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A population based survey on knowledge and awareness of breast cancer in the suburban females of Sungai Petani, Kedah, Malaysia

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ABSTRACT

Background: Globally breast cancer is one of the most common cancers and a major public health challenge to women health. Malaysia is also one of the Asian nations that is facing the dilemma breast cancer with an Age Standardised Rate (ASR) of female breast cancer among Malaysian women was 47.4 per 100,000 populations.

Objectives: To evaluate the knowledge and awareness of Breast Cancer among the women of different age groups and various races in the sub-urban town of Sungai Petani, Malaysia

Material and Methods: A questionnaire based cross-sectional study was conducted from 9th February to 29th March The survey of 2010. Household survey was conducted in the rural areas of Sungai Petani using a pre-validated questionnaire. The time retest reliability scale was applied and the internal consistency of the study tool was estimated on the basis of Cronbach's Alpha ($\alpha = 0.68$). For the purpose of data analysis, the Statistical package for Social Sciences (SPSS13.0®) was used. Chi-square test was applied analyse the categorical data. One- way ANOVA applied to make Inferences about Population Means between groups.

Results: A total of n=320 women from different age groups and varying ethnicities from Sungai Petani were interviewed. Comparatively a higher participation was seen from the young 18-25 years. It is seen that Chinese female respondents comparatively have a better general knowledge towards breast cancer with mean score of 2.11 ± 1.04 . However, Malay were found to have a better knowledge towards the risk factors (4.34 ± 3.07) and Indians were the best in terms of knowledge towards symptoms and screening of breast cancer (7.17 ± 2.32). Overall, Indians were found to have the highest knowledge score among all. Majority agreed that a woman can enjoy a good quality life after receiving treatment for breast cancer and treatment for breast cancer is more helpful to young patients.

Conclusion: Indians women were found to have a comparatively better knowledge toward the breast cancer. However, education level was found to be the main factor affecting the knowledge level of the respondents.

Keywords: Knowledge, Awareness, Breast Cancer, Indians

Introduction

Globally breast cancer is one of the most common cancers and a major public health challenge to women health. It is seen that there is a immense increase in the annual incidence of breast cancer, especially among those countries where its incidence was low^[1-2]. According to the findings World Health Organisation (WHO) each year, over 1.15 million women are diagnosed with breast cancer, with an annual reported death of 502,000 worldwide^[3].

Among Malaysian women, breast cancer is the most common cause of death^[4-5]. In the year 2000, there were approximately one million registered cases of breast cancer worldwide, with estimated deaths of over three hundred and seventy thousand women. The incidence of breast cancer was highest in the developed countries, with an average estimate of 94.9 per 100,000. However, among less developed countries, it was about 19.66 per 100,000^[6]. The prevalence of breast cancer was highest in North American women, with approximately 10 in hundred women at a risk of developing breast cancer^[6]. In the year 2000, about 3825 new cases of breast cancer were reported in Malaysia, with deaths of about one thousand and seven hundred women. The incidence was estimated to be 34.86 per 100,000 populations^[6]. Still, the Ministry of Health, Malaysia, was unaware of the actual incidence rate of breast cancer. The possible factor playing a vital role in this regards are lack knowledge and awareness about breast cancer, which further leads to underreporting^[6].

Moreover, lack of the national breast cancer patients' registry programs was another issue which was associated with the scarcity of the facts. The Age Standardised Rate (ASR) of female breast cancer among Malaysian women was 47.4 per 100,000 populations.

Amongst the Chinese, it was higher at 59.9 per 100,000 population, for the Indians, the ASR was 54.2 per 100,000 and it was lowest in the Malays at 34.9 per 100,000 population. The cumulative life time risk of developing breast cancer for Chinese women, Indian women and Malay women were 1 in 16, 1 in 17 and 1 in 28, respectively. In the past, a high prevalence of breast cancer was seen in the age group of 45 years and above. However, the age of onset is decreasing and more young women than ever are being affected^[7].

The onset of breast cancer is more abrupt among young women's cancers, with an aggressive onset resulting in lower survival rates^[8-9]. This immediate onset makes it difficult for the clinicians to diagnose it within time^[9]. According to the data from Malaysian Cancer Statistics In 2006, breast cancer was the most common cancer among female and also the most important cancer among population regardless of sex in Peninsular Malaysia, whereby there were 3525 female breast cancer cases registered in NCR for that year, accounted for 16.5% of all cancer cases registered^[10]. The increasing rate of Breast Cancer incidence in Malaysia implies a great lack of awareness among Malaysians on risk factors and sign and symptoms of the disease. Thus, this study was aimed to evaluate the knowledge and awareness of Breast Cancer among the women of different age groups and various races in the sub-urban town of Sungai Petani, Malaysia to find the alternative ways by which help could be contrived to intensify the awareness on the malignant disease to reduce the mortality rates.

