ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE OF BREAST SELF- EXAMINATION AMONG NURSES IN TERTIARY HOSPITALS IN MALAYSIA

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ABSTRACT

Breast self-examination (BSE) is recommended globally as one of the methods in early detection of breast cancer. Little is known about nurses screening behavior related to BSE. A cross-sectional study was conducted to examine the knowledge, attitude and practice of Breast Self Examination (BSE) among nurses. A self-administered questionnaire was sent to a total of 114 nurses working in Obstetrics & Gynaecology wards and clinics of two tertiary hospitals. Among the 114 participants, 111(97.4%) practiced BSE. The mean age of the participants was 34.97(±9.104) years. The mean score of knowledge was 11.07(±1.020) and 81.1% had high knowledge of BSE. Majority (98.2%) of respondents showed good attitude towards BSE. Barriers was found to be a significant predictor and self confidence proved to be an influencing factor on BSE performance. Despite practicing BSE, the number of nurses that examined their breast monthly was only 35.1%. Age, working experience and marital status showed no significant relationship with knowledge and practice of BSE. However, BSE taught during their undergraduate programme was found to have a significant relationship with practice of BSE. Majority of nurses in this study were not complying with MOH recommendation for BSE in terms of frequency. Thus, intervention strategies should focus on educating nurses on performing BSE monthly, in accordance with the Ministry of Health guidelines. This is important as nurses play a primary role in promoting health behaviors in BSE practice and breast cancer awareness among women in this country.
Keywords: Knowledge, Attitude, Practice, Breast self examination.

INTRODUCTION

Breast cancer is the most common cancer among women in Malaysia. It poses a big threat to the women as it is the leading cause of cancer death. The incidence of breast cancer is increasing gradually among the three ethnic groups i.e Malay, Chinese and Indian. Amongst the females, breast cancer accounts for 32.1% of all new cases reported and epidemiological data shows that one in nineteen women will develop breast cancer in their lifetime[1]. This can be classified as an important public health issue that needs immediate prevention efforts. Most cancers were diagnosed in the late stage, and therefore, there is a need to create awareness of breast cancer among the women population[2]. Early detection is thus, extremely important.The call for early detection is becoming more apparent globally as it increases the 5 year survival rate of women[3].

The available early detection methods for breast cancer screening include breast self-examination (BSE), clinical breast examination (CBE) and mammogram. Frequent breast screenings through mammography was reported to have detected breast cancers in the early stage and decrease women's mortality[4]. However, there is little evidence- based studies available compared to the increased number of controversies on the efficacy of BSE practice in early detection of breast cancer. The efficacy of BSE in reducing breast cancer mortality is still being debated[5]. To clear doubts in the efficacy of BSE, one local study identified that most women (97.3%) detected their breast cancer lumps themselves[6]. In another study, about 30% of breast cancer was also discovered by the women themselves through BSE practice[7]. Despite all the controversies on its effectiveness and the dilemma it causes on women, BSE is still highly recommended globally as one of the best methods in the early detection of breast cancer.

Clinical breast examination (CBE) is another alternative method in early detection of breast cancer but CBE is different from BSE. BSE is performed by the women themselves while CBE is performed by doctors and nurses. BSE can easily be performed by women, irrespective of age and literacy level. BSE is widely promoted as an early detection method in all health care centers in Malaysia. Regular BSE practice not only helps women to find a breast lump but could also create awareness on the importance of early detection. Moreover, early detection of breast cancer has resulted in good prognosis and allowed better options for cancer treatment such as breast conserving surgery[8]. Despite saving lives, it also contributes to a better quality of life for all women[6].

In Malaysia and like many other countries, BSE screening is being recommended to all women by nurses in all their health teaching activities. The standard gold practice recommended by the Ministry of Health and The Malaysian Clinical Practice Guidelines 2002 in BSE screening is to conduct a monthly BSE (for women aged above 20) and do a yearly mammogram for women above the age of 40. The number of women diagnosed at an advanced stage is still viewed as a serious issue and this calls for an immediate intervention. Early detection of breast cancer through BSE could benefit the women, despite many arising controversies.

