

# BREAST CANCER KNOWLEDGE AMONG NURSING STUDENTS IN PUBLIC UNIVERSITY

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## ABSTRACT

**Background:** In Malaysia, women had breast cancer always reported at their late stage. One of the causes is due to the delay in seeking medical attention. Poor knowledge about the breast cancer is one of the factors that cause the delay. **Aim:** This study was designed to assess the knowledge on breast cancer symptoms and risk factors, screening method, and practice among participants. **Methodology:** This was a cross-sectional study done from 1<sup>st</sup> of March till 15<sup>th</sup> of March 2016 involving 89 nursing students from School of Nursing Science, Medical Faculty, University Sultan Zainal Abidin (UniSZA). Data analysis was carried out using Statistical Package for the Social Sciences (SPSS) Version 21. **Results:** Eighty-nine participants responded. Majority of the students (>80.0%) knew the symptoms of breast cancer and common method of screening. Less than 50.0% knew the high risk factor for developing breast carcinoma. Less than 50.0% carried out the breast self-examination. **Conclusion:** Students had excellent knowledge on symptoms of breast carcinoma and its screening method. Majority (>50%) of the students were still not clear about high risk factors group. Lack of breast self-examination practice among students was noted.

**Keywords:** *Knowledge of Breast Cancer, Screening Method, Breast Self-Examination*

## INTRODUCTION

Breast cancer is one of medical problems in both the developing and developed countries (World Health Organization, 2009; Radman *et al.*, 2011). In Malaysia, it was reported by the National Cancer Registry (2016) as the commonest cancer among women. It is also the most important malignancy regardless of sex in Peninsular Malaysia with the age-standardised rate (ASR) of 47.3 per 100 000 (Lim, Rampal & Yahaya, 2008). Thirty to sixty percent of women in Malaysia tend to present at later stages (stage III and IV) compared to women in Western countries (Hisham & Yip, 2003) and Singapore (Saxena *et al.*, 2012).

In Malaysia, the social and cultural-bound perceptions and insight on breast cancer are among the contributing factors for the advanced stage of presentation (Hisham & Yip, 2003) and they tend to seek alternative medicine to fight the disease. The ethnicity, education level, socio-economic status, geographical

factors are also the contributing elements that determine the access to treatment centers (Bhoo-Pathy *et al.*, 2012).

There are many risk factors for developing breast cancer. Ministry of Health Malaysia (2010) stated that the risk factors can be divided into high, moderate and low risk. High risk factors include family history of breast carcinoma, genetic mutation and history of exposure to ionising radiation.

Breast cancer screening holds an important role in the early detection of the disease. There are many methods of breast cancer screening such as breast self-examination and mammogram. American Cancer Society (2017) recommended that all women with average risk of breast cancer must always be aware about the changes in their breast and if they notice any such changes then they must immediately consult the medical personnel. It was found that breast self screening is less helpful as one of the screening method.

Mammography is the technique of screening for asymptomatic person as stated by Ministry of Health Malaysia (2010).

**RESEARCH METHODOLOGY**

A cross-sectional study was conducted from 1<sup>st</sup> of March till 15<sup>th</sup> of March 2016 among all female nursing students at Pusat Pengajian Sains Kejururawatan, Medical Faculty of Universiti Sultan Zainal Abidin, Kuala Terengganu, Malaysia.

**Data Collection**

Self-administered questionnaire was developed and validated for this study and were given to the students. The questionnaires consisted of 2 sections. Section A required information on socio-demographic data such as race, age and marital status. Section B include the assessment of students' knowledge on breast cancer symptoms and what are the risk factors for developing it. The students' were also tested on the method of screening of breast cancer which include breast self examination and mammogram. The students that were actually practising their knowledge on screening of the breast lesion, was also investigated.

**Data collection procedure**

All participants were briefed on this study by the co-investigator prior to the study. Once the students finished answering the questionnaires, the forms were collected and the answers were checked for their completeness.

**Ethical consideration**

Ethical approval for the study was obtained from the Ethics Committee of Universiti Sultan Zainal Abidin (UHREC) on 3<sup>rd</sup> November 2015.