Material and Methods

The study was a cross-sectional study to examine the knowledge and awareness on breast cancer of a randomized women

population of Women ranging from age of 16 to 58 years old and various ethnicities in Sungai Petani. A questionnaire was used to evaluate the respondents' knowledge about the symptoms, causes and the treatment of breast cancer.

Respondents

This study was conducted from 9th February to 29th March 2010. Household survey was conducted in the rural areas of Sungai Petani using a pre-validated questionnaire ^[11] to obtain information on socio-demographic characteristics, knowledge, awareness and perception of breast cancer among the women. Face to face interview were conducted, interview was comprised of two steps in *phase one* the family history and interaction with persons with diagnosis of breast cancer was inquired.

Those having personal experiences of breast cancer, have some one in friends or family with diagnosis of breast cancer or the respondents is working in a facility where breast cancer or cancer patients are treated are excluded from the study. However, rest were considered for the final interview (*phase two*) using the 33-item questionnaire.

Sample size

A total of 400 respondents were interviewed for the survey. Of whom 33 were screened out in the Phase one of interview and 47 refused to participate for the phase two interview. Finally n=320 (Response rate = 80.0%) respondents were interviewed face to face.

Contents of the Study Tool

A pre-validated questionnaire was used to achieve the objective of the study ^[11]. Mainly the questionnaire comprised of five sections.

Section one covers the demographical information of the respondents like race, age, marital status and education levels.

Section Two covers information on the General knowledge about Breast Cancer. Five items were the part of this section. Respondents have provided their response using a two item scale i.e. correct/ incorrect.

Section Three and *Section Four*, comprised of ten items each, and the main focus of this section was to evaluate the respondents' knowledge toward risk factors of breast cancer, symptoms and screening test. (See Annex A)

Section Five comprises of five items that evaluate the respondents' perceptions toward the treatment of breast cancer. A five item Likert scale was applied to evaluate the respondent views. (See Annex B)

Reliability of the Questionnaire

The face validity of the questionnaire, a pilot survey was conducted among the AIMST University students. A total of twenty students were approached. Keeping in view the responses, the time retest reliability scale was applied and the internal consistency of the study tool was estimated on the basis of Cronbach's Alpha ($\alpha = 0.68$).

Scoring of Responses

The responses about the symptoms of Breast cancer were scored in order to classify the knowledge at the sub-level. This classification

would provide information about the level of recognition towards the items mentioned in section two, three and four. Collectively the knowledge domain (Table 1) was comprised of twenty five items, every correct response was granted one mark (score) while zero is granted for every wrong answers. Every right answer added one score to the respondent's knowledge level. The maximum possible score for respondent knowledge was twenty five. However, there was no negative marking or scoring for a wrong answer.

Data analysis

For the purpose of data analysis, the Statistical package for Social Sciences (SPSS13.0®) was used. Chi-square test was applied to analyse the categorical data. One-way ANOVA applied to make Inferences about Population Means between groups.

Results

A total of n=320 women from different age groups and varying ethnicities from Sungai Petani were interviewed. Majority 183 (57.2%) of the respondents were Malay followed by Chinese 82 (25.6%) and Indians 55 (17.2%). Comparatively a higher participation was seen from the young 18-25 years. Demographic details of the respondents are illustrated in Table 1.

Knowledge towards breast cancer

The participants were tested on three domains of knowledge; General Knowledge, Risk Factors and Knowledge on Symptoms and Screening. It is seen that Chinese female respondents comparatively have a better

general knowledge towards breast cancer with mean score of 2.11 ± 1.04 . However, Malay were found to have a better knowledge towards the risk factors (4.34 ± 3.07) and Indians were the best in terms of knowledge towards symptoms and screening of breast cancer (7.17 ± 2.32). Overall, Indians were found to have the highest knowledge score among all. Details about the score are described in Table 2. Furthermore, it is also seen that college and university students have significantly better knowledge toward breast cancer in comparison to those having primary or secondary education Table 3.

Perceptions toward the Treatment Of Breast Cancer

Overall, majority agreed that a woman can enjoy a good quality life after receiving treatment for breast cancer and treatment for breast cancer is more helpful to young patients. Detailed perceptions of respondents are illustrated in Table 4.

Discussion

Discussing the worth of health literacy towards the breast cancer, it is considered to be an essential factor, which not only affect the public recognition toward disease but also delay the process of timely diagnosis. In Malaysia breast cancer is one of the main challenge to women health^[6], keeping in view this theme the current study was planned to be conducted among the rural population of Sungai Petani, Kedah. Overall, it is seen that the mean knowledge of the Indian respondents was higher (13.17 ± 3.66 , $p < 0.001^*$) than the Malay and Chinese. The possible reason for this knowledge difference may due to educational level as nearly 50.0% of the Indian respondents were college level and

university level education. However, these findings contradict with the findings of previous studies that report a poor knowledge among the Indian respondents [11,12,13]. Overall, it is also seen that those respondents with college (13.43) and university (13.86) education ($p=0.010^*$) have a comparatively better knowledge level than those with primary and secondary education. However, in terms of age the middle aged [36-45 year] women were found to have a better knowledge score (12.49) than the other groups.