It is the role of nurses partly to teach women to do BSE correctly and to empower women with knowledge and on the importance of BSE. Studies have shown the importance of knowledge and attitude in performing BSE[7,9]. It is therefore essential that nurses are knowledgeable in BSE and practice BSE themselves. Little is known about nurses'screening behavior related to BSE in Malaysia as most studies done in the past target only women as their respondents. With this gap in theory, this study aimed to determine the knowledge, attitude and practice of BSE among nurses working in Obstetrics and Gynaecology wards in two tertiary hospitals and its association with socio demographic data.

MATERIALS AND METHODS

This cross-sectional study was conducted in two tertiary hospitals in Kuala Lumpur and Kelantan. The two tertiary hospitals i.e Hospital Universiti Kebangsaan Malaysia (HUKM) in Kuala Lumpur and Hospital Universiti Sains Malaysia (HUSM) in Kelantan are teaching hospitals with various disciplines including Obstetrics & Gynaecology. The study was conducted over a six month period after receiving approval from the Research and Ethics Committee of UKM Medical Centre. Permission to conduct this study was obtained from the directors of both hospitals – HUKM and HUSM.

A total of 132 sets of questionnaires were distributed to nurses who were working in Obstetrics & Gynaecology (O & G) wards and clinics of HUKM and HUSM, using a convenience sampling method. Nurses in this discipline were selected because they were in the front line providing health education on women's health issues in the O & G unit. HUKM has two Obstetric, two Gynaecology wards and one O & G clinic and HUSM has three Obstetric, one Gynaecology ward and one O & G clinic. A total of 69 nurses from the four O & G wards/clinics in UKMMC and 63 nurses

from the five O & G wards/clinics in HUSM were selected to participate in this study.

Instruments
Data were collected using self-administered questionnaires. The questionnaire was divided into knowledge on BSE (15 items), attitude towards BSE (25 items) and technique and frequency in practicing BSE (11 items). The knowledge of BSE part of questionnaires was developed and modified from BSE pamphlets produced by the Ministry of Health (MOH), Malaysia. Respondents answered items on a three point scale, ranging from "true", "false" and "don't know". The contents in the questionnaire were validated by experts and an 88% agreement was achieved. The internal consistency of the instrument was measured using Cronbach's alpha which yielded a measurement of 0.78. The response choices for each question were coded as 1 for "true" and "0" for false and "don't know".

The respondents' attitude towards BSE and practice of BSE were measured using an instrument adapted and modified from the study by Khadijah (2000). The attitude instrument consisted of 25 items and was clustered into three subscales: benefits (4 items), barriers (11 items) and self-confidence (10 items). Respondents answered on a 5-point Likert scale ranging from 1 (strongly disagree) for negative statements to 5 (strongly agree) for positive statements. A high score reveals a positive attitude of the respondents related to the construct. The practice of BSE instrument consisted of 11 items: Correct practice (9 item), frequency of practicing BSE (1 item) and correct time of practicing BSE (1 item). The response choices for each question were "true" or "false" . The "true" answer was coded as 1 and false answer was coded as "2". The internal consistencies of both parts of the questionnaire were measured and the Cronbach's alpha coefficient was 0.77.

Nurses were approached by the researcher in their respective wards at the place of work. The purpose of the study was explained prior to getting their consent. The respondents were assured that their participation was voluntary and all information obtained would be treated as confidential. They were also informed that it would not affect their image as nurses and was given the assurance that they had the right to withdraw from the study at any time.

Data were analysed using the SPSS version 16.0. Socio-demographic data were presented as descriptive data such as mean and standard deviation. Independent t-test and Chi-square were used to determine the relationship between

knowledge, attitude and practice of BSE and demographic characteristics.