**Statistical Analysis**

Data were entered and analysed using Statistical Program for Social Sciences (SPSS) version 21. Both descriptive and inferential data analyses were employed. Data were checked and cleaned before conducting descriptive analysis to investigate the socio-demographic data. Frequencies were generated for their knowledge and practices.

**RESULTS**

A total of 89 nursing students in School of Nursing Science, Faculty of Medicine, Universiti Sultan Zainal

Abidin were involved in this study.

Table 1 shows the distribution of respondents according to marital status, race and religion and year of study. The mean age of students was 19.71 years old. All respondents were female and non-married. Our students were mainly Malay (87%) followed by Chinese (1.1%) and Indian (1.1%).

**Table 1: Socio-demographic characteristics of respondents (n=89)**

Variables	Frequency (%)	Mean (SD)
Age		19.71 (0.73)
Race		
Malay	87 (97.8)	
Chinese	1 (1.1)	
Indian	1 (1.1)	

Regarding the knowledge about risk factors to breast cancer, respondents gave correct answer mostly about BRCA gene (95.5%) and age (83.1%). However, only 31.5% of respondents replied correctly to late menopause and 23.6% of them to early menarche (Table 2).

**Table 2: Knowledge on breast cancer risk factors (n=89)**

Risk factors	Correct answer n (%)
Family history	44 (49.4)
BRCA gene	85 (95.5)
Age	74 (83.1)
Nulliparity	38 (42.7)
Early menarche	21 (23.6)
Late menopause	28 (31.5)
Sedentary lifestyle	41 (46.1)
Not breast feeding	55 (61.8)
Hormone	55 (61.8)
Contralateral Cancer	49 (55.1)

With regard to breast carcinoma symptoms, the respondents recognized painless breast lump (97.8%), asymmetrical breast (88.8%) and breast swelling (85.4%)(Table 3).

**Table 3: Knowledge about breast carcinoma symptoms (n =89)**

Breast carcinoma symptoms	Yes n (%)
Painless breast lump	87(97.8)
Asymmetrical breast	79(88.8)
Breast swelling	76(85.4)

Concerning the breast screening method, most respondents knew breast self-examination (97.8%) and mammogram (95.5%) (Table 4).

**Table 4: Knowledge about breast screening method (n =89)**

Type of screening method	Yes (%)
Breast self-examination	87 (97.8%)
Mammogram	85 (95.5%)

However, among all respondents, only 46.1% of respondents practiced breast self-examination (Table 5).

**Table 5: Practice of breast screening examination**

Type of examination	n(%)
Breast self-examination	41(46.1%)

## DISCUSSION

### Knowledge on symptoms of breast carcinoma

In our study, it shows that students have excellent knowledge on the symptoms of breast cancer. As comparative study done among medical students and non-medical students in Pakistan showed that students had insufficient knowledge of the early warning signs of the breast cancer development (less than 35% of the students knew about the symptoms) (Noreen *et al.*, 2015).

The highest number (97.8%) of students knew that breast lumps are the recognisable symptom of breast carcinoma followed by asymmetrical breast enlargement and breast swelling due to mass effect. In comparison to a study done on 650 Iranian women in 2012 showed that 60.8% of the students knew the painless breast mass as one of the symptom (Nafissi *et al.*, 2012). The difference was probably due to larger sample size and different sociodemographic background of the respondents.

The knowledge on the symptoms of breast cancer is very important because paramedics are the front-liner of the clinic and they can take action to prevent the delay of the breast cancer detection.

### Knowledge on risk factors of breast carcinoma

About half of our respondents did not know that family history of breast cancer is high risk factor for developing breast carcinoma. This finding was consistent with a study done in Angola (Sambanje & Mafuvadze, 2012) while most of the respondents in other public universities in Malaysia knew about this (Hadi *et al.*, 2010; Akhtari-Zavare *et al.*, 2011). Despite that, most of our respondents (95.5%) knew that genetic predisposition is one of the risk factors.

