority of participants also state their willingness to share the breast health knowledge from the program with family and friends (n=691; 92.0%), ready to practise BSE routinely (n=697; 93.3%) and ready to seek medical advice upon discovery of abnormal symptoms (n=734; 97.5%)[13]. This study was good in terms of two-in-one approach as the understanding of the public is promoted along with a research purpose. Still we cannot rule out the gap in comparing the pre-test and post-test results as this may create bias due to the survey being taken at a highly motivated state of the respondents. There is a strong possibility that participants view BSE as burdensome within few months or few years resulting in neglecting their breast health. However, we do acknowledge the efforts of the researchers in the study [13].

Australia

Based on the study done to examine eighty-three Australian women's estimation of getting breast cancer by Humpel and Jones (2004), most of the women were highly overestimated their risk of getting breast cancer. While the risk of breast cancer occurring among Australian women at that time was 8%, 43% of the

respondents greatly overestimate they were having 50% or higher chance of getting breast cancer [14].

More than one quarter (30%) were reasonably accurate in their estimation (5 to 15% chance) while 22% were overestimating their risk (20-45% chance). Four women on the other hand decided they had no risk of getting breast cancer without any evident reason given. The main reasons of overestimation and highly overestimation were due to family history of breast cancer and mere guessing followed by age related apprehensions (19%) and coming on a decision from the questions in the survey (9%) [14]. From the study, the similarity in the reported reason for all three categories of estimation were mere guessing/don't know/uncertainty. This study may be misleading as no number of participants being stated (n) for each percentage given. The results from the study marked lacking of knowledge of the subjects in the incidence and mortality rate from breast cancer and their misperceptions regarding risk factor of breast cancer resulting in failure to make an accurate estimation [14].

Qatar

A study published from Qatar in 2009, explored knowledge, attitude and practice about breast cancer. In addition it also aimed to identify potential barriers to screening procedures among Qatari women [15]. The results revealed that there is no relation between the education levels with the general knowledge, symptoms and risk factors of breast cancer among Qatari women. Both lower education (below secondary) (n=351; 66.4%) and higher education (above secondary) women (n=353; 74.6%) had successfully identified breast cancer as the most common cancer among females. Also, both were able to recognize painless mass (n=424; 80.2%, n=391; 82.7%), nipple retraction (n=434; 82.0%, n=380; 80.3%) and multiple masses (n=459; 86.8%, n=421; 89.0%) as the symptoms of breast carcinoma. Positive family history (n=432; 81.7%, n=414; 87.5%) and prolonged lactation (n=393; 74.3%, n=364; 77.0%) were identified as common risk factors that contribute to the growth of

breast cancer. Yet, there is a profound distinction between the level of educations and marital status in performing BSE and CBE. Married women (n=242; 97.2%) and younger women (n=115; 46.2%) with higher education (n=147; 59.0%) were more likely to execute breast cancer screening procedure rather than unmarried women (n=7; 2.8%) and women with lower education (n=102; 41%) [15]. Of three options of breast cancer screening, there is no significant difference shown where 24.9% subjects (n=249) preferred to conduct BSE, 23.3% preferred to perform CBE (n=233; 23.3%) and 22.5% preferred for mammography (n=225; 22.5%). This study also successfully acknowledged several potential barriers that contribute to low percentage of breast cancer screening performance. Those barriers are inadequate knowledge to perform BSE (n=685; 68.4%), embarrassment to have breast examined by a healthcare professional during CBE (n=534; 53.3%) and last but not the least to avoid anxious feeling in waiting for the mammography result (n=550; 54.9%). [15] Therefore, this study can be concluded in the basis that general knowledge of breast cancer among Qatari women is satisfactory; since they can distinguish major symptoms and risk factors of breast cancer. However, the awareness level of practising breast screening procedure still needs to be enhanced since it is stated that Qatar is recorded to have high incidence rate of breast cancer (30.1 in 100,000 population) compared to other Middle Eastern Countries[15].

