RESEARCH COMMUNICATION

Awareness and Practice of Breast Self Examination Among Malaysian Women with Breast Cancer

Siew Yim Loh[1,2*], SL Chew[1]

Abstract

Breast self-examination (BSE) is a self-generated, non-invasive and non-irradiative method of breast cancer detection. This paper documents Malaysian women's awareness and practice of regular BSE as a potent breast cancer detection tool. A pre-test post-test questionnaire survey on women diagnosed with breast cancer (n=66) was conducted. Descriptive statistics and Chi-square tests were performed to correlate demographic variables, knowledge and regular practice of BSE. Findings showed that 80% of the breast cancer survivors self-detected the breast lumps, despite a high 85% of these women reporting they were never taught about BSE. More than 70% of the women maintained that lack of knowledge/skill on the proper practice of BSE was the key barrier to a more regular BSE practice. After an educational intervention on BSE and breast awareness, we found an increase report from 17% (at pre-test) to 67% (at post-test) of self reported monthly BSE practices. Provision of self-management education incorporating BSE, a readily available cheap method, should be introduced at primary care and breast clinics. This strategy promotes women's self-efficacy which contributes towards cancer control agenda in less resource available countries around Asia Pacific. Longer follow up may be crucial to examine the adherence to positive BSE behaviour.

Keywords: Breast cancer - breast self-examination - breast screening - awareness

Asian Pacific J Cancer Prev, **12**, 199-202

Introduction

Breast cancer is the most prevalent cause of cancer morbidity and mortality in women, despite strong evidence that early detection saves lives. The World Cancer Report stated that over 1.1 million women worldwide werediagnosed with breast cancer while 410,000 die from the illness each year (Stewart and Paul Kleihues, 2003). In Malaysia, there were 11,952 new cases of breast cancer reported from the year of 2003 to 2005, and the crude incidence rate for 2004 is 41.3 per 100,000 population (Lim et al., 2008). The incidence of breast cancer is highest among Chinese population (66.1 per 100,000), followed by Indians (47 per 100,000) and Malays (27.7 per 100,000). This means that around 1 in 16 Chinese women in the country will develop breast cancer in their lifetime (Lim et al., 2008). The 'twin peaks' presentation on incidence of breast cancer in Malaysia is contributed by the 50 to 59 years old age group in Chinese and Malay population (the first peak), and by the prevalence of Indian population at over 60 years old (the second peak).

With more awareness and better treatment, the survival rates of women with breast cancer has improved greatly (Richards et al., 2000). Breast self-examination (BSE) and mammography are effective screening methods to diagnose breast cancer at an early stage. A systematic review of screening with mammography showed that for every 2000 women who had mammographic screening throughout 10 years, one will have her life prolonged (Gotzsche and Nielsen, 2006). However, the efficacy of BSE remains controversial. Large population-based randomised trial suggested that BSE did not reduce mortality from breast cancer (Thomas et al., 2002), while a number of study reported women who practised BSE tend to have their tumours diagnosed at an earlier stage (Gastrin et al., 1994; Auvinen et al., 1996) and consequently have better survival rates (Koibuchi et al., 1998). Despite evidence that BSE may not reduce mortality rate, it clearly have benefits on early detection which contributes to saving lives. The role of BSE is critical especially in less developed countries around Asia Pacific region, as even mammography is costly and may not be within the access of those with lower socio-economic status. In Malaysia, 30-40% of the breast cancer patients were diagnosed in late stages (Hisham and Yip, 2004). There is a paucity of data on the awareness of breast cancer, knowledge and practice of BSE in Malaysia. The most recent survey on the practice of BSE among Malaysian women was performed in 1996, where the overall prevalence of BSE is 46.8%, followed closely by clinical examination (31.1%)

*[1]Department of Rehabilitation Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, [2]Centre for Research into Society and Disability, Curtin Health Innovation Research Institute, Curtin University of Technology, Australia *For correspondence : syloh@um.edu.my*

and mammographic screening in only 3.8% of women (Ministry of Health, 1999). These screening methods are not a policy in Malaysia, so the values are negligible with the limited information and resources at present (Lim, 2002). This pre-test post-test survey aims to determine the knowledge and practice of BSE among breast cancer patients in Malaysia and if there is any change in the uptake of regular BSE behaviors.