In addition while evaluating the public perception towards the treatment of breast cancer, it is seen that majority believe that a women can enjoy a good quality life after having treatment for breast cancer. Majority, 61.0% of the respondents have shared a thought that treatment of breast cancer have no affect on the physical beauty of women ($p=0.007$). About 48.0% of the respondents reported that the breast cancer treatment is a painful process and nearly 65.0% shared a thought that the breast cancer treatment will be more helpful for the youngsters than the young women and one should not fell embraced while getting treatment for breast cancer ($p=0.008$). These findings are not in compliance with the findings of previous studies that have reported negative beliefs toward the treatment of breast cancer [11].

Conclusion

Indians women were found to have a comparatively better knowledge toward the breast cancer. However, education level was found to be the main factor affecting the knowledge level of the respondents. In term of perceptions toward the treatment of breast caner a positive attitude was observed as majority has agreed that treatment of breast

caner is not embarrassing and it have no impact on the physical beauty of women.

Practice Implication

This study is crucial as it has significant affluence for developing a state-wide awareness campaign especially in sub-urban areas of Malaysia, placing utmost importance in early detection, lifestyle modifications of high risk groups and change in perception about this disease. Due to the low number of women who continue their tertiary education in sub-urban areas, awareness campaigns should be targeted mostly at secondary level institutions. This will ensure a larger base of women is well informed about this disease.

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References

- 1- Parkin DM, Bray F, Ferlay J, Pisani P: Global cancer statistics, 2002. *CA Cancer J Clin.* 2005, 55(2):74-108.
- 2- Wilson CM, Tobin S, Young RC: The exploding worldwide cancer burden: the impact of cancer on women. *Int J Gynecol Cancer.* 2004, 14:1-11.
- 3-World Health Organization: Cancer. (<http://www.who.int/media/centre/factsheets/fs297/en>). Accessed 30.07.2008

- 4- AN Hisham, CH Yip. Overview of Breast Cancer in Malaysian Women: A Problem with Late Diagnosis. *Asian J Surg.* 2004; 27(2): 130-3.
- 5- AN Hisham, CH Yip. Spectrum of Breast Cancer in Malaysian Women: Overview. *World J Surg* 2003; 27(8): 921-3.
- 6- Ferlay F, Bray F, Pisani P, et al. Globocan 2000 (online software). Cancer incidence, mortality and prevalence worldwide, Version 1.0. IARC Cancer Base No.5. IARC Press, Lyon, France, 2001.
- 7- Fry RB, Prentice-Dunn S: Effects of a psychosocial intervention on breast self-examination attitudes and behaviors. *Health Educ Res.* 2006; 21: 287-295.
- 8- Rosenberg R, Levy- Schwartz R: Breast cancer in women younger than 40 years. *Int J Fertil Womens Med.* 2003; 48:200-205.
- 9- Nor Aina. Cancer Patient Registry-Breast Cancer (NCPR-Breast Cancer). *Med J Malaysia.* 2008 Sep;63 Suppl C:72-3.
- 10- Malaysian Cancer Statistics - Data And Figure Peninsular Malaysia, 2006.
- 11- Muhammad Abdul Hadi, et al. Knowledge And Perception Of Breast Cancer Among Women Of Various Ethnic Groups In The State Of Penang, Malaysia: A Cross Sectional Survey. *Med Princ Pract.* 2010;19(1):61-7.
- 12- Harrison AP, Srinivasan K, Binu VS, Vidyasagar MS, Nair S. Risk factors for breast cancer among women attending a tertiary care hospital in southern India. *International Journal of Collaborative Research on Internal Medicine & Public Health.* 2010; 2(4):109-116.
- 13- Ashok KB. Magnetic Resonance Spectroscopic Imaging (MRSI) Study of Breast Cancer. *International Journal of Collaborative Research on Internal Medicine & Public Health.* 2011; 3(5):370-376.

