Knowledge and Awareness of Breast Self-Examination among Secondary School Girls in Seremban, Negeri Sembilan

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Abstract

Objective: Breast Self-Examination (BSE) is an early detection method of breast cancer. It is able to develop responsibility for breast health among women to always aware of any changes in the breast. Thus, secondary school girls age is the perfect age to start practice the BSE. The purpose of this study is to determine the level of knowledge and awareness on BSE among secondary school girls in Seremban, Negeri Sembilan. Methods: A cross-sectional study was conducted among 502 secondary school girls using self-administered questionnaire covering socio-demographic data, knowledge and awareness of breast cancer and knowledge and awareness of BSE. Results: The mean age of the participants is 14.9 ± 0.06 years. The majority of the participants were Malays (86.5%). A total of 6.1% of the participants had a family history of breast cancer. Nine percent of participants had a good knowledge and 91.0% had poor knowledge regarding BSE. There is a significant difference between the age of participants with the level of knowledge and awareness (p = 0.014). Conclusion: The knowledge and awareness of BSE were poor among secondary school girls in Seremban, Negeri Sembilan.

Keywords: Breast Self- examination- knowledge- awareness- school girls

Introduction

Most breast cancers occur in older women [1] where the rates of breast cancer increased on age of 40 and highest in women in age of 50 to 59 [2] however incidence rate for breast cancer among all adolescents and young adults increased rapidly between 15 and 39 years of age [3]. Young women who developed invasive breast cancer experienced greater absolute and relative functional losses in physical role function, bodily pain, social function, and mental health compared with middle age or elderly women with the incident of breast cancer [4]. Therefore, early detection of breast cancer plays the leading role in reducing mortality rates and improving patient’s prognosis [5].

Breast Self-Examination (BSE) is a self-inspection technique where women will examine their own breasts by observing and palpating with their fingers to detect any abnormal changes and lumps. It is a monthly examination of the breast by women at the end of menstrual flow [6]. It is an important screening tool for early detection of breast cancer because it is cheap, widely available and does not require complex technical training [7]. It also enhances the sensitivity and alert on abnormal changes at earliest, so that women are aware of any breasts changes detected during BSE [8]. Additionally, by performing regular BSE, it is able to empower women and encourage them to take responsibility for their own health. Thus, it is recommended for raising women’s awareness of the importance of BSE.

However, they believes that they had very little chance of being diagnosed with breast cancer [9] and the finding of research that breast cancer commonly happened in women age 40 years old and above make the young women ignore this issues and not aware of the signs and symptoms such as breast characteristic changes.

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This is happened due to the lack of knowledge of breast cancer among young women [10-11]. Furthermore, most young women had a low level of knowledge in relation to BSE [12-13].

Although there were a lot of studies about the knowledge and awareness of BSE among female university students there are limited studies on secondary school girls. Therefore, this study was conducted among secondary school girls to determine the level of knowledge and awareness on BSE, to compare the level of knowledge and awareness on BSE between age group and to correlate the level of knowledge and awareness on BSE with age among secondary school girls in Seremban, Negeri Sembilan.

Materials and Methods

Study design and population

A cross-sectional study was conducted from February 2018 to July 2018 at five selected secondary schools in Seremban, Negeri Sembilan. 502 female students were recruited from age 13, 14 and 16 years old. Age 15 and 17 years old were excluded from the sampling frame in order to obey the rule from Ministry of Education Malaysia. Informed consent was obtained from all the participants.

Data collection

Each participant was given a set of validated questionnaire to answer. The questionnaire was designed to obtain information on socio-demographic data, knowledge and awareness of breast cancer and knowledge and awareness of BSE. It was developed based on information drawn from previous literature. A yes and no format answer was used on knowledge and awareness of breast cancer and BSE. The questionnaire was developed in Bahasa Malaysia, then translated into English. The translation was validated by an expert. The questionnaire was pre-test on 30 secondary female girls which not included in the final sample with the section regarding knowledge on breast cancer with $\alpha = 0.85$ and section regarding knowledge on BSE with $\alpha = 0.79$. In addition to questions on socio-demographic data (age, race, father’s and mother’s education and occupation, family history of breast cancer), the final instrument had 26 items where it covered general knowledge of breast cancer. The majority of the participants had little knowledge of the risk factors of breast cancer. The most widely known risk factors by the participants were having a family history of breast cancer (40.8%) and followed by obesity (31.5%). Most of the participants (62.9%) knew that BSE is an early detection technique for breast cancer. Health campaign was identified as the main source of information regarding BSE by 56.6% of the participants, followed by mass media and books and journals.