Materials and Methods

Ethical approval for the entire study was obtained from the Medical Centre Research Ethics committee, Curtin Human Ethics Committee and Ministry of Health's Ethical committee. Informed consent was obtained at the beginning of the session. The subjects were women diagnosed with stage I-III breast cancer who attended a self-management program in which BSE and awareness practices were taught and practices with fellow women. Participants practised the examination on themselves and others in pairs. A structured questionnaire consisted of 12 questions was administered to elicit demographic data, knowledge and the practice of BSE before and after the informative session.

Secondary data generated was analysed using SPSS version 16 and Microsoft Excel. Data analysis included descriptive statistics for demographic data and Chi-Square tests were used to test for association between categorical variables, at the significance level of $p < 0.05$.

Results

Demographic status

A total of 66 patients who participated in the 4-week self management program, was available for the group educational session on BSE. Their age ranged between 28 years and 66 years and the mean age was 50.11 years old (± 6.51 years). This group consisted of 53 Chinese (80%), 7 Indians (11%), 4 Malays (6%) and 2 others (3%). Of the 66 patients, 54 patients were married, 9 patients were single and 3 were widowed, divorced or separated. More than 50% of the women completed tertiary education. There were 31% with stage 1, 50% with stage 2 and 17% with a stage 3 breast cancer. In this group, 65% of the subjects were unaware of their type of breast cancer, 39% were unaware of their cancer's HER_2 status, 24% were not aware of their grade of cancer, 15% not aware of hormonal status, and 5% unaware of their size of breast lump (see Table 1). Only 2% of the participants were smoking and drinking. More than half of the women engaged in moderate (35%) and active (21%) exercise weekly. The average of exercise per week was 3.98 hours and the mean body mass index was 22.7.

Knowledge and practice pertaining to BSE

80% of the breast cancer survivors self-detected lumps in their breasts, 14% detected from mammographic screening and followed by 3% was discovered by the doctors. 61% of the respondents stated that they knew about breast cancer screening programs and most indicated that electronic media such as television and internet (53%)

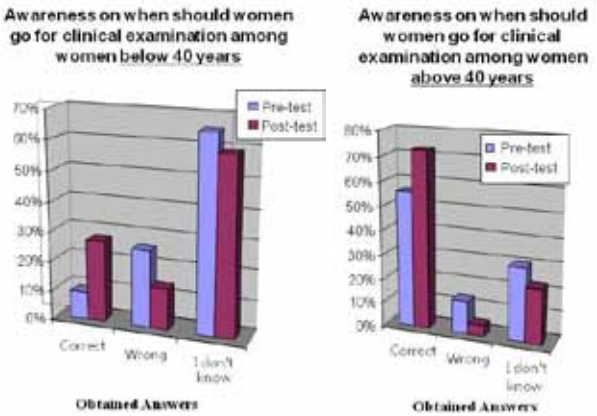

Figure 1. Answer to 'When should Women Under 40 Years (Left Figure) and Over 40 Years (Right Figure) Go for Clinical Breast Examination'

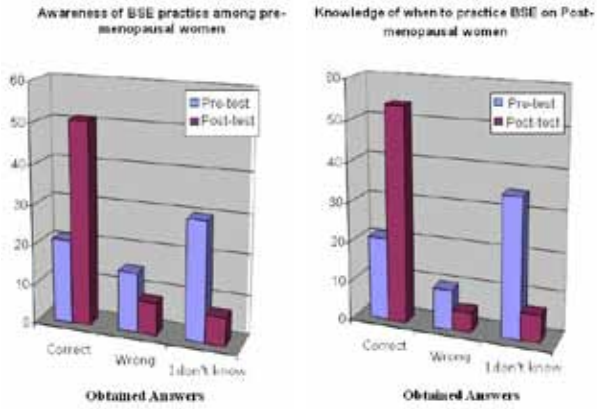

Figure 2. Answer to 'When to Practice BSE for Women at Pre-menopausal (Left Figure) and for Women with Post-menopausal (Right Figure) Status'

