

RESEARCH ARTICLE

Quality of Life in Malay and Chinese Women Newly Diagnosed with Breast Cancer in Kelantan, Malaysia

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Abstract

Background: Breast cancer is the leading cause of cancer-related death among women in Malaysia. A diagnosis is very stressful for women, affecting all aspects of their being and quality of life. As such, there is little information on quality of life of women with breast cancer across the different ethnic groups in Malaysia. The purpose of this study was to examine the quality of life in Malay and Chinese women newly diagnosed with breast cancer in Kelantan. **Materials and Methods:** A descriptive study involved 58 Malays and 15 Chinese women newly diagnosed with breast cancer prior to treatment. Quality of life was measured using the Malay version of the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) and its breast-specific module (QLQ-BR23). Socio-demographic and clinical data were also collected. All the data were analyzed using SPSS version 20.0. **Results:** Most of the women were married with at least a secondary education and were in late stages of breast cancer. The Malay women had lower incomes ($p=0.046$) and more children ($p=0.001$) when compared to the Chinese women. Generally, both the Malay and Chinese women had good functioning quality-of-life scores [mean score range: 60.3-84.8 (Malays); 65.0-91.1 (Chinese)] and global quality of life [mean score 60.3, SD 22.2 (Malays); mean score 65.0, SD 26.6 (Chinese)]. The Malay women experienced more symptoms such as nausea and vomiting ($p=0.002$), dyspnoea ($p=0.004$), constipation ($p<0.001$) and breast-specific symptoms ($p=0.041$) when compared to the Chinese. **Conclusions:** Quality of life was satisfactory in both Malays and Chinese women newly diagnosed with breast cancer in Kelantan. However, Malay women had a lower quality of life due to high general as well as breast-specific symptoms. This study finding underlined the importance of measuring quality of life in the newly diagnosed breast cancer patient, as it will provide a broader picture on how a cancer diagnosis impacts multi-ethnic patients. Once health care professionals understand this, they might then be able to determine how to best support and improve the quality of life of these women during the difficult times of their disease and on-going cancer treatments.

Keywords: Breast cancer - quality of life - race - ethnicity - EORTC Malay version - Malaysia

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Introduction

Malaysia has a multi-ethnic population of approximately 60% Malay, 30% Chinese, and 10% Indian and other ethnic minorities (Department of Statistics Malaysia, 2010). Breast cancer is the most frequent cancer among women in all the ethnic groups in Malaysia. According to the National Cancer Registry (NCR), 3,242 females were newly diagnosed with breast cancer in 2007 (Zainal and Nor, 2011). Of these, 58% were diagnosed at Stage I and Stage II while 42% were diagnosed at Stage III and Stage IV. The incidence of breast cancer was highest among Chinese (38.1/100,000), followed by Indians (33.7/100,000), and Malay (25.4/100,000). Although

Chinese women have the highest incidence rates of breast cancer, Malay women have the highest mortality rates. This high mortality rate has been attributed to various factors including lower screening rates, late stage at diagnosis, and access to care (Bhoo et al., 2011; Zainal and Nor, 2011).

Being diagnosed with breast cancer is a very stressful event, affecting all aspects of life and thus compromising the quality of life (Montazeri, 2008). According to Montazeri (2008), especially in oncology area, quality-of-life is an important factor for clinical decisions. The increasing number of breast cancer patients and the longer survival of these patients due to advancement in medical technology have increased the importance of quality-of-

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life issues for breast cancer survival patients.

Until recently, most research on quality of life has been conducted in the western countries, limiting our understanding on the local breast cancer life experience differences of ethnic groups with different religion and culture. It is known that understanding a person's social and cultural life context helps in understanding their subjective experience of health, illness, and sense of well-being, which plays an important role for healthcare professionals caring and curing interventions (Kleinman et al., 2006). Thus, the purpose of this study was to examine the quality of life in Malay and Chinese women newly diagnosed with breast cancer in Kelantan, Malaysia.

Materials and Methods

A cross-sectional, descriptive study of the quality of life among Malay and Chinese women newly diagnosed with breast cancer was conducted at the two main public referral hospitals for breast cancer in Kelantan, Malaysia. The study was granted ethical approval from the Clinical Research Centre, Ministry of Health, Malaysia; KKM/NIHSEC/08/0804/P10-332 and Human Ethics Committee, Universiti Sains Malaysia; USM/KK/PPP/JEPeM[231.4.(1.110)]. Written consent was obtained from the patients when they agreed to participate in the study. In addition, women were assured of anonymity and confidentiality.

