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## ORIGINAL ARTICLE

# Knowledge And Awareness Of Breast Cancer And Mammography Among Women In Klang, Selangor

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## Abstract

Breast cancer (BC) is considered as one of the most common cancers among women and almost 2.1 million women are diagnosed with it each year around the world. The high mortality rate by breast cancer is mainly because of the late diagnosis of breast cancer which is because of the lack of awareness and knowledge about breast cancer itself and its screening methods among women. The gradually increasing mortality rate can be decreased by early detection of breast cancer. A validated questionnaire was adopted from a similar study that was done in Shah Alam, Selangor. The questionnaire consists of three sections namely sociodemographic status, knowledge about breast cancer and awareness of mammography. Most of the respondents (84.1%) stated that breast cancer is the most common cancer in Malaysia. In terms of risk factors, the majority (96.2%) of the respondents stated that genetic and family history is a risk of breast cancer while only 3.8% of them did not. 15 respondents received knowledge scores of which are less than 8 (very poor), 46 respondents have obtained scores from 8 to 11 (poor), 56 respondents have obtained scores from 12 to 16 (moderate) and 15 respondents have obtained scores from 17 to 20 (good). None of the respondents obtained scores of more than 20 (very good). This study shows that the respondents have very poor to moderate level of breast cancer knowledge. Mammography awareness was acceptable among the respondents as more than half of them knew about it.

**Keywords**: Mammogram awareness, MMG, breast screening

## Introduction

Breast cancer was the most widely recognized form of cancer among females in the Asia-Pacific, representing 18% of all cancer diagnoses (Youlden, Cramb, Yip, & Baade 2014). Breast cancer usually has a higher rate in more developed regions of the country but nowadays it is rapidly increasing in nearly every region in the world (WHO 2018). The occurrence of this disease in developed countries differs from 1 to 2 per cent, with almost 5% yearly rise in less developed countries (Ataollahi, Sharifi, Paknahad, & Paknahad 2015).

Women of all ages are at jeopardy when it comes to breast cancer and the potential risk rises with increasing age (Omotara & Yahya 2012). In Malaysia, the frequency rate of breast cancer documents a steady raise amid all races and ethnicities beginning from the age of 30 to the peak age of 50 to 59 (Samsudeen & Omar 2018).

A survey done in Malaysia stated that different educational level affects each women's perspective on breast cancer differently. Breast cancer awareness is lower among women who are less educated and have lower socioeconomic status (Abu Samah, Ahmadian, & Latiff 2016). Different types of occupations usually correspond to different educational levels. This means knowledge of health care would also vary among these educational levels (Liu et al. 2014).

The high mortality rate by breast cancer is mainly due to the late breast cancer diagnosis which is because of the insufficient awareness of screening methods and breast cancer knowledge itself besides its screening methods among women. The gradually increasing mortality rate can be decreased by earlier detection of breast cancer. It is stated that early diagnosis and the initiative to go for a breast cancer screening will improve health substantially (Samsudeen & Omar 2018). Moreover, breast cancer awareness and knowledge of its screening procedures among Malaysian women are not well documented like other countries (Al-Dubai et al. 2011). Breast cancer screening is dependent on knowledge and awareness. So, if knowledge is poor among women, it will be quite problematic to promote awareness (Akhigbe & Omuemu 2009).

Therefore, this study aims to identify whether sociodemographic characteristics affect knowledge of breast cancer and awareness of mammography among women. By understanding the women's awareness and knowledge of breast cancer can aid in planning and organizing interventions for women in our country to gradually reduce the mortality rates caused by breast cancer.

## Materials and Methods

To conduct this study, a validated questionnaire was adopted from a similar study that was done in Shah Alam, Selangor (Al-Dubai et al. 2011). The questionnaire consists of four sections which are sociodemographic status, knowledge about breast cancer, knowledge of risk factors and signs and symptoms and awareness of mammography. The questionnaire was structured in both English and Malay language so that it will be easier for everyone to understand.