In our study, 61% respondents knew that usage of hormonal treatment is one of the risk factors of breast carcinoma which is consistent with a study done among university students in Universiti Sains Malaysia (USM) (Hadi *et al.*, 2010). However, both of these findings contradicted with the study done among 320 medical students in Angola where only 13% knew about this risk factor (Sambanje & Mafuvadze, 2012). One of the possible explanations was that the medical students involved in the study in Angola were from the pre-clinical phase of their study and therefore had not been exposed to mandatory curriculum knowledge on breast cancer.

About 83% of our students knew that increase in age increases the risk. Almost the same result was found in a study conducted among Malaysian women from urban and rural areas (Kanaga, Nithiya & Noor Shatirah, 2011). Only minority of the students knew about the other risk factors. This is in line with another study on Muslim women in the Middle East, where most of the participants had limited knowledge about breast cancer risk factors such as early menarche, late menopause, sedentary lifestyle, non-breast feeding, hormone and contralateral breast cancer (Amin, Al Mulhim & Al Meqihwi, 2009).

In summary, the knowledge on risk factors of breast cancers among our students was still inadequate especially about the high risk factors. Poor understanding about breast cancer and breast cancer risk factors may lead to incorrect ideas of the disease and poor application of early detection techniques such as self breast examination.

## Breast cancer screening and practice

Almost all participants, 87 respondents (97.8%) and 85 respondents (95.5%) knew that breast self-examination (BSE) and mammogram respectively as the screening method to enable the detection of the tumor at early stage. These findings were consistent with a study done in 2011 among Malaysian women in urban and rural areas (Kanaga *et al.*, 2011). This shows that the respondents have strong knowledge about the breast cancer screening.

In terms of doing the practical, only 41 students (46.1%) admitted carrying out the BSE procedure. This low percentage (36.7%) was also seen among the respondents of a study done in Universiti Putra Malaysia (UPM) (Akhtari-Zavare *et al.*, 2013). Among the postulated reasons were forgetfulness and fear of diagnosis. One of the studies in Kuwait showed that other factor of not practicing BSE was due to lack of knowledge on how to carry it out (Al-Azmy *et al.*, 2013). Only 5 of our participants (5.6%) had clinical breast examination. Thus, we can conclude that even the young and educated age group were not performing BSE

despite knowing the risk and incidence. To improve this, health education programs via mass media or programmes involving the publics are essential to encourage women's practice of BSE. Future studies should be conducted to assess the gap between knowledge about breast cancer and practice, and the effectiveness of the current curriculum in the nursing school.

## CONCLUSION

In conclusion, the knowledge of the female nursing students on symptoms of breast cancer was excellent. However they had poor knowledge on the high risk factors for developing breast cancer. The students had excellent knowledge on the methods of breast screening. Less than 50% practiced BSE. It is very important to make sure that our young generation apply the knowledge of screening method for controlling breast cancer among them and the surrounding population. Ministry has to improve the guidelines on method for screening and spread the information towards needful at-risk patients.

## REFERENCES

- Akhtari-Zavare, M., Juni, M.H., Manaf, R.A., Ismail, I.Z. & Said, S.D. (2011). Knowledge on breast cancer and practice of breast self examination among selected female university students in Malaysia. *Medical and Health Science Journal*, 7, pp 49-56.
- Akhtari-Zavare, M. Juni, M.H., Said, S.D. & Ismail, I.Z. (2013). Beliefs and Behavior of Malaysia Undergraduate Female Students in a Public University Toward Breast Self-examination Practice. *Asian Pacific Journal of Cancer Prevention*, 14(1), pp 57-61.
- Al-Azmy, S.F., Alkhabbaz, A., Almutawa, H.A., Ismaiel, A.E., Makboul, G. & El-Shazly, M.K. (2013). Practicing breast self-examination among women attending primary health care in Kuwait. *Alexandria Journal of Medicine*, 49, pp 281-286.
- American Cancer Society (2017). American Cancer Society Recommendations for the Early Detection of Breast Cancer. Retrieved from: <https://www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/american-cancer-society-recommendations-for-the-early-detection-of-breast-cancer.html>
- Amin, T.T., Al Mulhim, A.R.S. & Al Meqihwi, A. (2009). Breast Cancer Knowledge, Risk Factors and Screening Among Adult Saudi Women in a Primary Health Care Setting. *Asian Pacific Journal of Cancer Prevention*, 10(1), pp 133-138.
- Bhoo-Pathy, N., Hartman, M., Yip, C-H., Saxena, N., Taib, N.A., Lim, S-E., Iau, P., Adami, H-O., Bulgiba, A.M., Lee, S-C. & Verkooijen, M.H. (2012). Ethnic Differences in Survival after Breast Cancer in South East Asia. *PLoS ONE*, 7(2), e30995.