Recruitment and data collection was done concurrently from November 2010 to April 2011. All the Malay and Chinese women with confirmed histological diagnosis of breast cancer within the study period were invited to participate in the study. There were no restrictions on patient selection with regard to histology of breast cancer, disease stage, and demographic characteristics. The only exclusion criteria were women with recurrent breast cancer, treatment defaulters, terminally ill condition, and major psychiatric illness.

Measures

The quality of life was measured using the Malay version of EORTC QLQ-C30 and its breast specific module: QLQ BR-23. These questionnaires were copyright instruments and permission to use them was obtained from the EORTC Quality of Life Study Group in Brussels, Belgium. The psychometric properties of the Malay version for both questionnaires are well documented (Yusoff et al., 2010; 2012a).

The EORTC QLQ-C30 is a 30-item-survey that assesses three main domains: global health status, functional status, and cancer-related symptoms status. The breast specific module, EORTC QLQ-C23 is meant for use among breast cancer patients in various disease stages and treatment modalities. It has 23 items that assess two main domains: breast functional status and breast symptom status. A raw score of the participants' responses are transformed according to EORTC scoring manual (Fayers et al., 2001). The score ranges from zero to 100, with a higher score indicating better quality of life for the functioning and global quality of life. For cancer-specific symptoms, a higher score shows the patients expressing

greater symptoms and thus poorer quality of life.

Socio-demographic data collected included: age, ethnicity, marital status, number of children, education level, house-hold income, house locality, and employment status. Clinical characteristics consisting of disease stage and comorbidity were extracted from participants' medical records. Data was collected personally by the researcher within a week after the women were informed of a breast cancer diagnosis. Time to complete the questionnaire was approximately 15-20 minutes.

Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics was used to summarize socio-demographic and clinical characteristics of the women. For comparing quality of life domains score between Malay and Chinese women, independent t-tests were performed. A p-value of equal or less than 0.05 was considered significant.

Results

Participant's characteristics

A total of 76 women who were newly diagnosed with breast cancer from November 2010 to April 2011 were approached. Only 73 women agreed to the study with a response rate of 96.1%. Three women (3.9%) refused to

Table 1. Socio-demographic and Clinical Characteristics of the Malay and Chinese Women Newly Diagnosed with Breast Cancer

Variables	Malays n=58 (%)	Chinese n=15 (%)
Age groups (years)	20-29	0 (0.0)
	30-39	11 (19.0)
	40-49	17 (29.3)
	50-59	17 (29.3)
	> 60	13 (22.4)
Mean (95% CI)	50.72 (48.14, 53.31)	50.20 (43.83, 56.75)
Range	34 - 76	29 - 68
Marital status	Single/Widowed	17 (29.3)
	Married	41 (70.7)
No of children	0-3	23 (39.6)
	> 3	35 (60.4)
Mean (95% CI)	4.03 (3.27, 4.80)	2.27 (1.59, 2.94) ^{ab}
Range	0-15	0-4
Education level	Low	16 (27.6)
	High	42 (72.4)
Occupation	Not working	34 (58.6)
	Working	24 (41.4)
Monthly income (MYR)	≤ 2000	40 (69.0)
	> 2001	18 (31.0)
Range	200-13000	500-5000
Median (IQR)	800 (2525)	2500 (2000) ^{bf}
House location	Rural	32 (55.2)
	Urban	26 (44.8)
Co-morbidity	No	32 (55.2)
	Yes	26 (44.8)
Tumour stage	Stage I	1 (1.7)
	Stage II	17 (29.3)
	Stage III	18 (31.0)
	Stage IV	22 (37.9)

*p=0.001; ^aIndependent t-test; ^bMann-Whitney test; ^zstat=1.992, p=0.046

Table 2. Global Quality of Life and Functioning Scores as Measured by Independent t-test (n=73)