The first part of the questionnaire is named as section A. This section A comprises of questions about sociodemographic characteristics of the respondents. There is a total of 6 questions in this section. Sociodemographic questions include questions on race, marital status, level of education, occupational status, family history of any other cancer and family history of breast cancer. The respondents had to choose 1 answer for each of these 6 questions. No scores or points were given for this section as this was just to collect the sociodemographic information of the respondents.

The second part of the questionnaire is named as section B and it includes questions about breast cancer knowledge. There is a total of 5 questions in this section regarding general knowledge of breast cancer. The respondents had to answer the questions by choosing either 'true' or 'false' for each question. 1 point was given for every correct answer and 0 points for each wrong answer.

The third part of the questionnaire is named as section C. It contains questions on risk factors and sign and symptoms of breast cancer. There are 10 questions for risk factors and 7 questions for sign and symptoms. The respondents had to answer the 24 questions by choosing either 'true' or 'false' for each question. 1 point was given for each correct answer and 0 points for each wrong answer.

The final part of the questionnaire has 2 questions. One question was about sources of information about breast cancer. This question was to find out how the respondents knew

about breast cancer. The respondents had to choose between 3 answer options. No point was given for this question.

Another question was about awareness of mammography. This question was to find out whether the respondents knew about mammography. The respondents had to answer the questions by choosing either 'yes' or 'no'. No point was given for this question.
The total score a respondent can get is 22 for knowledge of breast cancer and no scores for awareness of mammography.

The questionnaire was distributed to the respondents by two mediums which are face to face and online. For both mediums, consent was obtained from the respondents before filling up the questionnaire.

Knowledge scores were expressed as mean±SD. Independent T-test and One-way ANOVA test was applied to compare breast cancer knowledge scores among race, marital status and level of education. Pearson Chi-Square test was used to compare for the mammography awareness and socio-demographic characteristics such as race, marital status, level of education and family history of breast cancer. The accepted level of significance was less than 0.05 ($p<0.05$).

## Results and Discussion

There was no significant difference in breast cancer knowledge between the races, marital status, and level of education.(p value: races = 0.068 ; marital status = 0.637; level of education = 0.061). Among major races in Malaysia, Malay and Indian have a similar breast cancer knowledge Chinese women (Malay = 12.0±3.4 and Indian = 12.0±3.3) while other races had the highest scores (14.0±3.5) (Table 1). For breast cancer knowledge comparison between married and single women, married women (12.0±3.3) had slightly higher knowledge in comparison with single women (11.7±3.5) (Table 2). For comparison on the level of education, women who had studied in university (12.1±3.5) had greater knowledge when compared with women who studied in primary or secondary school (10.7±2.8) (Table 3).

Interestingly, there was a statistically significant difference in mammography awareness between the level of education (p value < 0.001) in which university graduates (74.5%) had higher mammography awareness than primary or secondary school leavers (38.5%) (Table 4). For other sociodemographic factors, which are race and marital status ,there was no statistically significant difference in awareness of mammography (p value: race = 0.172; marital status = 0.056). As like the level of breast cancer knowledge, Chinese women also had the lowest percentage in mammographic awareness compared to other races (57.7%). Surprisingly, all of the women from other races know about mammogram.
Those who were single (74.6%) had more awareness of mammography than those who were married (59.0%).

**Table 1**: Comparison between the races and knowledge of breast cancer using One-way Anova

| Variable | Mean (SD) (scores) | | | | P value |
|---|---|---|---|---|---|
| | Malay | Chinese | Indian | Others | |
| Race | 12.0 (3.4) | 10.6 (3.2) | 12.0 (3.3) | 14.0 (3.5) | 0.068 |

**Table 2**: Comparison between the marital status and knowledge of breast cancer using Independent T-test

| Variable | Mean (SD) (scores) | | P value |
|---|---|---|---|
| | Married | Single | |
| Marital Status | 12.0 (3.3) | 11.7 (3.5) | 0.637 |

**Table 3:** Comparison between the education level and knowledge of breast cancer using One-way Anova.

| Variable | Mean (SD) (scores) | | P value |
|---|---|---|---|
| | Primary or Secondary | University | |
| Level of Education | 10.7 (2.8) | 12.1 (3.5) | 0.061 |

