RESEARCH COMMUNICATION

Is Breast Self Examination (BSE) Still Relevant? A Study on BSE Performance among Female Staff of University of Malaya

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Abstract

Objectives: This study aimed to determine the rate of breast self examination (BSE) among the female staff of University of Malaya and to determine the role of BSE in detecting breast abnormalities. **Methods:** A total of 1598 questionnaires were posted to all female staff, aged 35 years and above. Their knowledge on breast cancer, practice of BSE and detection rate of breast abnormality as confirmed by CBE was determined. **Results:** The response rate for this study was 45 percent (714 respondents). The rate of respondents having awareness on breast cancer was 98.7 percent. Eighty four percent (598) of the respondents had performed BSE in their lifetime. However, in only 41% was it regular at the recommended time. Forty seven percent (334) had undergone CBE at least once in a lifetime but only 26% (185) had CBE at least once in the past 3 years, while 23% (165) had had a mammogram. There was a significant relationship between CBE and BSE whereby those who had CBE were twice more likely to do BSE. Nineteen percent (84 respondents) of those who did BSE claimed they had detected a breast lump. Of these, 87% (73) had gone for CBE and all were confirmed as such. **Conclusion:** BSE is still relevant as a screening tool of breast cancer since those who detect breast lump by BSE will most probably go for further check up. CBE should be done to all women, especially those at highest risk of breast cancer, to encourage and train for BSE.

Keywords: Breast cancer - breast cancer awareness - BSE - CBE - women academics in Malaysia

Introduction

Breast cancer is one of the common cancers in which early diagnosis is possible and effective treatment is available. Breast self examination (BSE) is the easiest, at no cost and a useful practice to raise women's awareness of changes in their breast and body although its effectiveness and its potential use as screening method for detecting early breast cancer is debatable (Green and Taplin, 2003).

In developing countries with no resources of mammography screening, breast self examination (BSE) has been recommended as the most appropriate method for early detection of breast cancer as several previous studies have shown that women who had practice breast self examination were more likely to be diagnosed with early stage of breast cancer (Hill et al., 1988). A recent meta-analysis of trials of BSE training showed that BSE was associated with considerably more women seeking medical advice and having biopsy although not an effective method of reducing breast cancer mortality (Harvey et al., 1997).

Awareness on breast cancer among the adult female populations of Malaysia has been good with the response rate on breast cancer awareness at 99.1% as reported in

the 3rd National Health Morbidity Survey (2006). The overall prevalence of breast examination by any of the 3 methods (BSE, CBE and Mammogram) in this survey was 70.4%; the highest prevalence was for BSE (57.1%), followed by CBE (51.8%) and mammography (7.6%). The results showed an increment on the overall prevalence of breast self examination from the 2nd National Health Morbidity Survey (NHMS, 1996), which was 46.8% (screening rate by BSE was 34.1%, followed closely by CBE at 31.1%).

Local study on the risk factors of breast cancer in women of Kelantan was conducted by researchers from University Science of Malaysia in year 2000 (Norsaadah et al., 2001%). The study design was matched hospital-based case control study. Their results reconfirmed that the risk factors for the occurrence breast cancer in women of Kelantan were similar to those of the Western populations; nulliparity, overweight/obesity, family history of breast cancer and oral contraceptive usage. The rate of ever practice breast self examination (BSE) was 85.7% in breast cancer patients and 83.7% in the controls. However, the practice of monthly breast self examination was 17.7% and 19.0% in breast cancer patients and in controls, respectively.

Our aim was to assess the awareness and the practice

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of BSE among female staff of University Malaya, to consider the role of BSE in detecting breast abnormality, and to determine whether there is any relationship between BSE and CBE.

Materials and Methods

This is the first phase of an intervention study to increase the level of knowledge on breast cancer and practice of BSE among female staffs of University Malaya, a tertiary educational institution which employed about two thousand female staff. In this article, we present the results from the first phase of the study which was to assess the level of knowledge on breast cancer and to determine the rate of BSE performed by the female staff of University Malaya.

