

ORIGINAL ARTICLE

QUALITY OF LIFE AND SOCIAL SUPPORT AMONG BREAST CANCER PATIENTS IN MALAYSIA

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ABSTRACT

Cancer incidence and mortality are rapidly growing worldwide, and Breast Cancer is one of the leading causes of death among women in Malaysia. Social support is an important aspect in the Quality of Life (QoL) as it affects the psychological well-being and health of the patients. The aim of this study is to assess the quality of life and relationship of QoL with social support among female patients with diagnosed Breast Cancer. This is a cross-sectional study involving 259 female patients with diagnosed Breast Cancer from outpatient unit of National Cancer Institute, Malaysia. The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) and its breast-specific module (QLQ-BR23) measured QoL and social support by using Perceived Social Support (MPSS) questionnaires. The data was analysed using the SPSS version 25.0. The result of this study found that women with Breast Cancer in Malaysia had an excellent global quality of life in which they were able to achieve the highest score in their role and physical function. The result also showed a high rate of social support especially support from family. There was a positive relationship between QoL and social support ($r_s: 0.25$) generally with a p -value less than 0.05. Therefore, effective measures need to be taken and implemented concerning improving the QoL of Breast Cancer patients.

Keywords: Breast Cancer, Quality of life, Social Support

INTRODUCTION

Cancer has become a critical health issue worldwide, creating several problems for healthy individuals and one of the most critical health concerns. Cancer defined as the uncontrolled growth and spread of abnormal cells into surrounding tissues, affecting any parts of the body¹.

Breast Cancer is a disease in which cells in the breast grow out of control⁸. It has increased rapidly in Malaysia and worldwide as it is primarily affecting female patients. Females with Breast Cancer were commonly diagnosed worldwide as there were 2.1 million patients in 2018 (23% of all cancers) and it was ranked second among other cancers (10.9% of all cancers). Highest Breast Cancer rates recorded in Australia/New Zealand and Northern Europe⁵. In Malaysia, 21,634 cases of female Breast Cancer diagnosed from 2012 to 2016 compared to 18,206 cases in 2007 to 2011. Roughly, 34 women out of 100,000 reported to be having Breast Cancer from 2012 to 2016, compared to about 31 women from 2007 to 2011, and the number rose significantly in Malaysia¹⁶. Most of the patients were stage 2 patients (34.5%), followed by stage 3 (25.1%), stage 1(17.5%) and stage 4 (22.8%).

Cancer is an excessive burden on patients, families and society. Besides financial cost, cancer has a significant psychosocial effect on patients and their families¹⁵. Interest in assessing the Quality of Life of Breast Cancer patients in recent decades has increased partly due to the increase in the incidence of Breast Cancer cases globally (GLOBOCAN, 2018)⁵.

Quality of Life (QoL)

Quality of life is a particular element among patients diagnosed with Breast Cancer. It defined as a personal sense of well-being encompassing a multidimensional perspective that generally includes physical, psychological, social and spiritual. Measuring Quality of Life in Breast Cancer patients is vital in assessing treatment outcomes. Previous studies in Saudi Arabia show that Breast Cancer survivors had a low overall global Quality of Life^{3,20}. The low score reflects the impact of disease and treatment on all aspects of daily life²⁰.

Social Support

Social support is one of the essential factors in the rehabilitation of cancer patients. It has an impact on psychological wellbeing, health and coping behaviors in patients. Women reported to be having a relatively high-perceived social support as the mean score on family support was

the highest and the symptom distress scores were relatively low to moderate²⁵. Without adequate social support, these physical and psychological symptoms may consequence the poor quality of life⁷. Therefore, the objectives of this study are to determine the quality of life, social support and relationships between QoL and social support among women with Breast Cancer.

METHODS

This study designed as a cross-sectional study. The data collected from 259 female Breast Cancer patients who were attending outpatient units (Daycare, Radiotherapy Clinic and Oncology Clinic) in National Cancer Institute, from January 2019 to July 2019. Purposive sampling used in this study, which excluded Inpatients, and patients with Cognitive Impairment, Psychiatric illness, and being younger than 18 years old at the time of the study. Ethical approval been obtained from the Institutional Research Ethics Committee, Medical Research Ethics Committee (MREC) and higher authority of National Cancer Institute, Malaysia. Questionnaires distributed to the patients during their visits to the outpatient clinics after obtaining the informed consent.