were their source of information. Although most women self detected their breast mass initially, only 17% of women reported performing regular BSE. Most women reported they were never taught about BSE (85%). The barrier to performing regular BSE was reported by these women as, the uncertainty of the proper BSE procedure (74%). As in Figure 1, there was a high percentage (more than 60%) who did not know the recommended guideline on when should women above 40years old have a clinical breast examination. The participants seem more aware of the significance of clinical examination for women above 40 years of age, than for women below 40 years old.

Figure 2 show the comparison of the answers from the participants before and after session on the recommended guide for BSE for premenopausal women, and for postmenopausal women. Less than 20% of the participants were aware of the recommended guide on when to practice BSE for premenopausal as well as for postmenopausal women. After the educational session, awareness improved from about 20% to 50% (for the recommended guide for premenopausal), and to more than 50% (the recommended guide for premenopausal women. The confidence level of practising BSE had increased from 33% at pre-session to 67% at post session. The BSE was significantly associated to knowledge about breast cancer screening program ($p<0.05$). The result indicates that a patient who is Chinese, married and obtained higher than

Table 1. Participants' Breast Cancer Profile

Characteristics	Number of participants (n)	Percentage
Type		
Ductal Carcinoma in Situ	1	2
Invasive Ductal Carcinoma	20	30
Invasive Lobular Carcinoma	2	3
Do not know	43	65
Grade		
I	11	17
II	14	21
III	25	38
Do not know	16	24
Tumour size		
0 - 1 cm	6	9
1 - 2 cm	22	33
2 - 5 cm	32	48
More than 5 cm	3	5
Do not know	3	5
Hormonal status		
ER and /or PR positive	34	52
ER and / or PR negative	22	33
Do not know	10	15
Herceptin status		
Her2 positive	19	29
Her2 negative	21	32
Do not know	26	39

secondary education is more likely to perform regular BSE. There were no significant differences between age group regarding BSE practice.

Discussion

Breast cancer screening may involve a number of methods which include BSE, clinical breast examination, mammography, magnetic resonance imaging and ultrasound. Mammographic screening is widely practiced in the developed world but it is expensive and beyond the reach of most patients in Malaysia. As mentioned above, mammography was only carried out in minuscule amount of Malaysian women (Ministry of Health, 1999). In Malaysia, where an organised population-based screening program is yet to establish, for each mammography cost around RM130. Hence, BSE fulfils the criteria being an ideal breast cancer screening modality that is simple, inexpensive and self-administrable.

Some 80% of the participants self-detected lumps and reported they were aware of the importance of BSE practice particularly after they were diagnosed. The result is consistent with previous studies which suggested self-detection as the primary breast cancer detection tool. A population-based case control study on 1619 women indicated 71% of the breast cancers were identified by self-detection whereas only 9% by routine clinical breast examination and 20% by mammography (Coates et al., 2001). Study by Aspinall (1991) also reported that more than 90% of breast cancer patients self-detected breast masses. However, the level of BSE practice were lower at pre-session, signifies that the practice of BSE is not extensive among Malaysian breast cancer survivors. Studies have shown that Asian women have low to moderate knowledge with poor to moderate BSE practice (Fung, 1998; Jarvandi et al., 2002; Parsa and Kandiah, 2005; Tavafian et al., 2009).

The knowledge pertaining to BSE increased after the informative session, representing that educational intervention plays a vital role to promote practices of BSE. Similar finding was reported whereby significant increase in the awareness and practices of BSE by 43% and 53% respectively were observed after the interventional health education was administrated among women in a semi-urban area of India (Gupta et al., 2009). The barriers to performing BSE includes uncertain of the proper technique, forgetful with a lack of encouragement to prioritise the regular BSE as a lifestyle habits for women. The most common reasons for not doing BSE were lack of knowledge (34%) and not believing in its necessity (36%) (Jarvandi et al., 2002). The Canadian National Breast Screening Study reported laziness, forgetfulness and a lack of confidence in skills (Baines et al., 1990) as the key barriers to BSE.