Iran

A study had been conducted by Kandiah and Parsa in 2005 to explore breast cancer knowledge, perception and breast self-examination practices involving 261 women from Hamadan, Iran [16]. Most of the women selected are married and had primary and secondary education level. Based on the results, nearly 70% of the subjects had misconception of having big breast as the risk factor of developing breast cancer (n=175; 67%). Meanwhile, majority of the subjects did recognize abnormalities in nipple (colour changes and abnormal

discharge) (n=214; 82%) and presentation of painful lumps (n=154; 59%) could be a sign of breast cancer. Yet, more than two-third of Iranian women was not well-informed of high intake of fats and low intake of fruits and vegetables may increase the likelihood of getting breast cancer (n=159; 61%). In addition, this cross-sectional study also revealed that large number of Iranian women (n=170; 65.1%) never practised BSE due to inadequate knowledge of conducting BSE. Still, BSE practice is high among women with past history of gynaecological problems (58%)[16]. Other explicit reasons of not conducting BSE were forgetfulness (20%), fear of finding a lump (17%), not necessary (9%) and lack of time (4%). On the other hand, 55% (n=144) believed that the chance of survival in breast cancer is low despite its early detection. It can be concluded that the findings signify inadequate awareness among the women in combating breast cancer. As more than half of the respondents believed that early detection does not improve the chances of survival, educational interventions and community outreach programs on the importance of BSE and detection on any abnormalities need to be enhanced among Iranian women. There is a need to create awareness about the consequences of late presentation of breast cancer as later stage presentation may not only increase the cost of treatment but there are fair chances that the patient might not response successfully to the oncologic regimen [16].

A similar sort of study was conducted in 2008 by Ali and associates in Iran in a different setting [17]. 1402 women in Tehran had been chosen as subjects in order to look into the women's view on breast cancer and their self-reported practice of BSE. The findings indicated that 64% (n=894) women have heard about breast cancer and nearly equal proportion (n=851; 61%) expressed breast cancer as common disease among Iranian women. One-third of women (n=626; 39%) knew nothing about breast cancer screening method and very little number had frequent (monthly) BSE (n=238; 17%) while 63% (n=882) who had never done BSE claimed that 'they do not know

how to do it'. [17] The findings also concluded that age, marital status, education, and knowledge about breast cancer and breast cancer screening programs were the factors related to BSE practice [17].

Nigeria

In a 2012 study involving 1600 rural women of 20-40 years aged conducted by Omotara and associates in north-eastern part of Nigeria, only 931 (58.2%) had heard of breast cancer [18]. Out of the 931 respondents, most agreed medical conditions as the perceive cause of breast cancer (n=263; 28.2%). Other prevailing causes were spiritual (n=199; 21.4%), inherited (n=194; 20.7%), and the use of brassieres (n=143; 15.4%). Despite increasing age and excessive breastfeed were the most common risk factors of malignancy, only 4.9% (n=45) acknowledged both as threats to breast cancer. As for the attitude assessment, most were disagreed to the statement of isolating breast cancer patients (n=632; 67.9%) and viewing breast cancer as the punishment from God (n=624; 67.0%). Nevertheless, it is still worrisome as 22.9% (n=214) and 20.3% (n=189) subjects agreed to both statement respectively [18]. The assumption that can be made is that a quarter of respondents still have a perception that breast cancer is a contagious disease, thus isolation of breast cancer patients is needed. Meanwhile, more than three-quarter of subjects, agree that breast cancer patients should live freely in the community (n=673; 72.3%), and be supported (n=856; 91.9%). Also, it seems good to know that 780 respondents (77.6%) realized that women should be afraid of breast cancer as this will ultimately enhance the participation of the respondents towards breast cancer screening. For the awareness and practice of BSE, merely less than half out of those who are aware of BSE had ever performed it (n=176; 48.9%). Besides being taken as a routine medical examination (n=32; 18.2%) advice from a health worker (n=60; 34.1%) was the main reason of conducting BSE. The main barriers to perform BSE were 'I do not know about it' (n=133; 72.3%) and 'I am not interested' (n=33; 17.9%). Respondents were willing to go for breast cancer screening provided

the results of the examinations is benefited (n=463; 49.7%) and they get their husbands' permissions (n=192; 20.6%). As Islam is the dominant religion in north-eastern part of Nigeria, the reason and decision making of most respondents were closely related to laws and regulations of Islam. However, as Islam loves to see its viewers to prioritize their hygiene and health, the respondents should put more efforts in taking initial steps of breast cancer prevention [18].