Table 1: Demographics of Respondents

Demographics	N (%)	P
Race		
Malay	183	0.064
Chinese	82	(NS)
Indian	54	
Age [Mean age = 27.34 ± 9.1]		
16-25	171	
26-35	92	0.125
36-45	41	(NS)
46-55	16	
Marital Status		
Single	202	0.553
Married	118	(NS)
Occupation		
Students	202	0.020*
Own business	40	(S)
Government Job	48	
House wife	30	
Education Level		
Primary School	16	0.010*
Secondary School	205	(S)
College	49	
University	50	

Chi-Square ; $P < 0.05$ is considered Significant (NS=Not Significant, S=Significant)

Table 2: Knowledge Level between the various ethnic groups

Knowledge Category	Max. Possible Score	Score				*P-Value
		Malay	Chinese	Indian	TOTAL	
General Knowledge	5	2.05 ±	2.11 ±	1.83 ±	2.02 ±	0.198 (NS)
		1.03	1.04	0.75	1.04	
Risk Factors	10	4.34 ±	3.43 ±	4.17 ±	4.09 ±	0.093 (NS)
		3.07	2.26	2.14	2.78	
Symptoms & Screening	10	6.09 ±	5.32 ±	7.17 ±	5.97 ±	0.092 (NS)
		2.95	2.95	2.32	2.97	
Total Score	25	12.49 ±	10.85 ±	13.17 ±	12.08 ±	0.000 (S)
		5.92	4.78	3.66	5.48	

Chi-Square ; $P < 0.05$ is considered Significant (NS=Not Significant, S=Significant)

Table 3: Distribution of Breast Cancer Knowledge according to respondent demographic variables

Variables	N	Mean of Total Knowledge Score	df	*P-Value
Age				
16-25	171	12.14	4	0.417 (NS)
26-35	92	12.23		
36-45	41	12.49		
46-55	13	9.23		
>55	3	11.0		
Marital Status				
Single	207	12.55	2	0.930 (NS)
Married	113	11.35		
Education Level				
Primary School	16	8.062	3	0.000* (S)
Secondary School	205	11.63		
College	49	13.43		
University	50	13.86		

One Way ANOVA ; $P < 0.05$ is considered Significant (NS=Not Significant, S=Significant)

Table 4: Perception towards management and treatment outcomes of breast cancer

QUESTIONS	SA N (%)	A N (%)	N N (%)	DA N (%)	SDA N (%)	P- value
A woman after receiving treatment for breast cancer can enjoy a good quality of life	92 (28.8)	121 (27.8)	50 (15.6)	45 (14.1)	12 (3.8)	0.091 NS
The treatment for breast cancer is a long and painful process	46 (14.4)	109 (34.1)	79 (24.7)	73 (22.8)	13 (4.1)	0.100 NS
Treatments for breast cancer are more helpful to young people	87 (27.2)	122 (38.1)	46 (14.4)	55 (17.2)	10 (3.1)	0.049 S*
Treatment for breast cancer is embarrassing	16 (5.0)	46 (14.4)	56 (17.5)	146 (45.6)	56 (17.5)	0.008* S
Treatment for breast cancer results in loss of physical beauty	46 (14.4)	56 (17.5)	16 (5.0)	56 (17.5)	146 (45.6)	0.007* S

Kruskal-Wallis Test ; $P < 0.05$ is considered Significant (NS=Not Significant, S=Significant)
Grouping variable race

ANNEX A: Sections 1-4

<u>Section 2: General knowledge about Breast Cancer</u>	Correct	In- Correct
<ol style="list-style-type: none"> 1. Only females are affected by breast cancer 2. Breast cancer can be transmitted from one person to another 3. Breast cancer is the leading cause of death among women in Malaysia 4. The estimated life time risk of developing breast cancer in Malaysian women is higher in the region 5. If a woman's mother or sister had breast cancer, she is more likely to get breast cancer 		
<p><u>Section 3: Knowledge of Breast Cancer Risk Factors</u></p> <ol style="list-style-type: none"> 1. Old age 2. Family history of breast cancer 3. Cigarette smoking 4. Low Fat diet 5. First child after the age of 30 yrs 6. Early onset of menses (Before the age of 12 yrs) 7. Late menopause (After the age of 55) 8. Use of oral contraceptives 9. Large breasts 10. Breast feeding 		
<p><u>Section 4: Knowledge of Breast Cancer symptoms and screening tests</u></p> <ol style="list-style-type: none"> 1. Painless breast lump 2. Lump under armpit 3. Nipple discharge 4. Change in shape of breast 5. Pain in breast region 6. Dimpling of breast skin 7. Doctors and nurses are the only ones who can find lumps in the breasts. 8. Breast Self Examination (BSE) is recommended for females 9. Breast Self-Examination would be very time consuming. 10. Clinical Breast Examination (CBE) is recommended for females 		

ANNEX B: Section 5

	SA	A	N	DA	SDA
<i>1-A woman after receiving treatment for breast cancer can enjoy a good quality of life</i>					
<i>2- The treatment for breast cancer is a long and painful process</i>					
<i>3- Treatments for breast cancer are more helpful to young people</i>					
<i>4- Treatment for breast cancer is embarrassing</i>					
<i>5- Treatment for breast cancer results in loss of physical beauty</i>					