A cross sectional study was conducted to determine the level of awareness and the rate of practice of BSE. Self administered validated questionnaires were posted to all UM female staffs aged 35 years old and above. Although this study was extended to all female staff of UM, due to time constrain, we started the study on those females aged 35 years and above since they comprised of more than fifty percent of all the female staff and since they were the target group for the subsequent intervention study.

The dependent variables were awareness of breast cancer as a disease and on the practice of BSE. Independent variables included their working category, age, whether they had CBE at least once in the past one year, and whether there is any family history of breast cancer. Working group was divided by the status academician or non academician. All academicians had tertiary education while almost all respondents in the non academician group had education up to secondary level. Exception to those very senior workers, non academician was generally paid at lower salary than the academicians. In this study, the working category is used to indicate the socio-economic characteristics of the respondents.

Awareness on breast cancer was assessed on whether they have ever heard about breast cancer, the source of information, about the risk factors for breast cancer, family history of breast cancer, on history of hormonal treatment (for contraception or gynecological treatment), and their perception on their risk of developing breast cancer.

The practice of BSE included whether or not they had ever perform BSE in their lifetime, the frequency of performing BSE and the time when they usually perform BSE in the past one year. They were also asked to state whether they had ever detected any breast lump by BSE and on any actions taken upon discovery of breast lump. Other breast screening methods enquired were clinical breast examination by health workers and mammogram.

All data were entered into Statistical Package for Social Science Software (SPSS) version 17th in stages. All variables were treated as categorical variables and presented as percentages. Chi Square test and Fisher's Exact test was used to show whether the differences observed between the groups of comparison is significant or otherwise. The significant level was set at p<0.05. Chi

square test was also conducted to show whether there is association between BSE and CBE.

Results

A total of 1,598 questionnaires had been sent out to all female staff of UM aged 35 years old and above. The final response rate was 45% (714 respondents out of 1,132). The characteristics of the respondents and non respondents with regards to working group and age groupings were not significantly different. The distribution of respondents according to ethnicity is similar with UM female staff population. However, the distribution of respondents according to age group varies between each grouping whereby the proportion of respondents within age group 40 to 45 was observed to be higher than the population of similar group in UM, 20% and 11% respectively. Table 1 shows the characteristics of respondents and non respondents in the study.

The rate of awareness on breast cancer was very good; 98.7%. There was no difference in the proportion of respondents having knowledge on breast cancer according to working category (academician, administrative, services and support staff). Almost half of the respondents stated that they had most of the information regarding breast cancer from the health authorities. More than half of the respondents (51.8%) did not know about the risk factors of breast cancer. As for those who knew the risk factors of breast cancer (260 respondents), majority (75.4%) said having family history of breast cancer is a risk factor of breast cancer, 22.7% said food can cause breast cancer, 7.7% said taking any type of hormones, and 4.6% said not breast feeding can be a risk factor of developing breast cancer.

Almost equal proportions of the respondents perceived that they were at risk and not at risk of developing breast cancer, 21.2% and 21.0%, respectively. More than half (57.9%) did not know whether they were actually having at least a risk of developing breast cancer. Further analysis showed that 46.9% of respondents with positive family history of breast cancer perceived that they were at risk of breast cancer but only 24.0% of them who were on hormonal treatment perceived that they were at risk of

Table 1. UM Female Staff Aged 35 years old and Above (Respondents versus Non-respondents)

Female Staff		Respondents 714 (45%)	Non Respondents 884 (55%)	Total 1598
Working Category	Academic	192 (32/27%)	408 (68%)	600 (38%)
	*Non	522 (52/73%)	476 (48%)	998 (63%)
Age	35-39	175 (38/25%)	291 (62%)	466 (29%)
	40-44	143 (85/20%)	25 (15%)	168 (11%)
	45-49	200 (48/28%)	218 (52%)	418 (26%)
	50-54	143 (46/20%)	165 (54%)	308 (19%)
	>55	53 (22/7%)	185 (62%)	238 (15%)
Ethnicity	Malay	570 (46/80%)	663 (58%)	1233 (77%)
	Chinese	70 (38/10%)	116 (62%)	186 (12%)
	Indians	61 (42/8%)	85 (58%)	146 (9%)
	Others	13 (35/2%)	20 (65%)	33 (2%)

*Non academic comprised of 48% administrative, 34% services (i.e cooks, drivers, cleaners) and 18% support staff (laboratory, computer technician)

developing breast cancer.