Another study targeting young aged women population in Nigeria had been executed by Irurhe in 2012 [1]. This study however recruited 200 female secondary school students as subjects. The results showed some hope when almost all the respondents (n=194; 97%) had heard of breast cancer before unlike the previous study done by Omotara in 2012. This may be due to different education levels among the women. Regardless of the early results, the hope diminished as nearly one quarter of the students were unable to distinguish the causes of breast cancer. The respondents gave negative answers to questions like hugging breast cancer patients can cause breast cancer (n=43; 21.5%), excessive mosquito bite is a cause of breast cancer (n=72; 36%), and any body contact and sharing food with cancer patients can cause breast cancer (n=65; 32.5%). Slightly less than half of the respondents agreed that family history of breast malignancy (n=97; 48.5%) is one of the susceptibility to have cancer [1]. In contrast to the results of 'had heard of breast cancer before', only 58.5% (n=117) had heard about BSE and slightly less than that could perform BSE (n=93; 46.5%). The percentage response of no/do not know were exceeding positive percentage response for all 3 statements regarding when and how to conduct BSE; perform BSE after monthly menstruations (n=94; 47%, n=96; 50.5%), the use of finger tips for palpation (n=93; 46.5%, n=107; 53.5%) and examination of the armpit (n=90; 45%, n=110; 55%)[1]. The study concluded to have good knowledge of breast self-examination in only half of the respondents and therefore there is a need to conduct awareness campaign right from the stage of secondary schooling

United Kingdom (UK)

A study done by Linsell and associates in 2009 investigate breast cancer awareness among older women aged 67-73 years [19]. 712 British women were surveyed regarding the knowledge of symptoms, knowledge of risks and the level of confidence to detect a breast change. The results showed that over 70% were aware that nipple discharge (n=512; 71.9%), lump under armpit (n=613; 86.1%) and lump in breast (n= 664; 93.3%) are signs of breast malignancy. 53% to 67% women were aware of any physical changes on breast as symptoms of breast cancer. However, less than 50% of subjects were unable to recognize non-lump symptoms. Concerning knowledge of risk of developing breast cancer, exactly half of the respondents (n=343, 50%) were optimistic that they have less than 1 in 100 chance of developing breast cancer. While the chance of European women to have breast cancer is 1 in every 9 women, only 36.7% (n=252) were well informed on this fact and most correct responses were given by educated women [19]. For the confidence of breast changes detection, only 15.1% (n=107) were absolutely confident. Conversely, 31.1% (n=220) have no confidence at all while the rest (n=381, 53.8%) were quite confident. Meanwhile, 19.4% (n=137) claimed they rarely or never checked their breast [19].

A two year intervention was performed in 2011 to observe any increase or decline in the awareness of 867 British women who were attending their final routine program. This was performed by giving them Promoting Early Presentation (PEP) intervention (n=286; 33%), booklet alone (n=294; 34%) or usual care (n=287; 33%)[20]. PEP intervention included to equip the women with knowledge, confidence, motivation and skills on primary care to early detection of breast cancer symptoms with 2 years follow up to maintain enthusiasm. [20] In contrast, usual care is a standard practice in National Health Service Breast Screening Program whereby each woman does not have to come for screening every 3 years but can do so upon request. Upon 2 years follow up, Forbes and associates found

that the knowledge of non-lump symptoms, knowledge of age-related breast cancer risk, and reported breast checking at least a month increased in PEP intervention and booklet arms. However, in the usual care approach, only knowledge of age-related breast cancer does not mark any increment [20].