A structured questionnaire of socio-demographic, clinical characteristics and Quality of Life, and Multidimension Perceived Social Support (MPSS) used in the study. The questionnaire consisted of four parts: demographic characteristics of the sample, clinical characteristics, Quality of Life of cancer patients and a specific Quality of Life questionnaire of Breast Cancer patients. The European Organization for Research and Treatment of Cancer Quality of Life Cancer Specific Arabic Version (EORTC QLQ-C30, v.3.0) used to assess patients' Quality of Life. The EORTC QLQ-30 comprised 30 questions including one Global Health Scale (GHS), five functional scales (physical, role, emotional, cognitive and social functioning) and nine symptoms scales (fatigue, nausea/vomiting, pain, dyspnoea, insomnia, appetite loss, constipation, diarrhoea and financial difficulties). A specific version of the questionnaire for Breast Cancer patients also used to determine patients' Quality of Life. The EORTC QLQ-BR23 comprised 23 items designed in measuring four functional scales (body image, sexual functioning, sexual enjoyment, future perspective) and four symptoms scales (systemic therapy side-effects, breast symptoms, arm symptoms, being upset by hair loss) of patients. All scores for each question ranged from 0 to 100. Higher scores for global and functional scales represented higher levels of functioning. Meanwhile, higher scores for symptoms scales represented more problems and less functioning.

Perceived the Multidimensional Scale of Perceived Social Support (MSPSS) is one of the

self-administered scales. It that is simple to administer and score. The scale consisted of 12 questions and used a 7-point Likert scale ranged from "strongly disagree" to "strongly agree." The scale included three subscales consisting of four questions to measure namely, family (3rd, 4th, 8th and 11th items), a friend (6th, 7th, 9th and 12th items), and significant other support (1st, 2nd, 5th and 10th items). A high score represented high-perceived social support²⁴. The Malay version of MSPSS with an established psychometric property shown to have high internal consistency of the total and each subscale with excellent factorial validity. Scoring: Any mean scale score ranging from 1 to 2.9 was considered as low support; a score of 3 to 5 was considered as moderate support; a score from 5.1 to 7 could be considered as great support.

A sample of 259 Breast Cancer patients participated in this study. Data entry and analysis done using SPSS version 25. The data cleaned, and a reliability test conducted to determine the consistency of the research study. As in this current study, the Cronbach's Alpha was 0.85 for Perceived Social Support (PSS), 0.90 for EORTC-QLQ-30 and the Cronbach Alpha result for EORTC-QLQ-BR23 was 0.85. The Cronbach Alpha results showed that the instrument used had produced stable and consistent results. A normality test conducted to determine the type of analysis used in this study. Since the sample size was more than 100, Kolmogorov Smirnov statistics used to analyze and describe the distribution of the samples¹⁹. Normality result showed that the significant value was less than 0.05. It indicated that the samples were not normally distributed. Therefore, the non-parametric statistic, Spearman correlation used to determine the relationship between Quality of Life and Social Support, among women with Breast Cancer in Malaysia. The scores of each domain of EORTC QLQ-C30 and QLQ-BR23 used as dependent variables. The p-value was less than 0.05 and it considered as statistically significant.

RESULTS

Demographic Characteristics of Respondents

Table 1 portrays demographic characteristics of the respondents who took part in this study. In this study, 259 respondents' ages were between 23 and 79 years old, and the mean age was 49.54 years old (SD: 10.47). Most of the respondents (61.8%) were between 36 and 55 years old. Most of them were Malay (71.0%) and almost half of the respondents (47.1%) had secondary education. About 84.6% were married, majority of the women were not actively working (housewife and pensioner), and most of them were under the category of B40 income group that had an income range of RM1001-3000.