	Ethnicity	n	Mean (SD)	p value
Global quality of life	Malays	58	60.34 (22.15)	0.489
	Chinese	15	65.00 (26.58)	
Physical functioning	Malays	58	76.32 (25.48)	0.32
	Chinese	15	84.00 (30.11)	
Role functioning	Malays	58	67.24 (39.85)	0.262
	Chinese	15	80.00 (35.19)	
Emotional functioning	Malays	58	65.80 (26.80)	0.164
	Chinese	15	76.11 (17.78)	
Cognitive functioning	Malays	58	84.77 (19.06)	0.227
	Chinese	15	91.11 (12.39)	
Social functioning	Malays	58	75.00 (31.10)	0.488
	Chinese	15	81.11 (26.63)	

*Scores range from 0-100, with higher scores representing higher level of functioning

Table 3. Symptoms Scores Measured by Independent t-test (n=73)

Symptom	Ethnicity	n	Mean (SD)	p value
Fatigue	Malay	58	29.69 (28.26)	0.783
	Chinese	15	27.41 (29.95)	
Nausea and vomiting	Malay	58	6.61 (15.59)	0.002
	Chinese	15	0	
Pain	Malay	58	25.29 (31.18)	0.562
	Chinese	15	20.00 (27.60)	
Dyspnoea	Malay	58	6.90 (17.39)	0.004
	Chinese	15	0	
Insomnia	Malay	58	28.16 (35.76)	0.627
	Chinese	15	33.33 (39.84)	
Loss of appetite	Malay	58	22.99 (31.96)	0.578
	Chinese	15	17.78 (33.01)	
Constipation	Malay	58	19.54 (25.00)	<0.001
	Chinese	15	2.22 (8.61)	
Diarrhoea	Malay	58	4.60 (13.17)	0.511
	Chinese	15	2.22 (8.61)	
Financial difficulties	Malay	58	28.16 (36.83)	0.165
	Chinese	15	17.78 (21.33)	

*Scores range from 0-100, with higher scores representing higher level of functioning

participate the study because; two is not feeling well and one is refusing medical treatment, thus she refused to join the study.

The Malay form the majority in this study (79.5%, n=58). The majority of the women were less than 50 years old [Malay 53.4%, Chinese 53.3%, were married (70.7% Malay, 86.7 Chinese)] and have at least a secondary education (55.2% Malay, 66.7% Chinese). The Malay women mainly live in rural areas (55.2%) while most Chinese women reside in urban areas (60%), but the difference is not statistically significant. There was no significant difference in terms of age, marital status, education level, and occupation in between Malay and Chinese participants. However, Malay had more children [mean 4.03 (95%CI 3.27, 4.80)] when compared to Chinese [mean 2.27 (95%CI 1.59, 2.94)] and most of the Malay (69.0%) had a household income ranging from RM 200 to RM 13,000 per month when compared to the Chinese (46.7%) income range of RM 500 to RM 5,000. There was no significant difference in the medical characteristics of Malay and Chinese women. The majority

Table 4. Breast Functioning and Breast Symptoms Scores Measured by Independent t-test (n=73)

	Ethnicity	n	Mean (SD)	p value
Breast functioning**:				
Body image	Malay	58	75.57 (26.53)	0.483
	Chinese	15	81.11 (29.46)	
Sexual functioning	Malay	58	77.30 (25.69)	0.948
	Chinese	15	77.78 (24.12)	
Sexual enjoyment	Malay	28	50.00 (21.28)	0.377
	Chinese	8	58.33 (29.55)	
Future perspective	Malay	58	44.25 (30.20)	0.125
	Chinese	15	57.78 (29.46)	
Breast symptoms+:				
Arm symptoms	Malay	58	21.84 (25.91)	0.252
	Chinese	15	13.33 (23.46)	
Breast symptoms	Malay	58	27.16 (22.16)	0.041
	Chinese	15	14.44 (16.20)	
Systematic therapy side effects				
Upset by hair loss	Malay	58	0 (0)	-
	Chinese	15	0 (0)	
Upset by hair loss	Malay	58	21.21 (22.47)	0.387
	Chinese	15	0 (0)	

*Scores range from 0-100, with higher scores representing higher level of functioning; **Scores range from 0 to 100, with higher scores representing higher level of functioning

of them had no comorbidity (Malay 55.2% and 53.3% for Chinese) and presented at later stages of breast cancer (68.9% for the Malay and 60.0% for Chinese). Further details are shown in Table 1.