**Table 4:** Relationship between the sociodemographic characteristics and awareness of mammography using Pearson Chi-Square test.

| Characteristics | Do you know about mammography? | | P value |
|---|---|---|---|
| | Yes | No | |
| | n (%) | n (%) | |
| **Race** | | | 0.172 |
| Malay | 38 (67.9) | 18 (32.1) | |
| Chinese | 15 (57.7) | 11 (42.3) | |
| Indians | 28 (66.7) | 14 (33.3) | |
| Others | 8 (100) | 0 (0) | |
| **Marital Status** | | | 0.056 |
| Married | 36 (59.0) | 25 (41.0) | |
| Single | 53 (74.6) | 18 (25.4) | |
| **Level of Education** | | | <0.001 |
| Primary or Secondary | 10 (38.5) | 16 (61.5) | |
| University | 79 (74.5) | 27 (25.5) | |

Based on this study, other ethnicity had the highest breast cancer knowledge scores when compared with the other races. The women of other ethnicities in this study are all university graduates. This may be a reason as to why they have higher breast cancer knowledge. In contrast, a survey done in Sungai Petani, Kedah stated that the Indian women in their study had a better overall breast cancer knowledge. They stated that this may be because more than half of the Indian women in their study were in a higher educational level category (Baig et al. 2011).

In this study married women have more knowledge of breast cancer compared to single women. A previous study carried out in a tertiary hospital in Malaysia showed that breast cancer knowledge was significantly better among married women. They also stated that women who are married would have a better breast cancer knowledge score mainly because they have responsibilities and commitments of taking care of their family and children. These women want to be healthy and cancer-free for their family. They are more likely to acknowledge health education and breast cancer awareness messages or information (Kirubakaran et al. 2017). Married women have the advantage of receiving financial and emotional support from their significant other. This leads to a chance of having better healthcare services. These women are more prone to receiving better breast cancer information from healthcare professionals and this allows earlier detection of breast cancer if there is any. So, this indicates that women without a husband especially those who are widowed or divorced lack support and help to attain better healthcare. They are less likely to have good breast cancer knowledge (Kotepui et al. 2015).

The results of this study have shown that women with university level of education have greater breast cancer knowledge than women with primary or secondary school level of education. This indicates that a higher educational level corresponds to a higher level of breast cancer knowledge. A survey in Singapore stated that lower educational level is a significant predictor for poor breast cancer knowledge. Those who have a lower educational level are more likely to be in the lower socioeconomic group which is reflected with a smaller income. They do not have good breast cancer knowledge because breast cancer reading materials may be on a complex level for them to understand. The reading materials about breast cancer should be published in many languages and even in local dialects so that everyone can read and gain more information (Su-Ming et al . 2009).

With regards to mammography awareness, this study has found out that overall, more than half (67.4%) of the respondents knew about mammography. A survey in Kuwait stated

that only 14.3% of the women have heard about mammography screening which was very lower than this study. Health education about the benefits of mammography screening ought to be encouraged. (Alharbi, Alshammari, Almutairi, Makboul, & El-Shazly 2012). Another study revealed that merely 5.1% of the respondents previously knew about mammography screening where two of the women stated that they knew mammography is a procedure of taking x-rays of the breast to check the condition (Obajimi et al. 2013). A population-based survey done in brazil stated that women who have more knowledge regarding breast cancer would have more awareness of mammography. This is because they would want to know how to diagnose the disease and be prepared for it. This study also stated that the awareness of mammography is not a subject that is well explored in terms of literature and by doing so it can promote early detection of breast cancer (Schneider, Corseuil, Boing, & D'Orsi 2013).

## Conclusion

In term of breast cancer knowledge, there was no statistically significant difference in knowledge of breast cancer between any of the sociodemographic characteristics. In terms of awareness of mammography, there was a statistically significant difference in mammography awareness among and level of education. University graduated women had higher mammography awareness than primary or secondary school leavers. There was no statistically significant difference in mammography awareness among the races and marital status.

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