Ethical consideration

Permission was obtained from Ethical Review Board of KPJ Healthcare University College (KPJUC/RMC/EC/2018/121), Ministry of Education Malaysia [KPM.600-3/2-eras(115)] and the state education department [JPNS.SPS.PP.100-1/7 Jld.17(19)] to carry out this study in 5 selected secondary schools in Seremban, Negeri Sembilan.

Statistical analysis

All data were analysed using the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL) version 23.0 and Microsoft Excel. Categorical response (Yes/No/Don’t know) was applied for the question items. A score of 2 was assigned to each yes and correct answer, 1 to each not sure or don’t know answer while zero was assigned to no and incorrect answers. For knowledge and awareness of breast cancer, the total score was 52. By referring to the expert, a score of 0-42 was considered poor knowledge and 43-52 was considered good knowledge. Descriptive analysis was used to determine the level of knowledge and awareness on BSE. ANOVA test was used to compare the level of knowledge and awareness on BSE between age group and correlation was used to correlate the level of knowledge and awareness of BSE with age.

Results

A total of 502 questionnaires were fully completed. Table 1 shows the socio-demographic data of the participants. The age of the participants is from 13, 14 and 16 years old with the mean age of 14.99 ± 0.056. Overall, the majority of the participants, 437 (86.5%) were Malays, 48 (9.5%) were Indians, 14 (2.8%) were Chinese and 3 (0.6%) were the others. Only 31 (6.1%) out of the participants had a family history of breast cancer.

Knowledge regarding breast cancer is shown in Table 2. The knowledge of breast cancer among participants was poor with only 8 (1.6%) had good knowledge regarding breast cancer. Most of the participants had little knowledge of the risk factors of breast cancer. The most widely known risk factors by the participants were having a family history of breast cancer (40.8%) and followed by increasing the age (24.4%). However, important risk factors such as usage of contraceptive pills never had a child and obesity were less known by participants as the risk factors of breast cancer. Most of the participants (29.7%) did not know the early detection method for breast cancer.

Table 3 shows the participants’ knowledge regarding BSE. The knowledge and awareness of BSE among participants were poor with only 45 (9.0%) of participants had a good knowledge while about 457 (91.0%) had poor knowledge regarding BSE. More than half of the participants (53.0%) did not know about BSE. However, the majority of the participants (62.9%) knew that BSE is an early detection technique for breast cancer. Health campaign was identified as the main source of information regarding BSE by 56.6% of the participants, followed by mass media and books and journals.

Most of the participants (76.3%) have never been taught the correct way on performing BSE. Out of the participants that been taught the correct way in performing BSE, the majority said doctors played important role in teaching them the BSE (16.3%) and followed by nurses (13.5%). The knowledge regarding BSE is poor among the participants which only 3.2% knew the age recommended for BSE practices and only 12.7% knew the appropriate
Table 1. Socio-demographic Data (n=502)

| Socio-demographic                  | Frequency | Percentage (%) |
|------------------------------------|-----------|----------------|
| Age (years old)                    |           |                |
| 13                                 | 99        | 19.6           |
| 14                                 | 105       | 20.8           |
| 16                                 | 298       | 59.0           |
| Race                               |           |                |
| Malay                              | 437       | 86.5           |
| Chinese                            | 14        | 2.8            |
| Indian                             | 48        | 9.5            |
| Others                             | 3         | 0.6            |
| Father’s education                 |           |                |
| Primary school                     | 18        | 3.6            |
| Secondary school                   | 224       | 44.4           |
| Diploma holder                     | 153       | 30.3           |
| Bachelor Degree                    | 67        | 13.3           |
| Master Degree                      | 29        | 5.7            |
| Ph.D. holder                       | 11        | 2.2            |
| Father’s occupation                |           |                |
| Government sector                  | 123       | 24.4           |
| Private sector                     | 227       | 45.0           |
| Self-Employed                      | 132       | 26.1           |
| Not/ Has not been employed         | 20        | 4.0            |
| Mother’s education                 |           |                |
| Primary school                     | 34        | 6.7            |
| Secondary school                   | 247       | 48.9           |
| Diploma holder                     | 136       | 26.9           |
| Bachelor Degree                    | 53        | 10.5           |
| Master Degree                      | 23        | 4.6            |
| Ph.D. holder                       | 9         | 1.8            |
| Mother’s occupation                |           |                |
| Government sector                  | 127       | 25.1           |
| Private sector                     | 91        | 18.0           |
| Self-Employed                      | 92        | 18.2           |
| Not/ Has not been employed         | 192       | 38.0           |
| Family history of breast cancer    |           |                |
| Yes                                | 31        | 6.1            |
| No                                 | 471       | 93.3           |