The proportion of respondents who had ever performed BSE was 83.8% (596 out of 714 respondents). The proportion of respondents performed breast self examination (BSE) regularly, at monthly interval was 41% (246 out of 596 respondents who had ever performed BSE). There was no significant difference in the distribution of respondents who had ever done BSE according to working category, but when compared on performing BSE as recommended (regular, at monthly intervals), the proportion of respondents who had done BSE as recommended was highest among the administrative staff (34.4%), followed by academician (28.4%), service (24.3%) and support staff (13.1%).

Fifty nine percent (420) had undergone CBE at least once in a lifetime but only 26% (185) had CBE at least once in the past 1 year, while 25% (184) had done mammogram. The mean age of staff who went for mammogram was 48.5 years compared to those who did not do mammogram; 44 years (p=0.00). Among the four working categories, the proportion of respondents who had mammogram was the academician, followed by administrative staff, support and service staff (34.0%, 27.8%, 23.7% and 23.0%, respectively).

There was a significant relationship between performing BSE at regular monthly intervals and CBE. Sixty one percent of the respondents who had CBE performed BSE at regular monthly intervals, and 67% who had no CBE had not performed BSE at regular monthly intervals; p=0.019.

In total, 12% (84 of 714) of the respondents had history of breast lump. Seventy three respondents detected breast lump by BSE, which gave detection rate of breast lump by BSE at 18.1% among those who performed BSE. All those who detected breast lump by BSE went for further checkup with the healthcare worker and 63 respondents were confirmed to have breast lump. In other words 87% of the respondents (63 out of 73 respondents with breast lump) able to detect breast lump when it was actually there. No other form of breast abnormality was detected by BSE. Eleven other respondents were detected to have breast lump when attended CBE. Five of the 11 respondents who were found to have breast lump by CBE had been performing regular BSE. This means they could have missed detecting breast lump when it was actually there.

Discussion

As in any other local studies, the awareness of breast cancer is generally good. In this study, the working category corresponded to the level of education and income of the respondents. On the contrary, most females did not know the risk factors of breast cancer and many were unaware that they were at risk of having breast cancer. The level of education and income were not associated with awareness of breast cancer. In view of this, health education materials of breast cancer can be made suitable for all levels of population but should emphasize on the risk factors of developing breast cancer. Females' prescribed hormonal treatment should

be informed of their risk of developing breast cancer.

Compared to 3rd NHMS, the prevalence of ever performing BSE was higher among the female staff of University Malaya. The NHMS did not mention whether the prevalence of BSE reported was those who ever performed or those who performed BSE regularly at monthly interval, as recommended by the usual health education campaigns on BSE. Nevertheless, in this study the prevalence of those who performed BSE as recommended was 41%. There was no relationship between BSE and working category. This could means that the level of education and income did not influence performance of BSE as much as we thought.

The proportion of respondents having had CBE was low compared to the NHMS 2006. Again, the report did not separate between those who ever had CBE and had CBE in the last one year. If based on ever had CBE, then the findings were similar but in this study the focus was on having CBE in the last one year, in order to show association between CBE and BSE. The reason why CBE was low in this study is because CBE is dependent on the skill of the healthcare workers and could only be done at the most once a year, when the female undergoes yearly medical checkup. In most of the time, CBE is done by chance when females attending the healthcare facilities for other reasons.

There was as a significant relationship between CBE and BSE whereby those who had CBE were twice more likely to do BSE as recommended, than those who never had CBE. This would mean that CBE can influence female to perform BSE; although we could not determine which factor comes first. By any circumstances; BSE lead to CBE or otherwise, it should be appreciated. Usually by attending CBE a female will be taught on how to perform BSE. If a female is trained on BSE, they can perform it every month so that any changes to the breast can be noticed early. On the other hand, if they perform regular BSE, any changes to the breast could be detected early, which may lead to early checkup with the healthcare workers. Furthermore, it was reported that BSE is associated with more women seeking medical advice and biopsy and female is the best person to notice any changes to their breast for early consultation (Harvey et al., 1997).