Malaysia

Hadi and associates evaluated the breast cancer awareness among 200 female students in Universiti Sains Malaysia (USM)[10]. The samples recruited in the study involved female undergraduates and post-graduate students. More than three-quarter of the respondents (90%; n=181) were wrongly believed that breast cancer is the leading cause of death in Malaysia and 87% (n=174) respondent students wrongly estimate lifetime risk of 1 in 19 women in developing breast cancer in Malaysia. Common risk factors such as age, family history and smoking were well-recognized by students; yet most of the students failed to acknowledge complex risk factors like having first child after the age of 30 years, early menarche, late menopause and the use of oral contraceptive pills (OCP). [10] More than 72% of the respondents contributed to high percentage of correct responses indicating that their knowledge of breast cancer symptoms were at a satisfactory level. Despite lacking in leading cause of death in Malaysia and estimated lifetime risk, the student respondents exhibited good knowledge in BSE and CBE whereby 72.5% (n=145) and 72% (144) respectively give correct response in time of conducting breast health screening. [10] By relating the demographics and the survey results, Indian showed significantly less knowledge compared to the Malays and Chinese. The results also revealed that more than half of the students (n=124, 68.9%) had positive thoughts on the outcomes of breast cancer treatment; although some (n=77, 38.5%) were agreed that breast cancer treatment caused loss of physical beauty [10].

Following previous study done on female students of USM, another research article was found to be

conducted on same type of population sample; yet in a different university of Malaysia [11]. Mehrnoosh and her team had run a cross-sectional study in Universiti Putra Malaysia (UPM) involving 237 female undergraduate students. The results were classified into performing BSE group (n=87, 36.7%) and not performing BSE group (n=150, 63.3%). Out of 87 students performing BSE, most were practicing BSE occasionally. Significant differences can be seen between these 2 groups whereby higher percentage of correct response were shown by performing BSE group in comparison to the risk factors and symptoms of breast cancer and correct screening methods, including appropriate age and optimal time for conducting CBE and BSE[11] .

A recent study conducted by Sami and associates (2012) among 222 Malaysian women in Shah Alam, Selangor assessed the practice of BSE, its correlated factors and barriers towards performing BSE[21]. It seems good to observe that more than 80% had heard about breast cancer (n=180; 81.1%) and BSE (n=202; 91.0%). On the contrary, only 55.4% (n=123) have done BSE before and the number is high between the age of 18-29 years (n=77, 49.7%) whereas ironically only 46.4% respondents (n=103) know how BSE is performed. This indicates that 20 women conducted BSE without appropriate procedure [21]. Among Malaysian women who conducted BSE were mostly Malays (n=89, 58.9%), married (n=64, 69.6%), and educated (n=81, 61.8%). The difference between study conducted by Sami and associates and other researchers was that they investigated how the respondents conducted BSE either by palpating breast with one finger, with palm and three fingers or any other way. 101 women (82.1%) answered correctly which is to palpate with palm and three fingers and 22 women (17.9%) responded incorrectly [21]. This result is in parallel with the above results whereby 20 women conducted BSE without appropriate procedure. There are only two respondents who assumed they had conducted correct procedure of BSE. The four main barriers to perform BSE were recognized as more than 50% respondents reported 'I do not know how to do it'

(n=79; 79.8%), whereas 'I do not have any symptoms' were reported by 62.6% (n=62). Slightly more than half of the respondents reported 'I am scared of being diagnosed with breast cancer' (n=60; 60.6%) whereas more than half of the respondents stated 'Doing BSE will make me worry about breast cancer' (n=59, 59.6%). This is reflective of the neglecting behaviour of Malaysian women which in turn will affect the performance of BSE and, therefore, increases the late presentation of breast cancer in Malaysia.

DISCUSSION

Knowledge on Risk Factors of Breast Cancer: In the reference to the guidelines of the American Cancer Society (2005) [22] Kelsely and McPherson reported [23, 24] risk factors that contributes to breast cancer. Elderly age, family history of breast cancer, personal history of breast cancer, previous personal breast biopsy, early menarche (age < 13), menopause at a later age (> 50), using hormone replacement therapy after menopause, having no children (nulliparity), having first child at a later age (> 35) and the use of oral contraceptive pills were some of the reported risk factors contributory to breast cancer. Strangely enough, smoking, alcohol and diet were reported not to have any direct association with breast cancer incidence [24, 25]. However, those listed risk factors cannot be the main reference in estimating breast cancer occurrences due to several variations such as inter-individual variations, geographical region, ethnicity and state of pre and postmenopausal which give inconclusive breast cancer risk factors. According to Ambrosone (1996) [25] and Band (2002) [26], inconsistent findings for cigarette smoking as a breast cancer risk factor were due to heterogeneity in response to carcinogenic exposure as smoking increases breast cancer incidence in postmenopausal women due to slow acetylators of antioxidants. Meanwhile, diet associated with large fat intake show no true relation and this statement is parallel to Holmes [27] whereby decreasing breast cancer incidence by lowering the intake of total fat or specific types of fat were found no strong evidence.