Table 2. Knowledge on Breast Cancer

| Knowledge regarding breast cancer | n (%) |
|----------------------------------|-------|
| Knowledge on breast cancer       |       |
| Good                             | 8 (1.6)|
| Poor                             | 494 (98.4)|
| Risk factors of breast cancer    |       |
| Having family history of breast cancer | 206 (40.8) |
| Never had a child                | 42 (8.3)|
| Never breastfeeding              | 107 (21.2)|
| Usage of contraceptive pills     | 67 (13.3)|
| Obesity                          | 72 (14.3)|
| Increasing of age                | 123 (24.4)|
| Knowledge on early detection of breast cancer |       |
| Yes                              | 149 (29.7)|
| No                               | 353 (70.3)|

Discussion

Early detection of breast cancer plays an important role in reducing breast cancer mortalities. Developing a good health practice should be started from an early age as this can develop a good healthy attitude. Thus, school-age girls are fit for the target for early exposure regarding knowledge of breast cancer and early detection method of breast cancer.

In this study, the majority of the participants (91.0%) had poor knowledge regarding BSE. This is because most of the participants (53.0%) stated that they did not know about BSE. This showed that BSE is not well known among young females due to poor health behaviour and attitudes regarding breast cancer. Similar findings found in the previous study done in Turkey, the study showed that young females in Turkey did not have sufficient knowledge about BSE, where only 13.2% knew the appropriate time for BSE, 21.8% knew the frequency of BSE and 26.6% knew the procedure of BSE [14]. This is consistent with a study conducted in Malaysia where less than 1% of the participants had very good knowledge and more than 30% of the study population had poor to very poor knowledge [10].

The majority of the participants (93.9%) had no family history of breast cancer. This might be the reason that contributes to the high number of participants with poor knowledge of BSE. The family history of breast cancer is one of the risk factors for breast cancer [15]. However, according to American Cancer Society (2015), the majority of women with the first-degree relative with breast cancer will never develop breast cancer while most of the women with no family history of the disease will develop them. This is because women with a family
The knowledge and awareness of Breast Self-Examination (BSE) among secondary school girls in Seremban, Malaysia is important to prevent breast cancer. This study aimed to assess their knowledge regarding BSE. According to the findings, about 29.9% of the participants had a knowledge of risk factors of breast cancer. However, only 8.3% and 13.3% of the participants knew that age of 9 and it continues to fully develop around the age of 13 years old. This is due to the fact that breast cancer and BSE practice among female students in the University of Buea, where television (19.9%) and radio (10.8%) were the main sources of information for BSE. These findings clearly showed that health campaign and mass media were able to give information regarding BSE to the participants. Similar findings by Akhtari-Zavare et al. (2013) stated that radio and television were the main sources of information for breast cancer and BSE practice among female students at University Putra Malaysia. This is supported by the study in the University of Buea, where television (19.9%) was the most widely chosen source of information by the participants [18]. This showed that the media plays a vital role in giving information for the young females as it is presented accessibly and nicely attracts the youth [19].

The relationship between the age of the participants and the level of knowledge and awareness regarding BSE showed that there was a significantly different (p = 0.014). The mean of knowledge increases with age indicates that there was higher knowledge regarding BSE in the participants with age of 14 and 16 years old compared to 13 years old. This is supported by the study in by Nde et.al (2015) that stated that age did have significant effect on the knowledge of BSE. Increasing in the age of women will increase the level of knowledge and awareness of BSE. This is due to the fact that most girls’ breast development begin with breast budding around the age of 9 and it continues to fully develop around the age of 17 [20]. Thus, this will increase the awareness of breast health among the girls. However, there is no significant linear relationship between age and level of knowledge and awareness of BSE (p = 0.072). This showed that the level of knowledge and awareness regarding BSE between the participants have no large difference despite having

Table 3. Knowledge of BSE

| Knowledge regarding BSE | n (%) |
|-------------------------|-------|
| Good                    | 45 (9.0) |
| Poor                    | 457 (91.0) |

Table 4. Sign and Symptoms to be Paid Attention while Performing BSE (n=502)

| Sign and symptoms | n (%) |
|-------------------|-------|
| Change in the size and shape of the breast | 340 (67.7) |
| Changes in the skin colour of the breast | 225 (44.8) |
| A sudden discharge from the nipple | 355 (70.7) |
| A reddish swollen breast | 354 (70.5) |
| A lump on the breast | 359 (71.5) |
| Wrinkles around the breast | 248 (49.4) |
| An inserted nipple | 241 (48.0) |

ANOVA, two sided P value <0.05
a different age.

In conclusion, the findings of this study are in keeping with previous studies in which the knowledge and awareness of BSE were found to be poor among secondary school girls in Seremban, Negeri Sembilan, however, there is the significant difference between the different ages. Therefore, an educational intervention program is necessary to improve the knowledge and awareness about BSE among secondary school girls. In order to improve knowledge and awareness of BSE, it is important to initiate an educational intervention program to provide an early exposure on BSE and to develop positive health behaviour on the breast at the early age.

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