Table 1. Demographics Characteristics of the Respondents (n=259)

Variables	Frequency (n)	Percentage (%)
Age (years) Mean: 49.54 (SD: 10.47)		
< 26 years old	1	0.4
26-35 years old	22	8.5
36-45 years old	73	28.2
46-55 years old	87	33.6
56-65 years old	60	23.1
>65 years old	16	6.2
Ethnic		
Malay	184	71.0
Chinese	39	15.1
Indian	31	12.0
Others	5	1.9
Level of Education		
Degree/Master/PhD	54	20.8
Diploma/Certificate	54	20.8
Secondary School	122	47.1
Primary School	23	8.9
Others	6	2.4
Marital Status		
Single	11	4.2
Married	219	84.6
Widow	21	8.1
Divorce	8	3.1
Employment Status		
Self Employed	17	6.6
Employed	84	32.4
Housewife	104	40.2
Pension	54	20.8
Income		
RM 1,000 and below	37	14.3
RM1001-3000	104	40.1
RM3001-5000	72	27.8
RM5001and above	46	17.8

Clinical Characteristics of Respondents

Table 2 shows clinical characteristics of the respondents. The mean duration of these women diagnosed with Breast Cancer was around 18 months. Almost half of the respondents (47.1%) were diagnosed with stage 3 cancer at the time of diagnosis. However, only 40.5% were currently diagnosed with stage 3 cancer. More than half of the respondents had a history of mastectomy surgery, while a quarter of them had undergone Breast-Conserving surgery and only 14.7% of them never had experienced surgery. Most of the respondents had experienced metastatic and half of them had gone through the menopause stage.

The length of treatment that they were on was about 12 to 13 months and more than half of them had comorbidity.

Level of Perceived Social Support

Table 3 indicated the level of perceived social support that the respondents received. A significant number of respondents (85.7%) perceived a high social support generally. Majority of women sensed high social support from family (93.4%); followed by others (88.4%); and friends (72.2%)

Table 2: Clinical characteristics of respondents (n=259)

Variables	Frequency(n)	Percentage (%)
Duration of Cancer (month)		
Mean: 18.05 months (SD: 24.96)		
Minima: 1 month		
Maxima: 276 months (23 years)		
The level of cancer at the time of diagnosis		
Stage 1	24	9.3
Stage 2	84	32.4
Stage 3	122	47.1
Stage 4	29	11.2
The current stage of cancer		
Remission	5	1.9
Stage 1	17	6.6
Stage 2	75	29.0
Stage 3	105	40.5
Stage 4	57	22.0
History of Surgery		
Lumpectomy	11	4.2
Mastectomy	158	61.0
Breast Conserving	52	20.1
No Surgery	38	14.7
Metastatis		
Yes	59	22.8
No	200	77.2
Menopause		
Yes	130	50.2
No	129	49.8
The Length of treatment (month)		
Mean: 12.73 months (SD: 27.41)		
Minima: 1 month		
Maxima: 276 months (23 years)		
Comorbidity		
Yes	107	41.3
No	152	58.7

The Quality of life using EORTC QLQ-30

Table 4 portrayed the quality of life among women with cancer by using the (EORTC QLQ-30) in which for the Global Health Status (GHS) of respondents had a mean score of 73.68 (SD=17.32). The first scale is functional scales that consist of physical functioning, role functioning, emotional functioning, cognitive functioning, and social functioning. This study showed that Role Functioning (RF) scored the highest functioning scales acquired by the respondents with a mean score of 86.24 (SD=2.72) and the median score of 90.91 followed by the Physical Functioning (PF) with a mean score of 74.16 (SD=15.04) and the median was 78.57; Emotional Functioning (EF) scale had a mean score of 71.78 (SD=11.12) with a median score of 75.00. Meanwhile, Cognitive Functioning (CF) with a mean score of 61.71 (SD=5.69) and

the median score was 66.67 scored the lowest function scales of the respondents followed Social Functioning (SF) scale, and the mean score was 62.03 (SD=6.49) with a median score of 66.67.