RESULTS

A total of 132 sets of questionnaire were distributed, but only 114 (86.4%) nurses responded to participate in the study. From the total of 114 nurses, only 111 (97.4%) had practiced BSE. The three nurses (2.6%) who did not practice BSE were excluded from the study as they did not meet the inclusion criteria. Thus, the results of this study represent a final sample size of 111 respondents. Demographic characteristics measured were age, work experience, race, marital status, post basic midwifery course, inclusion of BSE in nursing curriculum and the nursing college they graduated from.

The age of nurses ranged from 23 to 53 years with a mean of 34.97(±9.104). The working experience of the nurses ranged from 1 to 31 years with a mean of 10.93(±8.185). Majority (82.0%) of the nurses were married and 20 (18.0%) were single. Nurses in this study were trained from various Colleges of Nursing which, for the purpose of this study were grouped into two: Colleges of the Ministry of Health (MOH) and Colleges of Public Institutions of Higher Learning. Of 111 nurses, 61 (55.0%) were trained in MOH Colleges and 50 (45.0%) were trained in Colleges of Public Institutions of Higher Learning.

A total of 52(46.8%) respondents had Midwifery qualification while 59(53.2%) nurses did not. Majority (91%) had been taught about BSE whereas 9% were not taught BSE during their undergraduate studies. Only 29.7% had attended a course on BSE and majority (70.3%) did not attend any course related to BSE (Table 1).
Majority (81.1%) of nurses had high knowledge regarding BSE and 18.9% had average knowledge and one had low knowledge of BSE. The mean score for knowledge is 11.07 (±0.997). Majority (98.2%) also showed good attitude and practice towards BSE and only two (1.8%) nurses were found to have poor attitude and practice towards BSE.

The attitude towards BSE was divided into three categories which are benefits, barriers and self-confidence. In relation to benefits, a large number of nurses (84.7%) "strongly agreed" that "practicing BSE will give a chance to detect lump", whereas 48.6% "agreed' that practicing BSE monthly will reduce the chance of dying from breast cancer; and 63.1% "strongly agreed" that 'if lumps were detected during BSE, breast cancer treatment will be less complicated. In relation to barriers towards performing BSE, 89 (75.2%) nurses "strongly disagreed" that they had doubts in practicing BSE whereby 65(58.6%) disagreed that they fear detecting a lump while performing BSE.

Majority (96.3%) strongly disagreed that they feel shy to perform BSE. Whereas, (84.7%) disagreed to the statement that there is no need to do BSE, if CBE has already been done in hospital. On the aspect of self-confidence, nurses agreed to the following: 103 (92.8%) agreed that they know how to perform BSE; can perform BSE correctly (89.2%); confident in detecting lumps in the breast (96.4%); confident in detecting lumps as big as 20 cents coin (81.1%); able to detect lumps of 5 cents coin (98.2%) and the ability to detect lumps as small as a peanut (72.1%).

Among the 111 nurses who were practicing BSE, only 98.2% were doing the technique correctly. However, only 35.1% were practicing it on a monthly basis as recommended by the MOH. The rest of the nurses were practicing it occasionally.

As part of the study, nurses were asked to give one main reason for practicing BSE. Majority of nurses (82.0%) cited "early detection of breast cancer" as the main reason, while the second highest reason cited was "for fear of developing breast cancer" (16.2%). Other reasons such as recommendation by doctor, information from mass media and encouragement from relatives received one response each or zero response.

Among the three respondents who did not practice BSE (2.6%) and were excluded in the actual analysis of data, lack of knowledge was the main reason for not practicing BSE.

The relationship between socio-demographic characteristics of nurses and their knowledge towards BSE, showed no significant relationship (Table 2). However, the relationship between age, working experience and BSE included in curriculum with attitude towards BSE, showed a significant relationship (p<0.05)(Table 3). The inclusion of BSE in nursing curriculum also showed a significant relationship (0.007) with practice of BSE (Table 4).