The government realized that mammography is the only modality that has thus far been shown to reduce breast cancer mortality, but like any other country with limited mammography accessibility in terms of availability and affordability, CBE and BSE are important components of routine breast care. As suggested by Anderson et al. (2003) 'all women have the right to education about breast cancer, but it must be culturally appropriate and targeted and tailored to the specific population; when resources become available for screening, they should be invested in screening mammography.'

We could not comment whether the detection rate of breast lump or any breast changes by BSE in this study is good or otherwise since there is no local findings to compare with. However, the findings of this study indicated that breast lump detected by respondents through BSE was reliable since 87% of the breast lumps

detected by them were confirmed by the healthcare workers. We can say that the sensitivity of BSE performed by the respondents to detect breast lump was very good. Although the ultimate aim of breast screening is to reduce breast cancer mortality, the ability of the staff to be able to detect breast abnormality by BSE should not be denied. Indirect evidence could be seen in the study conducted by Foster and Costanza (1982) in which they had determined the relationship between BSE and survival of breast cancer patients, in which 1004 newly diagnosed invasive breast cancers was studied in general hospitals of Vermont. They observed that there was an association between more frequent performance of BSE prior to detection of breast cancer and earlier clinical and pathological stages of breast cancer at discovery. They concluded that women performing BSE more frequently were significantly more likely to detect their breast cancer themselves.

Regarding the sensitivity and specificity of BSE in detecting breast lump, in this study it was not possible to show the relationships between breast lump detected by BSE and those detected by CBE since we could not ascertained the time when CBE and BSE were done. Unless all the respondents who did regular BSE were called for CBE just before the study, we would be able to determine both rates. Nevertheless, the rate of the respondents who performed BSE able to detect breast lump was fairly good, which can be expected from females working in an academic institution.

Although the large well conducted randomized controlled trial from Shanghai study showed conclusively that teaching women how to examine their breasts does not lead to a reduction in mortality due to breast cancer compared with no screening at all, the role of BSE could be seen in several studies. Among which was the study conducted by researchers from University of Toronto whereby approximately 20,000 women were screened for breast cancer with BSE and annual CBE, and 20,000 were screened with BSE and mammograms. They observed for more than 10 years and reported 610 cases of invasive breast cancer, and 105 deaths from the group of BSE and annual CBE as compared to the BSE and mammogram group, which reported 622 cases of invasive breast cancer and 107 deaths. They concluded from the observation that diligent BSE can be the first line of defense against breast cancer (Harvey et al., 1997). In Australia, mammographic screening accounts for just over 30% of detected cancers (37% of early disease and 14% of advanced disease); the remainder are found by women themselves and their medical advisors. For younger women, BSE is usually the only avenue for detection of early or late breast cancer as clinician rarely offers clinical breast examination, and mammography is not effective (Ferlay et al., 2000).

Weiss (2003), reviewed the studies on the various breast screening methods and commented that most studies have found that breast cancers detected by BSE are smaller than those detected without screening and are more likely to be confined to the breast. He also stated that survival after a diagnosis of breast cancer tends to

be longer among women who practice BSE than among women who do not. However, neither observational nor randomized studies of BSE provide evidence that this screening modality reduces breast cancer mortality.

This study was the first stage of an intervention study to enhance awareness on breast cancer and practice of BSE. As such it was very descriptive which limited the analysis and interpretation of data. Furthermore, the findings could not be generalized to all females in the population due to different socio-economic background as well as narrowed age grouping of respondents.

In conclusion, awareness of breast cancer among the female staff of University Malaya was very good and the practice of BSE and CBE were satisfactory. Many females are unaware that they are at risk of developing breast cancer and most are not performing BSE because they do not know how to perform BSE. CBE should be done to all women to encourage and train them on how to conduct BSE. Encountering females during CBE is the best time to educate and assess them with regards to risk factors of breast cancer.

CBE should be done to all women especially those having risk of breast cancer to encourage and teach BSE. BSE is still relevant as a screening tool of breast cancer since those who detect breast lump by BSE will most probably go for further check up. BSE is still relevant if not for reducing the mortality of breast cancer; it can alerts women on any abnormal changes to their breast and may trigger them to seek for professional opinions.

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