Regarding the hormonal factors, the use of long term monophasic estrogen or combined estrogen/progesterone OCP, early menarche and late age menopause may increase the likelihood of breast cancer [23]. As breast cancer is estrogen-dependant, the malignancy can be encountered by the progesterone as this hormone is a cancer inhibitor. However, further studies need to be done on molecular level to fully understand the mechanism [28].

Based on the findings on literature review of the selected articles, most women have adequate knowledge in recognizing common breast cancer risk factors mainly older age and family history; regardless of their demographics like age and education level. The adequate knowledge shown may be due to the contribution of personal experience and information from friends and relatives. Yet, contradict outcomes can be seen regarding complex risk factors such as prolonged use of OCP, early menarche and having first child at a later age whereby majority of positive response were given by the younger ladies with higher education. This is in line with a study done by Mah and Bryant in which knowledge of breast cancer risk factor decreased among older Canadian women. [29] Besides, younger women are generally more health conscious due to better education and, therefore, they are more likely to accept health education and awareness messages. [13] This factor, thus, leads the ability of the younger women with higher education to recognize the complex risk factors which the older women cannot and, hence, make them aware of the breast cancer. However, a study revealed that students in one university in Malaysia were unable to appreciate complex risk factors [10]. Despite the education level, the geographical area and the religion also are one of the barriers to knowledge of breast cancer. As reported by Okobia, [30, 18] most studies conducted in Nigeria where there is majority of Muslim population, the Nigerian women still associated breast cancer with spiritual causes. Their belief regarding breast cancer as punishment from God and being incurable need to be changed as this

perception may become a barrier to seek medical intervention [18, 30].

Knowledge on Symptoms of Breast Cancer

According to National Breast Cancer Foundation [31], among signs and symptoms of breast cancer are based on three presentations; changes in breast appearance, changes in how the breast and nipple feels and the secretion of nipple discharge. Presence of lumps may or may not be cancerous. However, if the lumps were presented together with unexplained change in size and shape, nipple retraction, redness on the skin and any discharge expulsion either bloody or clear and are not currently breastfeeding, it may be a warning of breast malignancy.

Based on the findings, most women are able to recognize lump symptoms but lacking in non-lump symptoms. In a study done by Linsell [19] the inadequate knowledge in older British women was the lack of recognition of non-lump symptoms of breast cancer; mainly a change in size, redness of skin and nipple rash. It is normal for women to ignore those symptoms as they assume the changes are not harmful unless they feel pain associating with those manifestations. Meanwhile, according to an Iranian study the Iranian women had inadequate knowledge in detecting painful lumps; although painful mass was the most reported symptoms of breast cancer [17]. To make it worst, the outcomes were even lower for other symptoms like nipple retraction (5%) and bloody discharge (6%) indicating critical lack of knowledge on breast cancer symptoms among Iranian women. Based on the Iranian findings the inadequate knowledge on breast cancer and awareness of screening programmes were often related to women in developing countries [17]. In a study in Malaysia the results showed inadequate knowledge of symptoms and risk factors among university students and thus strengthen the previous reports. [10] However, Qatari women knew that nipple retraction and blood discharge are the symptoms of breast cancer. Lacking of knowledge in

manifestation of breast cancer is the main reason for the delayed presentation in developed countries [15]. Delayed presentation for three or more months from the first duration to the time of the diagnosis and treatment is associated with increased tumour size and poor long-time survival [10].