Table 1: Distribution of socio demographics characteristics of respondents (n=111)

Variable	N	%	Mean	Std dev
Age				
< 30 years	52	46.8	34.97	±9.104
> 30 years	59	53.2		
Race				
Malay	104	93.7		
Chinese	4	3.6		
Indian	1	0.9		
Others	2	1.8		
Marital status				
Single	20	18.0		
Married	91	82.0		
Working Experience				
< 5 years	41	36.9	10.93	± 8.185
> 5 years	70	63.1		
College of Nursing				
MOH	61	55.0		
PIHL	50	45.0		
Post basic course				
Yes	52	46.8		
No	59	53.2		
BSE Included in Curriculum				
Yes	101	91.0		
No	10	9.0		
Attend any course related to BSE				
Yes	33	29.7		
No	78	70.3		

DISCUSSION

Majority of the nurses in this study had high knowledge, attitude and practice regarding BSE. The rate of 81.1% is highly satisfactory and higher than the rate found in studies done on nurses in Singapore[9] where only moderate scores (58%) were achieved for knowledge on BSE. In comparison with other findings, studies done among nurses in Jordan and Pakistan[10,11] identified unsatisfactory level of knowledge. However, other studies found nurses to have a fairly high level of knowledge on BSE[12,13].

Several assumptions could be made on the high knowledge of BSE among nurses in this study. Firstly, BSE taught during undergraduate training could have contributed to the high knowledge among the nurses and is congruent to the findings of other studies [9,14]. Not only were nurses taught BSE, they also had to organize breast cancer campaigns in which BSE was included as part of patient education and were graded accordingly. Secondly, apart from inclusion of BSE in basic nursing curriculum, nurses could have improved their knowledge, attitude and practice of BSE further through the post basic midwifery program and years of working experience, despite the fact that findings did not reveal any significant relationship. Majority of the nurses in this study had work experience of more than five years in O & G wards/clinics. One study has suggested that clinical experience does influence knowledge of BSE[9].

Women's health is one of the components in Obstetric & Gynaecology module and midwifery programme. Studies have shown that nurses who were taught BSE during undergraduate programme and having undergone post basic courses were more knowledgeable and confident in doing BSE and did make a difference compared to nurses who were not taught BSE at all[9,15]. Thus, this study supports the importance of teaching BSE in undergraduate and advanced diploma programmes for nursing students and student nurse midwives.

Age, working experience and marital status showed no significant relationship with knowledge and practice of BSE. However, BSE taught during their undergraduate programme was found to have a significant relationship with practice of BSE. This finding is congruent with the findings of Demirkiran et al (2007), that women older than 30 years were more likely to practice BSE[14].

Table 2: Knowledge on BSE and its relationship with socio demographic characteristics of respondents (n=111)

Variable		n (%)	Mean (SD)	# P value
Age	<30 years old	52 (46.8)	11.07 (1.020)	0.891
	>30 years old	59 (53.2)	11.10 (0.912)	
Race	Malay	105(94.6)	11.05 (1.004)	0.282
	Non malay	6 (5.4)	11.50 (0.837)	
Marital Status	Married	91(82.0)	11.08 (1.017)	0.956
	Single	20 (18.0)	11.07 (0.998)	
Working experience	<5 years	41 (36.9)	10.98 (1.060)	0.438
	>5 years	70 (63.1)	11.13 (0.962)	
Post Basic	Yes	52 (46.8)	11.13 (0.929)	0.538
	No	59 (53.2)	11.02 (1.058)	
Basic Nursing	MOH	61 (55.0)	11.03 (0.999)	0.649
	Institutions of Higher learning	50 (45.0)	11.12 (1.003)	
BSE included in curriculum	Yes	101(91.0)	11.05 (1.014)	0.451
	No	10(9.0)	11.30 (0.823)	
Attend course related to BSE	Yes	33 (29.7)	11.09 (0.765)	0.898
	No	78 (70.3)	11.06 (1.085)	

*significant p<0.05   # Independent t-test

Teaching patients is part of nurses' role and patient education has been strongly emphasized in their undergraduate training. Nurses, being women themselves and being in the forefront of women's health care settings, play a prominent role in educating women on various women's health issues. Nurses in this study are working in Obstetrics and Gynaecology discipline and therefore, are directly involved in providing patient education to women on women's health issues. Accordingly, it is important for these nurses to have high knowledge on BSE, demonstrate a positive attitude and good practice towards BSE, as women looked upon them for information on BSE practice. The profession and the clinical discipline nurses are working in, could influence breast cancer awareness and knowledge[16].