The second scale is symptom scales that consist of fatigue, nausea and vomiting, pain, dyspnea, insomnia, loss of appetite, constipation, diarrhea, and financial difficulties. Based on this study, it was revealed that fatigue is the most distressing symptoms experienced by the respondents with a mean score of 67.18 (SD=23.23) and the median score was 66.67 followed by the sense of pain with the mean score was 47.62 (SD=24.59) and the median score of 50.00 and also the symptoms of nausea and vomiting which had a mean score of 34.49 (SD=22.89) and a median score of 33.33.

However, dyspnoea scored the least distressing symptoms experienced by the respondents with a mean score of 16.09 (SD=22.98), and the median score was 0.00 followed by diarrhoea which had a mean score of 18.02 (SD=23.14) with a median score of 0.00 and also constipation with a mean score was 19.31 (SD=24.48) with the median score was 0.00. Besides, symptoms of financial

difficulties, it was scored with a mean score of 39.00 (SD=31.64), and the median score was 33.33 while insomnia had a mean score of 32.43 (SD=29.41) with a median score of 33.33. Last but not least, for the symptoms of loss of appetite, the mean score was 31.66 (SD=29.95), with a median score of 33.33.

Table 3: The Level of Perceived Social Support

Variables	Frequency(n)	Percentage (%)
Perceived Social Support (General)		
Low	3	1.2
Moderate	34	13.1
High	222	85.7
Other Subscale		
Low	10	3.9
Moderate	20	7.7
High	229	88.4
Family Subscale		
Low	2	.8
Moderate	15	5.8
High	242	93.4
Friend Subscale		
Low	11	4.2
Moderate	61	23.6
High	187	72.2

Table 4: The Quality of life using EORTC QLQ-30

EORTC QLQ-30	No of Item	Mean (SD)	Median
Global Health Status	2	73.68 (17.32)	75.00
Functional Scales			
Physical Functioning	5	74.16 (15.04)	78.57
Role Functioning	2	86.24 (2.72)	90.91
Emotional Functioning	4	71.78 (11.12)	75.00
Cognitive Functioning	2	61.71 (5.69)	66.67
Social Functioning	2	62.03 (6.49)	66.67
Symptom Scales/Items			
Fatigue	3	67.18 (23.23)	66.67
Nausea & Vomiting	2	34.49 (22.89)	33.33
Pain	2	47.62 (24.59)	50.00
Dyspnea	1	16.09 (22.98)	0.00
Insomnia	1	32.43 (29.41)	33.33
Loss Of Appetite	1	31.66 (29.95)	33.33
Constipation	1	19.31 (24.48)	0.00
Diarrhea	1	18.02 (23.14)	0.00
Financial Difficulties	1	39.00 (31.64)	33.33

The Quality of life (EORTC QLQ-23)

Table 5 illustrated the quality of life among women with breast cancer by using the (EORTC QLQ-23). The first scale is functional scales that

consist of body image, sexual functioning, sexual enjoyment, and future perspective. This study revealed that Body Image scored the highest functioning with a mean score of 76.32

(SD=9.01), and the median score of 83.33 followed with the Sexual Enjoyment (SEE) of respondents was 72.01 (SD=4.73) with a median score of 66.67. Meanwhile, poor functioning was found in terms of Sexual Functioning (SEF) with the mean score was 52.77 (SD=5.33) with a median score of 66.67 followed with the future perspective scored 66.67 (SD=6.69) and the median score was 66.67.

The second scale is symptom scales that consist of systemic therapy side effects, breast symptoms, arm symptoms, and upset by hair loss. This study showed that the systemic

therapy side effect scored the highest with a mean score of 65.92 (SD=23.26), and the median score was 61.11 indicating worse functioning. Meanwhile, the breast symptoms were the least symptoms experienced by the respondents with the mean score was only 31.66 (SD=32.31), and a median score of 33.33 followed by the arm symptoms with the mean score was 22.52 (SD=21.99) and the median score of 22.22. Besides, the mean score for symptoms of upset by the hair loss was 17.44 (SD=19.09), with a median score of 8.33.