In this study, the women's practices varied according to their ethnicity, educational level, and marital status. Ethnicity is a controversial predictor of BSE practice, where some previous studies suggested it to be a factor in BSE noncompliance (Huguley and Brown, 1981; Celentano and Holtzman, 1983), yet recent study reported ethnicity did not predict compliance with BSE (Madan et al., 2000). In Malaysia, the delay in presentation of breast cancer is highly associated to social and cultural perception of disease (Parsa et al., 2008). Thus, ethnicity may be an influential variable because of the socio-cultural beliefs embedded in certain ethnic groupings. A descriptive cross-sectional study among a total sample of 281 women in Nigeria stated respondents with tertiary education were more aware of BSE (Balogun and Owoaje, 2005) which its finding is consistent with this study. Consistent finding supported the practice of BSE was more frequent in married women (Parsa and Kandiah, 2005). Previous study conducted in Malaysia has also reported variables such as age, education level, health insurance, history of breast cancer which were not found to be significant predictors to compliance in BSE practices (Parsa et al., 2008). The results of this study provide a preliminary understanding on knowledge and practices of BSE targeted to Malaysian women with breast cancer. However, more research evidence is needed to confirm the significant differences between demographic variables (e.g. age, ethnic, educational level) and BSE practice. Interventions are needed to improve the self efficacy of women to engage in regular breast awareness as well as BSE practices. With better uptake of BSE behaviour, the opportunities for early detection can be increased. Breast cancer is set to become a chronic illness, where women need to be empowered and to self manage living effectively over an indefinite period of time.

In conclusion, the efficacy of BSE may still remain controversial due to no evidence of lowered mortality and higher anxiety presentation. However, the fact that 80% of the breast cancer survivors in this study self-detected their breast lumps (despite revelation that they do not know how to do proper BSE) should be highlighted. Therefore, it is more important to encourage women to be aware of their

breasts in order to recognize or detect any abnormalities in their body. With an educational intervention, the study indicated that health behaviour of breast self examination can be improved. Monthly BSE can improve women's awareness of what is normal and when it is not on other days (Marilynn, 2001). Promoting breast cancer awareness and BSE heightens women's awareness and sensitise them to the significance of even skin thickening or small lump. This allows for even an accidental palpation of any change in the breast to be registered and to trigger action to come forth for clinical examination at an earlier stage.

This study shows that knowledge and practice of BSE remains low among women with history of breast cancer. The American Cancer Society (Smith et al., 2003) and the Malaysian Clinical Practices Guidelines (Academy of Medicine, 2002) encourage women to be aware of how their breasts look and feel so that they will be able to detect changes and/or more likely to consult a physician without delay. In order to strive for this goal across developing countries in Asia Pacific, effective public awareness and health promotion program such as self management intervention programs are needed to enable women to confidently perform regular breast screening (or breast awareness). Provision of self-management education incorporating BSE, a readily available cheap method, should be introduced at primary care and breast clinics, to promote women's self efficacy which contributes towards cancer control agenda in less resource available countries around Asia Pacific. Future research can investigate in more depth such breast cancer screening practices among Malaysian women within different ethnic, age, socioeconomic or educational background as the predictors for regular BSE practices, and as indicators for health disparity.

Acknowledgments

The authors thank the Malaysia National Cancer Council (MAKNA) and the women who participated in the study. The authors declare no potential conflict of interest.

References

Academy of Medicine (2002). Clinical Practice Guideline for Breast cancer: Management Of Breast Cancer. Kuala Lumpur: Ministry of Health, Malaysia.

Aspinall V (1991). An effective way to reduce mortality: screening for malignant breast disease. *Professional Nurs*, **6**, 283-7.

Auvinen A, Elovainio L, Hakama M (1996). Breast self-examination and survival from breast cancer: a prospective follow-up study. *Breast Cancer Res Treat*, **38**, 161-8.