Global quality of life and functioning

Table 2 shows Malay and Chinese women global quality of life and functioning as measured by the EORTC QLQ-C30. In general, both Malay and Chinese women have a satisfactory global quality of life and all aspects of functioning as depicted in Table 2. Although not statistically significant, Chinese women have higher score when compared to the Malay women.

Symptoms

Generally, both Malay and Chinese women have slight fatigue, pain, insomnia, loss of appetite, constipation, diarrhoea, and financial difficulties. However, the Malay women scored higher in all almost all symptoms than the Chinese women (Table 3). There were significant differences in nausea and vomiting (6.61 in Malay and 0 in Chinese); dyspnoea (6.90 in Malay and 0 in Chinese) and constipation (19.54 in Malay and 2.22 in Chinese).

Breast-specific scores

Table 4 shows the breast-specific scores as measured by the EORTC QLQ-BR23. Generally, both Malay and Chinese women have satisfactory breast functioning score. However, Chinese women scored slightly higher in breast functioning when compared to the Malay women. There were significant differences in breast-symptoms (27.16 in Malay and 14.44 in Chinese) and hair-loss scores (21.21 in Malays and 0 in Chinese) between the two ethnic groups.

Discussion

This study compared the quality of life among Malay

and Chinese women newly diagnosed with breast cancer in Kelantan, Malaysia prior to medical treatment. We were interested in comparing the quality of life in these two ethnicities as the incidence and survival rate of breast cancer was different. The incidence of breast cancer was high among Chinese but their survival rate is also high. On the other hand, the Malay women have the lowest incident and yet their survival rate was the poorest among the major ethnic groups (Ibrahim *et al.*, 2012). This study provide important insights into the Malay and Chinese perceptions of quality of life with regard to their symptoms in the context of having breast cancer, and how their symptoms about breast cancer were influenced by culture, and how diagnosis and symptoms interfaced with marital and family relationships.

Using a standard quality of life questionnaire; EORTC QLQ-C30 and EORTC QLQ-BR23, the main findings of this study were satisfactory in global quality of life and functioning scores in both Malay and Chinese women. Interestingly, the Malay women experienced greater symptoms, both general and breast-specific, while none of the Chinese women complained of symptoms of nausea, vomiting, dyspnoea, and upset feelings from hair loss.

This study finding showed that both Malay and Chinese women had a satisfactory score on global quality of life and functioning. This finding might be explained by the fact that quality of life data in this study was assessed within one week following a breast cancer diagnosis. Generally, during this period these women had not started any medical treatment such as surgical intervention or chemotherapy. Thus, global quality of life and functioning were not yet affected by treatments. According to the previous study, quality of life was most affected after patients experienced side effects from breast cancer treatments (Lemieux *et al.*, 2008; Lin Lua *et al.*, 2011). As a consequence of surgical treatment and chemotherapy, patients experienced adverse effects such as pain, fatigue, nausea, and vomiting and thus impaired their quality of life during and after the treatment phase. Consequently, all these side effects negatively influenced patient quality of life.

The second finding was that the Malay women experienced greater symptoms of nausea, vomiting, dyspnoea, constipation, and were upset by hair loss when compared to the Chinese. This translated into a poorer quality of life among Malay women when compared to their Chinese counterparts. These findings were consistent with previous studies that found that ethnicity had an influence on quality of life in chronic illness patients (Wee *et al.*, 2006; Yusoff, 2009). This finding may be explained by a number of different factors.

First, Malay women placed greater emphasis on beauty and reproductive health; and breast cancer illness was seen as a challenge in their marital relationship (Yusoff *et al.*, 2012b). Therefore, when the Malay women were diagnosed with breast cancer, they felt threatened, insecure, and no longer desirable, with the added fear that their spouses might leave them for other women. This finding also concurred with Taleghani *et al.* (2008) who found that Iranian women with breast cancer were apprehensiveness that their husbands might pursue

relationships with other women. The common factor in this current study and Taleghani *et al.* (2008) study is religion, as both groups of participants were Muslim, and according to Islam, Muslim men are allowed to marry up to four wives as written in the Holy Qur'an 4:3; "marry women of your choice, two, or three, or four . But if, you fear that you will not be able to deal justly (with them), then marry one" (Ahamed, 1999).