BSE practice and Barriers of BSE practice

Early detection of breast cancer can improve mortality rates and improve patient's prognosis and this can in turn, be promoted by breast screening examination. As Pearlman and associates reported that majority of early breast tumours are self-discovered by BSE performers [32]. Women with higher education level were more likely to be more self-aware and have prior BSE practice. [13] Unlike mammography that usually being done by women with higher income [15], BSE is a simple and inexpensive method that can be applied to detect any early abnormalities of breast cancer. Even though there is no clear evidence to support the efficacy of performing routine BSE in early detection and specific reduction in mortality, however, it is still the mainstay preventive treatment in most developing countries which lack resources of mammography screening programmes [7]. BSE was best conducted in 2 to 3 days post menstruation involving the use of fingertips for palpation and examination of the armpit. However, despite its advantages, the BSE practice is quite low among Asian women compared to Western counterparts [9].

Based on the findings, there is a relationship between marital status and education levels as BSE performers in Qatar were mostly married women and younger women with higher education [15]. This is parallel to what stated by Zain and associates that higher level of education and marital status are significant determinants of breast cancer knowledge and BSE practice adherence [33]. Overall, most women were aware of BSE; yet very little were practising it. The major barriers of performing BSE were lack of knowledge on how to perform BSE, scared of being diagnosed with cancer, lack of

confidence, embarrassed to touch her own body, and forgetfulness[33].Based on Smith and associates study as Asian women emphasized modesty in the traditional culture, they have embarrassment to show their breast to others including health care providers[8].According to Champion, the Health Belief Model (HBM) was usually being applied to describe breast cancer screening[34].The model proposes that changes in preventive health behaviours are based on six factors; namely susceptibility, seriousness, benefits, barriers, health motivation and confidence[34]. Based on HBM, accurate explanations were given in which women that were more likely to perform BSE were those who believe they are susceptible and that breast cancer is a serious condition, those who attain more benefits and less barriers, and those who are more confident in detecting abnormal lumps and more motivated to promote their health [34].This model is reliable indeed in explaining the reasons of not practising BSE[9, 34].

Recommendations of Enhancing Breast Cancer Awareness

Since Malaysia lack manpower and cancer treatment facilities to establish breast clinic due to limited surgeons, radiologists, pathologists, medical oncologists, plastic surgeons and oncology nurses [7] more health programmes and promotional messages by the government and non-government organizations need to be conducted in both rural and urban areas. This will inculcate motivation in Malaysian women to become more 'breast aware'. Women in the rural areas of Sabah and Sarawak are hard to reach and they are more likely to present with advanced cancer stage and, thus, more efforts are needed to improve their consciousness on the importance of early presentation of breast cancer [35]. For instance, upgrading the hospitals and clinic systems in the rural areas and educate the healthcare workers to be more focused on breast cancer interventions and counselling will bring successful outcomes. The dissemination of health screening messages emphasized to check on blood glucose level, lipid profile and blood pressure is an example to

replicate for breast cancer awareness and screening procedures. The nations need to be taught on the importance of early presentation, the correct way of performing BSE and the importance of seeking early interventions. In Hong Kong, the approach was emphasized on 'Looking', 'Feeling' and 'Looking for Change' as most women were embarrassed to touch their own bodies in details. [13] Mothers also need to play role in educating their girls to take responsibility of their own bodies and regularly check any abnormalities on their breast. Since Asian cultural values for seeking alternative traditional medicines to heal illnesses are quite strong, this perception needs to be changes as much time is lost at the early stage of the disease[9] .

LIMITATIONS

This narrative review has its own limitations. Our search is limited to include only those articles which are written in English. Secondly in this review the emphasis is more towards breast self-examination practice rather than clinical examination and mammography. Moreover, the included articles reported lack of generalization in their result findings which itself serves as a limitation of our review.

CONCLUSION

This review highlights the awareness of breast cancer among general public especially in Asian settings by means of BSE and their attitude towards BSE. Proactive educational measures by healthcare professionals, allied healthcare professionals and mass media campaigns are therefore suggested to enhance BSE screening and breast cancer awareness among women, which in turn, probably curtail the mortality rate leading to better prognosis.