Baines CJ, To T, Wall C (1990). Women's attitudes to screening after participation in the national breast screening study. A questionnaire survey. *Cancer*, **65**, 1663-9.

Balogun MO and Owoaje ET (2005). Knowledge and practice of breast self-examination among female traders in Ibadan, Nigeria. *Ann Ibadan Postgraduate Med*, **3**, 52-6.

Celentano DD and Holtzman D (1983). Breast self-examination competency: an analysis of self-reported practice and associated characteristics. *Am J Public Hlth*, **73**, 1321-3.

Coates R, Uhler R, Brogan D, et al (2001). Patterns and predictors of the breast cancer detection methods in women under 45 years of age (United States). *Cancer Causes Control*, **12**, 431-42.

Fung SY (1998). Factors associated with breast self-examination behaviors among Chinese women in Hong Kong. *Patient educa counseling*, **33**, 233-43.

Gastrin G, Miller AB, To T, et al (1994). Incidence and mortality from breast cancer in the mama program for breast screening in Finland, 1973-1986. *Cancer*, **73**, 2168-74.

Gotzsche P and Nielsen PG (2006). Screening for breast cancer with mammography. *Cochrane Database of Systematic Rev*.

Gupta SK, Pal DK, Grag R, et al (2009). Impact of a health education intervention program regarding breast self examination by women in a semi-urban area of Madhya Pradesh, India. *Asia Pac J Cancer Prev*, **10**, 113-7.

Hisham A, Yip C (2004). Overview of breast cancer in Malaysian women: a problem with late diagnosis. *Asian J Surg*, **27**, 130-3.

Huguley CM and Brown RL (1981). The value of breast self-examination. *Cancer*, **47**, 989-95.

Jarvandi S, Montazeri A, Harirchi I, et al (2002). Beliefs and behaviours of Iranian teachers toward early detection of breast cancer and breast self-examination. *Public Hlth*, **116**, 245-9.

Koibuchi Y, Lino Y, Takei H, et al (1998). The effect of mass screening by physical examintion combined with regular breast self-examination on clinical stage and course of Japanese women with breast cancer. *Oncol Rep*, **5**, 151-5.

Lim G (2002). Overview of Cancer in Malaysia. *Jpn J Clin Oncol*, **32**, 37-42.

Lim G, Halimah Y, Rampal S (2008). *Cancer Incidence in Peninsular Malaysia, 2003-2005*. Kuala Lumpur: National cancer registry.

Madan AK, Barden CB, Beech B, et al (2000). Socioeconomic factors, not ethnicity, predict breast self-examination. *Breast J*, **6**, 263-6.

Marilynn L (2001). Breast self examination does more harm than good, says task force. *Lancet*, **357**, 2109.

Ministry of Health, M (1999). *National Health and Morbidity Survey, 1996*, Institute of public health. Kuala Lumpur, Malaysia.

Parsa P, Kandiah M (2005). Breast cancer knowledge, perception and breast self-examination practices among Iranian women. *Int Med J*, **4**, 17-24.

Parsa P, Kandiah M, Mohd Zulkefli NA, et al (2008). Knowledge and behavior regarding breast cancer screening among female teachers in Selangor, Malaysia. *Asian Pac J Cancer Prev*, **9**, 221-7.

Richards MA, Stockton D, Babb P, et al (2000). How many deaths have been avoided through improvements in cancer survival? *Br Med J*, **320**, 895-8.

Smith RA, Saslow D, Sawyer KA, et al (2003). American Cancer Society guidelines for breast cancer screening: update 2003. *CA Cancer J Clin*, **53**, 141-69.

Stewart BW, Paul Kleihues P (2003). World Cancer Report. IARC Press, Lyon.

Tavafian S, Hasani L, Aghamolaei T, et al (2009). Prediction of breast self-examination in a sample of Iranian women: an application of the health belief model. *BMC Women's Hlth*, **9**, 37.

Thomas DB, Gao DL, Ray RM, et al (2002). Randomized trial of breast self-examination in Shanghai: Final results. *J Nat Cancer Inst*, **94**, 1445-57.