Another explanation for the high symptoms of constipation, dyspnoea, nausea, and vomiting among Malay women was due to change in their diet post a breast cancer diagnosis. In Malay culture, one normally practices 'pantang' following an illness. 'Pantang' is referred to all kinds of food that are prohibited by custom and taboo. The practice of 'pantang' is to restrict or abstain from eating certain type of foods that are believed to be harmful to the body (Soon, 2009; Hishamshah *et al.*, 2011). The aim of food proscription is to promote wound healing, if any, and to encourage a speedy recovery from illness. In addition, the practice also increases and improves blood circulation. In Malay culture, good blood circulation is thought to be the "soul" of good health (Zamani, 2001).

The problem with this diet is that a restricted protein and vegetable diet has resulted in low dietary fibre, protein serum levels, and iron. Iron is an essential part of haemoglobin and when a deficiency occurs, anaemia may result. As a result of anaemia, the amount of haemoglobin transportation of oxygen from the lungs throughout the body cells are diminished and may lead to the symptoms of dyspnoea (Martini *et al.*, 2012). The symptom of constipation is high among the Malays as a result of this restricted fibre intake and fluids from their 'pantang'. Protein deficiency coupled with emotional and physiological stress may induce the symptom of nausea and vomiting. As Green (2010) suggested, an insufficient supply of protein, and/or insufficient nutrients to protein synthesis could cause nausea in early pregnancy. In addition, Malay women only consumed grilled fish, which could also initiate nausea.

Chinese patients believed that illness was a result of an imbalance of hot and cold elements together with an obstructed flow of Ch'i (Chen, 1981; Ariff and Beng, 2006). Quality of life is believed to be improved when there is a balance in all of these elements (Zhan, 2006). Thus, in order to survive and stay healthy, Chinese women put a greater emphasis on balancing hot and cold elements within their bodies and maintaining a continuous flow of Ch'i through a healthy and balanced diet. According to traditional Chinese medicine, diet plays an important role in maintaining health and treating illness. Thus, most of the Chinese women were intent on eating nourishing food and taking supplements for therapeutic properties to restore good health. This is very different when compared to the Malay food taboos during illness. This attention to diet and supplements could explain the reason and findings that the Chinese women have fewer or no symptoms of nausea, vomiting, and dyspnoea since they have adequate nutrients and nutrition.

This study also found that Chinese women were less upset by hair loss. The reason for this finding is not clear but it may have something to do with the security feeling

about their marital relationship. In a study by Lam and Fielding (2003), Chinese women in Hong Kong did not feel that breast loss would have a detrimental effect on their sexual and marital relationship. They seemed to value the breast much less as a sexual, feminine, or even functional feature. Thus, Chinese women may not feel threaten that their husbands might marry other women, even if they lost their breasts and hair during the treatment. Furthermore, when compared to the Malay, Chinese men are only allowed to have one legal wife. According to Wong-Kim et al. (2005), after being diagnosed with breast cancer, the Chinese women were more concerned about survival. Thus, these women put a greater emphasis on recuperating from their illness rather than worrying about body image and their marital relationship.

However, the findings of this study need to be read with caution as it involved only a small number of newly diagnosed breast cancer patients in the lowest urbanized state in Malaysia. Therefore, a multi-state comparison with varying demographics should be carried out. In addition, women in this study were relatively young, although studies have shown that in Malaysia, breast cancer patients present at younger age with advanced stages (Yip et al., 2006; Leong et al., 2009; Norsa'adah et al., 2011; Lua et al., 2012; Yusoff et al., 2012a). Finally, we cannot ignore the fact that the number of Chinese participants was small compared to the Malay.

In conclusions, the study findings showed that there was no difference in functioning and global quality of life between Malay and Chinese women newly diagnosed with breast cancer. However, Malay women scored higher with symptoms when compared to Chinese. Thus, Chinese women have higher quality of life when compared to the Malay. These findings underline the importance of measuring quality of life in newly diagnosed breast cancer patients as it provides a broader picture on how a cancer diagnosis might differently impact multi-ethnic patients. Religion and culture played an important role and influenced many aspects of breast cancer women including how they expressed their symptoms and coped in addition to the support received from their husbands and families. Health care professionals played an important role in recognizing and helping patients improve survival and quality of life. Once health care professionals understood these patients, they were able to determine how to best support and help them to improve their patients' quality of life during their breast cancer journey, incorporating the best caring schemes according to the patients' needs. Future studies should explore the in-depth understanding on the issues of culture on the quality of life through qualitative investigation.

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