Table 5: The quality of life among women with Breast Cancer by using EORTC QLQ-23

EORTC QLQ-23	No of Item	Mean (SD)	Median
Functional Scales			
Body Image	4	76.32 (9.01)	83.33
Sexual Functioning	2	52.77 (5.33)	66.67
Sexual Enjoyment	1	72.01 (4.73)	66.67
Future Perspective	1	66.67 (6.69)	66.67
Symptoms Scales/Items			
Systemic Therapy Side-Effects	7	65.92 (23.26)	61.11
Breast Symptoms	4	31.66 (32.31)	33.33
Arm Symptoms	3	22.52 (21.99)	22.22
Upset by Hair Loss	1	17.44 (19.09)	8.33

Table 6 shows the relationship between QoL and Perceived Social Support (the support from significant others, family and friends). This study finds that there was a weak positive relationship between QoL and Perceived Social Support (rs:

0.25) and p-value less than 0.05. Family Support (rs: 0.25) was found to be the highest score among the three categories of perceived social support followed by friends (rs: 0.24) and significant others (rs: 0.19).

Table 6: The Relationship between Quality of Life and Perceived Social Support

		Perceived Social Support					
		Quality of Life QLQ-30	Total	Sig. Others	Family	Friends	
Perceived Social Support	Quality of Life (QLQ-30)	r_s	1.000	.252**	.190**	.254**	.244**
		p-value		.000	.002	.000	.000
	Total	r_s	.252**	1.000	.819**	.826**	.815**
		p-value	.000		.000	.000	.000
	Sig. Others	r_s	.190**	.819**	1.000	.717**	.465**
		p-value	.002	.000		.000	.000
	Family	r_s	.254**	.826**	.717**	1.000	.576**
		p-value	.000	.000	.000		.000
	Friends	r_s	.244**	.815**	.465**	.576**	1.000
		p-value	.000	.000	.000	.000	

DISCUSSION

The Quality of Life (EORTC QLQ-30)

The current study reported that the mean score for global health obtained from Malaysian breast cancer women was 73.68 in terms of the QLQ-

C30 scale. (SD=17.32). Contradicted to a study done by Almutairi et al. (2016) where the mean score for global health obtained from the Saudi's Breast Cancer survivors was 31.15. However, it was almost similar to the studies done in Western and Asian countries such as South Korea.

The mean score of GHS was 66.5, with UK 66.8, Germany 65.5 and Turkey 66.6. Bahrain, an Arabic country and one of the Gulf countries, was 63.9 and in Eastern China 53.8^{5,17,14,22}. The data might be caused by a large number of respondents under the treatments, which included mastectomies and other treatment modalities that had widely and aggressively affected the global health of the patients. In addition, the patients came from outpatient services.

The first scale is functional scales that consist of physical functioning, role functioning, emotional functioning, cognitive functioning, and social functioning. This study showed that Role Functioning (RF) scored the highest functioning scales acquired by the respondents with a mean score of 86.24 (SD=2.72) followed by the Physical Functioning (PF) with a mean score of 74.16 (SD=15.04); Emotional Functioning (EF) with a mean score of 71.78 (SD=11.12). Similar to a study done by Qing et al. (2018) as the role function score was the highest (77.4) among the five Functional Scales in terms of QLQ-C30²². While, Al Zahrani et al. (2019) stated that physical well-being subscale exhibited the highest score in their study where female patients diagnosed with Breast Cancer were treated at the Oncology/Surgical Department of King Salam Armed Forces Hospital in Tabuk⁴. These can be explained that the ability of the women diagnosed with Breast Cancer to meet their physical needs will also affect her role functioning. Furthermore, Cognitive Functioning (CF) and the social functioning were among the lowest functioning scales with a mean score of 61.71 and 62.03. These contradicts the study done by Almutairi et al. (2016) which stated that the two functioning scales had the highest score of the mean³.

The second scale is symptom scales that consist of fatigue, nausea and vomiting, pain, dyspnea, insomnia, loss of appetite, constipation, diarrhea, and financial difficulties. Based on this study, it was revealed that fatigue (67.18) and pain (47.62) were the most distressing symptoms experienced by the respondents.

While dyspnoea 16.09 and GIT (Gastro-Intestine Tract) Disturbance such as diarrhoea (18.01) and constipation (19.31) were the lowest stressing symptoms experienced by them. These were in line with Almutairi et al. (2016) that reported diarrhoea and dyspnoea to be severe³.