References

1. Irurhe, N.K., Raji, S.B., Olowoyeye, O.A., Adeyomoye, A.O., Arogundade, R.A., Soyebi, K.O., Ibitoye, A.Z., Abonyi, L.C., Eniyandunni, F.J., 2012. Knowledge and Awareness of Breast Cancer among

- Female Secondary School Students in Nigeria. Academic Journal of Cancer Research. 5,1-5.
2. IARC. Fast Stats. Lyon: International Agency for Research on Cancer World Health Organization at <http://globocan.iarc.fr/factsheets/populations/factsheet.asp?uno=900#KEY> 2008.
 3. National Cancer Registry, Malaysia 2003. The second report. Kuala Lumpur, Malaysia, Ministry of Health. 2003.
 4. Ahmadian, M., Samah, A.A., 2012. A literature review of factors influencing breast cancer screening in Asian countries. Life Science Journal. 9, 585-594.
 5. Parsa, P., Kandiah, M., Parsa, N., 2011. Factors associated with breast self-examination among Malaysian women teachers. Eastern Mediterranean Health Journal. 17, 509-516.
 6. Borneo Post Online Retrieved April 15, 2013 from <http://www.theborneopost.com/2012/10/14/statistics-on-breast-cancer-need-to-be-revised-expert/>. 2012.
 7. Yip, C. H., Taib, N.A.M., Mohamed. I., 2006. Epidemiology of breast cancer in Malaysia. Asian Pacific Journal of Cancer Prevention. 7, 369-374.
 8. Smith, R.A., Caleffi, M., Albert, U.S., Chen, T.H., Duffy, S.W., Franceschi, D., Nystrom, L., 2006. Breast cancer in limited resource countries: early detection and access to care. Breast Journal. 12, S16-S26.
 9. Parsa, P., Kandiah, M., Rahman, H.A., Zulkefli, N.A.M., 2006. Barriers for breast cancer screening among Asian women: A mini literature review. Asian Pacific Journal of Cancer Prevention. 7, 509-514.
 10. Hadi, M.A., Hassali, M.A., Shafie, A.A., Awaisu, A., 2010. Evaluation of breast cancer awareness among female university students in Malaysia. Pharmacy Practice. 8, 29-34.
 11. Akhtari-Zavare, M., Juni, M.H., Manaf, R.A., Ismail, I.Z., Said, S.M., 2011. Knowledge on the breast cancer and practice of breast self-examination among selected female university students in Malaysia. Medical Health Sciences Journal. 7, 49-56.
 12. Norsa'adah, B., Rahmah, M.A., Rampal, K.G., Knight, A., 2012. Understanding barriers to Malaysian women with breast cancer seeking help. Asian Pacific Journal of Cancer Prevention 2012;13(8):3723-30.
 13. Chan, S.S.C., Chow, D.M.K., Loh, E.K.Y., Wong, D.C.N., Cheng, K.K.F., Fung, W.Y.C., Cheung, P.S., 2007. Using a community based outreach program to improve breast health awareness among women in Hong Kong. Public Health Nursing. 24, 265-273.
 14. Humpel, N., Jones, S.C., 2004. "I Don't Really Know, So It's a Guess": Women's Reasons for Breast Cancer Risk Estimation. Asian Pacific Journal of Cancer Prevention 5, 428-432.
 15. Bener, A., Ayoubi, H.R.E., Moore, M.A., Basha, B., Joseph, S., Chouchane, L., 2009. Do we need to maximise the breast cancer screening awareness? Experience with an endogamous society with high fertility. Asian Pacific Journal of Cancer Prevention. 10, 599-604.
 16. Parsa, P., Kandiah, M., 2005. Breast Cancer Knowledge, Perception And Breast Self - Examination Practices Among Iranian Women International Medical Journal. 4, 17-24.
 17. Montazeri, A., Vahdaninia, M., Harirchi, I., Harirchi, A., Sajadian, A., Khaleghi, F., Mandana, E., Shahpar, H., Soghra, J., 2008. Breast cancer in Iran: need for greater women awareness of warning signs and effective screening methods. Asia Pacific Family Medicine. 7, 6.
 18. Omotara, B., Yahya, S., Amodu, M., Bimba, J., 2012. Awareness, attitude and practice of rural women regarding breast cancer in Northeast Nigeria. Journal of Community Medicine and Health Education. 2.
 19. Linsell, L., Forbes, L.J.L., Kapari, M., Burgess, C., Omar, L., Tucker, L., Ramirez, A.J., 2009. A randomised controlled trial of an intervention to promote early presentation of breast cancer in