The late detection of breast cancer and a low survival rate among Malaysian women still requires

due attention. In recent years, the Ministry of Health (MOH) and several non-governmental organizations have embarked on community programme to educate and empower women on the importance of BSE and early detection of breast cancer through the practice of BSE and mammograms. Nurses in hospitals all over Malaysia and in collaboration with voluntary organizations are continuously involved in promoting breast cancer awareness and teaching BSE to women. In view of that, nurses are aware that all women need to be educated and that could have been the motivating factor for nurses to equip their knowledge on BSE and learn how to detect breast lumps. It has been documented that nurse's involvement in patient education and patient care were found to have an impact on nurses understanding and knowledge of the disease and BSE[17].

Table 3: Attitude towards BSE and its relationship with socio demographic characteristics of respondents (n=111)

Variable		n (%)	Mean (SD)	# P value
Age	<30 years old	52 (46.8)	72.16 (10.966)	**0.001***
	>30 years old	59 (53.2)	78.59 (9.588)	
Race	Malay	105(94.6)	75.40 (10.601)	0.590
	Non malay	6 (5.4)	77.83 (12.891)	
Marital Status	Married	91(82.0)	74.30 (8.006)	0.571
	Single	20 (18.0)	75.80 (11.194)	
Working experience	<5 years	41 (36.9)	71.07 (11.470)	**0.001***
	>5 years	70 (63.1)	78.14 (9.322)	
Post Basic	Yes	52 (46.8)	78.02 (9.702)	0.664
	No	59 (53.2)	73.34 (11.099)	
Basic Nursing	MOH	61 (55.0)	78.15 (9.174)	**0.004***
	Institutions of Higher Learning	50 (45.0)	72.34 (11.584)	
BSE included in curriculum	Yes	101(91.0)	75.32 (11.108)	0.503
	No	10 (9.0)	77.70 (4.218)	
Attend course related to BSE	Yes	33 (29.7)	78.55 (10.368)	0.053
	No	78 (70.3)	74.26 (10.620)	

*significant p<0.05   # Independent t-test

This study revealed that a high percentage of nurses (98.2%) showed good attitude towards BSE and only two showed poor attitude. Barrier as an attitude category was found to be a significant predictor and self confidence as another category proved to be an influencing factor on BSE performance. Benefits of BSE as the third category were also one of the motivating factors in BSE knowledge and performance. Majority of the nurses cited early detection of breast cancer as the main reason for practicing BSE. It is a known fact that BSE can lead to women detecting breast lumps at an early stage[6]. Many breast cancer patients have reaped the benefits of early detection through BSE practice. Moreover, BSE is painless, easy to do, does not involve any cost, non invasive and can be practiced by all women irrespective of literacy level. Besides that, it can offer better options for treatment and a better quality of life if cancer is detected at an early stage[6]. Despite the inconsistencies in the findings of several studies regarding the effect of BSE on early detection and mortality rates in breast cancer[18], it is strongly recommended in Malaysia as an effective breast cancer screening tool.

A high percentage of nurses in this study practiced BSE but only 35.1% practiced BSE on a monthly basis as recommended by MOH, while the rest practiced it only occasionally. For this study, this is an important finding as majority of nurses were not complying with MOH recommendation for BSE practice in term of frequency. Indeed, It is a disturbing factor as nurses being role models to the women population should be practicing what they preach. This finding is similar to findings of other studies[9,19,20,21,22,23,24]. Further investigation needs to be done to find out the reasons that prevent nurses in this study to practice BSE on a monthly basis.