- Hadi, M.A., Hassali, M.A., Shafie, A.A. & Awaisu, A. (2010). Evaluation of breast cancer awareness among female university students in Malaysia. *Pharmacy Practice*, 8(1), pp 29–34.
- Hisham, A.N. & Yip, C.H. (2003). Spectrum of Breast Cancer in Malaysian Women: Overview. *World Journal of Surgery*, 27(8), 921-923.
- Institut Kanser Negara, Kementerian Kesihatan Malaysia (2016). Malaysian National Cancer Registry Report 2007-2011. Retrieved from : <http://nci.moh.gov.my/index.php/ms/pengumuman/340-malaysian-national-cancer-registry-report-2007-2011>.
- Kanaga, K.C., Nithiya, J. & Noor Shatirah, M.F.V. (2011). Awareness of Breast Cancer and Screening Procedures Among Malaysian Women. *Asian Pacific Journal of Cancer Prevention*, 12(8), pp 1965-1967.
- Lim, G.C.C., Rampal, S. & Yahaya, H. (2008). *Cancer incidence in Peninsular Malaysia, 2003-2005: the third report of the National Cancer Registry, Malaysia*. Kuala Lumpur: National Cancer Registry.
- Ministry of Health Malaysia (2010). Clinical Practice Guidelines Management of Breast Cancer. 2<sup>nd</sup> edition. *Clinical Practice Guidelines Management of Breast Cancer*. Retrieved from: <http://www.acadmed.org.my>
- Nafissi, N., Saghafinia, M., Motamedi, M.H.K. & Akbari, E. (2012). A survey of breast cancer knowledge and attitude in Iranian women. *Journal of Cancer Research and Therapeutics*, 8(1), pp 46-49.
- Noreen, M., Murad, S., Furqan, M., Sultan, A. & Bloodsworth, P. (2015). Knowledge and Awareness about Breast Cancer and its Early Symptoms among Medical and Non-Medical Students of Southern Punjab, Pakistan. *Asian Pacific Journal of Cancer Prevention*, 16(3), pp 979-984.
- Radman, S.A., Qureshi, A.M., Saif-Ali, R., Ganasegeran, K., Alwan, M.R. & Shawqi Hadi, J.I. (2011). Awareness and Knowledge of Breast Cancer and Mammography among a Group of Malaysian Women in Shah Alam. *Asian Pacific Journal of Cancer Prevention*, 12(10), pp 2531-2538.
- Sambanje, M.N. & Mafuvadze, B. (2012). Breast cancer knowledge and awareness among university students in Angola. *Pan African Medical Journal*, 11:70, pages 7.
- Saxena, N., Hartman, M., Bhoo-Pathy, N., Lim, J.N.W., Iau, P., Taib, N.A., Lee, S-C., Yip, C-H. & Verkooijen, H.M. (2012). Breast Cancer in South East Asia: Comparison of Presentation and Outcome Between a Middle Income and a High Income Country. *World Journal of Surgery*, 36(12), pp 2838-2346.
- World Health Organization (2009). Breast Cancer Fact Sheet. Retrieved from [http://www.who.int/nmh/publications/fact\\_sheet\\_cancers\\_en.pdf](http://www.who.int/nmh/publications/fact_sheet_cancers_en.pdf).