- older women: effect on breast cancer awareness. *British Journal of Cancer*. 101, S40-S8.
20. Forbes, L.J.L., Linsell, L., Atkins, L., Burgess, C., Tucker, L., Omar, L., Ramirez, A.J., 2011. A promoting early presentation intervention increases breast cancer awareness in older women after 2 years: a randomized controlled trial. *British Journal of Cancer*. 105, 18-21.
 21. Al-Dubai, S.A.R., Ganasegeran, K., Alabsi, A.M., Manaf, M.R.A., Ijaz, S., Kassim, S., 2012. Exploration of Barriers to Breast Self-Examination among Urban Women in Shah Alam, Malaysia: A Cross Sectional Study. *Asian Pacific Journal of Cancer Prevention*. 13, 1627-1632.
 22. American Cancer Society. 2005. Breast Cancer. <http://www.cancer.org/cancer/breastcancer/detail/edguide/breast-cancer-risk-factors> Retrieved on 15 April, 2013.
 23. Kelsey, J.L., Gammon, M.D., John, E.M., 1993. Reproductive factors and breast cancer. *Epidemiological Review*. 15, 36-47.
 24. McPherson, K., Steel, C.M., Dixon, J.M., 2000. Breast cancer epidemiology, risk factors and genetics. *British Medical Journal*. 321, 624-628.
 25. Ambrosone CB, Freudenheim JL, Graham S. Cigarette smoking, n-acetyltransferase 2 genetic polymorphisms, and breast cancer risk. *Journal of American Medical Association*. 1996;276(18):1494-501.
 26. Band, P.R., Le, N.D., Fang, R., Deschamps, M.I., 2002. Carcinogenic and endocrine disrupting effects of cigarette smoke and risk of breast cancer. *The Lancet* 360, 1044-1049.
 27. Holmes, M.D., Hunter, D.J., Colditz, G.A., Stampfer, M.J., Hankinson, S.E., Speizer, F.E., Rosner, B., Willett, W.C., 1999. Association of dietary intake of fat and fatty acids with risk of breast cancer. *Journal of American Medical Association*. 281, 914-920.
 28. Pike, M.C., Spicer, D.V., Dahmouch, L., Press, M.F., 1993. Estrogens, Progestogens, Normal Breast Cell Proliferation, and Breast Cancer Risk. *Epidemiological Review*. 15, 17-35.
 29. Mah, Z., Bryant, H., 1992. Age as a factor in breast cancer knowledge, attitudes and screening behavior. *Canadian Medical Association Journal*. 146, 2167-2174.
 30. Okobia, M., Bunker, C., Okonofua, F., Osime, U., 2006. Knowledge, attitude and practice of Nigerian women towards breast cancer: A cross-sectional study. *World Journal of Surgical Oncology* 4, 11.
 31. National Breast Cancer Foundation. 2012 <http://www.nationalbreastcancer.org/breast-cancer-symptoms-and-signs> Accessed on 15 April, 2013. 2012.
 32. Pearlman, D.N., Clark, M.A., Rakowski, W., Ehrich, B., 1999. Screening for Breast and Cervical cancers: The importance of knowledge and perceived cancer survivability *Women & Health*. 28, 93-112.
 33. Sobani, Z.A., Saeed, Z., Baloch, H.N-u-A., Majeed, A., Chaudry, S., Sheikh, A., Umar, J., Waseem, H., Mirza, M., Qadir, I., Khan, S.M., Kadir, M., 2012. Knowledge, attitude and practices among urban women of Karachi, Pakistan, regarding breast cancer. *Journal of Pakistan Medical Association*. 62, 1259-1264.
 34. Champion, V.L., Scott, C.R., 1997. *Nursing Research*. 46, 331-337.
 35. Leong, B.D.K., Chuah, J.A., Kumar, V.M., Yip, C.H., 2007. Breast Cancer in Sabah, Malaysia: A Two Year Prospective Study. *Asian Pacific Journal of Cancer Prevention*. 8, 525-529.