Perceived barriers were identified as one of the reasons why women skip their monthly BSE. According to researchers, as barrier perception and self-confidence increases in a woman, the frequency in BSE practice tend to decrease[20,24]. Another controversial issue on the monthly practicing of BSE was that itis considered to cause more harm than good. The Canadian Task Force has recommended the practicing of BSE to be discontinued as they found out that women who practiced BSE on a regular basis experienced a high level of anxiety, unnecessary visits to their physician and benign biopsies[25]. Many health care bodies of developing countries disagreed to the recommendation of discontinuing BSE practice mainly because most breast cancer lumps were detected by the women themselves before the invention of mammography. Through practicing of BSE, women have been given the responsibility to take care and understand their own breast.

Table 4: Practice of BSE and its relationship with socio demographic characteristics of respondents (n=111)

Variable		n (%)	Mean (SD)	# P value
Age	<30 years old	52 (46.8)	8.16 (0.903)	0.452
	>30 years old	59 (53.2)	8.02 (1.025)	
Race	Malay	105(94.6)	8.10 (0.915)	0.520
	Non malay	6 (5.4)	7.83 (1.722)	
Marital Status	Married	91(82.0)	8.04 (0.786)	0.389
	Single	20 (18.0)	8.25 (0.786)	
Working experience	<5 years	41 (36.9)	8.27 (11.470)	0.118
	>5 years	70 (63.1)	78.14 (9.322)	
Post Basic	Yes	52 (46.8)	8.04 (1.047)	0.664
	No	59 (53.2)	8.12 (0.892)	
Basic Nursing	MOH	61 (55.0)	8.03 (0.999)	0.562
	Institutions of Higher Learning	50 (45.0)	8.14 (0.926)	
BSE included in curriculum	Yes	101(91.0)	8.16 (0.857)	**0.007***
	No	10 (9.0)	7.30 (1.567)	
Attend course related to BSE	Yes	33 (29.7)	8.03 (1.185)	0.720
	No	78 (70.3)	8.10 (0.862)	

*significant p<0.05   # Independent t-test

Doing mammography on a yearly basis may not be convenient to most women and can be a financial burden for some. Many women do default their yearly mammography appointments and very often rely on BSE to detect early breast lumps. In fact, it has been reported that regular practicing of BSE not only benefit women in the urban area but may also benefit women who lives in rural areas and who lack resources such as mammography screening opportunities[26]. Despite all the debatings and arguments, the World Health Organization (WHO) and MOH recommendations have to be compiled with until a more appropriate recommendation is made.

Up to this point, this study confirms that BSE is still an effective method in detecting breast lumps if only it is practiced regularly and correctly. Regular performance of BSE is to be continued and is necessary to improve women's knowledge and proficiency in BSE and boost self confidence.

LIMITATION OF STUDY
The only limitation in this study is the small sample size and the study settings. Future studies should comprise nurses from MOH hospitals. Findings of this study are only confined to the two teaching hospitals involved and therefore, cannot be generalized. No studies conducted in Malaysia have shown any figures on nurse's knowledge,

attitude and practice of BSE. More studies should be undertaken to support the findings of this study. Future studies using a qualitative approach should focus on why nurses are reluctant to do BSE on a monthly basis.

CONCLUSION

Nurses' scores on knowledge, attitude and practice on BSE are high and satisfactory and nurses should continue to equip themselves with good practice of BSE. They need to comply to MOH recommendations in BSE practice, in terms of frequency. This issue is of importance and needs to be seriously addressed. Nurses play a primary role in establishing health behaviors and increase awareness of breast cancer and BSE practice among women in this country. Intervention strategies such as conducting continuing nursing education (CNE) courses must be the focus. The teaching should emphasize the importance of complying with good practice especially in making BSE a monthly habit. This study emphasizes the importance of BSE for nurses and strongly recommends it to be taught in undergraduate curriculum of all nursing schools in Malaysia.

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