The Quality of Life (EORTC QLQ-23)

The present study showed low scores in the domains of sexual functioning. This finding does not determine sexual functioning among Malaysian patients as it only reflects the value and culture where talking about sexuality is considered inappropriate and awkward. This correlates with Almutairi et al., (2016) who

stated that breast cancer survivors in Saudi had fewer expectations of sexual life and embraced shame when answering the questions regarding sexual enjoyment due to their cultural and social norms³.

This study reveals that Body Image scored the highest with a mean score of 76.32 (SD=9.01) as majority of the respondents accepted their scarcity and most of them answered with "a little" or "not at all" for the question related to Body Image. This study also shows that the systemic therapy side effect scored the highest with a mean score of 65.92 and the breast symptoms 31.66. Parallel to a study by Almutairi et al. (2016), it was observed that breast symptoms scored the highest on the symptom scale followed by systemic therapy side effects and being upset by hair loss. This attributes to the fact that breast symptoms are more sensitive than other symptoms and usually affect the woman's identity, and remind her that a valuable part is missing from her feminized character³.

Besides, the mean score for symptoms of upset by hair loss was 17.44 (SD=19.09), and arm symptoms (22.52) which was the lowest score under the symptoms scales for women with Breast Cancer. It was supported by the study done by Yusuf et al. (2013) which reported that Malaysian women, especially the Chinese, were less upset by hair loss²⁶. They seemed to value their breast much less than a sexual, feminine or even functional feature. They were more concerned about their survival rather than worrying about body image. This contradicted with the study done by Qing et al. (2018) in which the respondents were upset with hair loss²².

The Relationship between Quality of Life and Perceived Social Support

This study shows that the Global Health Status of the respondents has a weak positive correlation with Perceived Social Support that they receive either from significant others, family and friends. In line with the study done by Ng et al. (2015), the correlation between Global Health Status and Perceived Social Support is positive and statistically significant¹⁸. Although after 12 months' period of their study, it was proven that social support helped in reducing emotional status, including suicidal tendencies (Ceyhan et al., 2014). In other words, this study reveals that the QoL is relatively better among Malaysians with Breast Cancer⁹.

Den et al. (2011) which reported that effective communications, especially from family members and friends are able to reduce psychological distress and are the crucial factors for long-term adaptation with their conditions¹⁰ supported this statement. Yan et al. (2016) believed that excellent family harmony status and frequent interactions with friends and

neighbours are two specific measures of social support that significantly improve the QoL of Breast Cancer survivors²³. Depicting that the quality of social ties and quality of relationship increase the QoL not only to the patients but also to the family members.

However, the result varies from a study by Rizalar et al. (2014) from Ondokuz Mayıs University among women with cancer that were admitted to the Outpatient Chemotherapy Unit at Health Research and Application Hospital, Turkey which showed that perceived social support is lower for family and friends especially in the advanced stage²¹. This is due to the higher expectation of physical dependency and increased discomfort among patients' family and friends. Therefore, social support particularly from the family enables patients to be more hopeful and adapt well with their situations.

CONCLUSION

This study shows that women with Breast Cancer in Malaysia had an excellent global Quality of Life in which they were able to achieve the highest score in their role and physical function. However, lesser in cognitive and social functioning. The most distressing symptoms faced by the respondents were fatigue, pain, and nausea and vomiting while the least in dyspnea and the gastrointestinal toxicity. The QLQ-BR23 noticed that body image was the highest, while sexual functioning was the lowest. Moreover, on the symptom scale, the systemic therapy side effects were recorded as the highest.

This study revealed that there was significant relationship found between the respondents' perceived social support and their QoL. The respondents who had increase of QoL were the one who received excellent social support, especially from their family. Therefore, effective measures need to be taken and implemented concerning improving the QoL of Breast Cancer patients. The comprehensive inter-agencies collaborations are needed to tackle the increasing burden of cancer more effectively and efficiently. Existing programs should be best updated and all challenges must be overcome with well-planned strategies.

Conflict of interest

The authors declare no potential conflict of interest.

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