

QUALITY OF LIFE AMONG FEMALE BREAST  
CANCER PATIENTS IN KELANTAN

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DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER  
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## **Abstrak**

**Latar Belakang:** Kanser payudara dikenali sebagai penyebab utama kematian di kalangan wanita di seluruh dunia dan dilaporkan kira-kira 30.0% daripada semua kes kanser yang baru didiagnosis. Disebabkan oleh peningkatan kes-kes kanser payudara baru-baru ini, maka telah menarik minat penyelidik untuk menilai kualiti kehidupan para pesakit kanser payudara. Matlamat kajian ini adalah untuk menyiasat skor kualiti hidup (QOL) dalam kalangan pesakit kanser payudara wanita di negeri Kelantan.

**Kaedah:** Ini adalah kajian keratan rentas pesakit kanser payudara yang telah dijalankan antara bulan Disember 2021 hingga Mac 2022. ‘European Organization for Research and Treatment of Cancer Quality of Life self-administered Questionnaire’ (EORTC QLQ – C30) dan soal selidik suplemen kanser payudara (QLQ – BR23) digunakan untuk menilai skala fungsi dan gejala yang menentukan skor QOL dikalangan pesakit kanser payudara. Soal selidik QLQ - C30 juga digunakan untuk menilai Status Kesihatan Global (GHS). Persampelan rawak sistematik digunakan untuk merekrut responden.

**Keputusan:** Seramai 280 responden telah menyertai kajiselidik dengan kadar tindak balas 100.0%. Melalui pemerhatian penyelidik, umur purata peserta dalam kajian ini ialah 52.9 tahun. Majoriti responden termasuk dalam kumpulan umur 50-59 tahun (32.1%) dan kebanyakannya selepas menopause (64.1%). Lebih daripada 80.0% responden adalah daripada etnik Melayu (84.3%), diikuti oleh Cina (11.8%), Siam (2.1%), India (2.1%) dan Lain-lain (0.7%). Pesakit yang diklasifikasikan sebagai orang lain adalah warganegara Indonesia. Majoriti responden melaporkan bahawa mereka didiagnosis dalam tempoh 2 tahun (45.4%), Lebih daripada satu pertiga daripada pesakit telah didiagnosis dengan kanser payudara peringkat 2 (36.2%), pada peringkat 4 (31.2%) dan pada peringkat 3 (27.2%). Hanya sebilangan kecil (5.4%) pesakit yang didiagnosis pada peringkat 1. Purata Skor Kesihatan Global ialah 60.4. Hasil daripada kajian, dapat dirumuskan bahawa

soal selidik QLQ-C30, fungsi kognitif mempunyai skor min tertinggi antara skala berfungsi (Min=67.9, Sisihan piawai=31.09) dan keletihan mempunyai skor min tertinggi dalam skala gejala (Min=53.8, Sisihan piawai=29.65). Manakala bagi QLQ-BR23, fungsi seksual mempunyai skor min tertinggi untuk skala fungsi (Min=77.1, Sisihan piawai=25.63) diikuti dengan imej badan (58.2, SD=30.08), manakala kecewa dengan keguguran rambut menunjukkan skor min tertinggi untuk skala gejala (Min=64.4, Sisihan piawai=35.16) diikuti dengan gejala lengan (Min=41.3, Sisihan piawai=32.17).

**Kesimpulan:** Jumlah pendapatan dan Kanser payudara peringkat awal didapati menjadi peramal penting bagi GHS. Kualiti hidup yang dicerminkan oleh GHS bertambah baik apabila pekerjaan meningkat dan pengesanan awal kanser payudara. Langkah-langkah khusus perlu diambil untuk meningkatkan kesedaran, pendidikan dan saringan awal bagi membantu mengesan awal kanser payudara dan rawatan segera dapat dijalankan.

**Kata kunci:** Kanser Payudara, Kualiti Hidup, Malaysia, EORTC.

## **ABSTRACT**

**Background:** Breast cancer is known to be the leading cause of malignancy related deaths among women worldwide and it is well documented that breast cancer alone is responsible for approximately 30% of all newly diagnosed cancer cases in women. Due to the recent increase in incidence of breast cancer there is an increase of interest in assessing the quality of life of breast cancer patients. The goal of this study is to investigate the quality of life (QOL) scores among female breast cancer patients in Kelantan.

**Methods:** This is a cross-sectional study of breast cancer patients which was conducted between December 2021 and to March 2022. European Organization for Research and Treatment of Cancer Quality of Life self-administered Questionnaire (EORTC QLQ – C30) and its breast cancer supplementary measure (QLQ – BR23) were used to determine QOL scores. The QLQ - C30 and QLQ - BR23 questionnaires were used to assess to assess functional and symptoms scale. The QLQ – c30 questionnaire was also used to assess the Global Health Status. Systematic randomized sampling was used to recruit the respondents.

**Result:** A total of 280 respondents were recruited with a response rate of 100%. It was noted that the mean age of the participants in this study were 52.9 years of age. Majority of the respondents fell into the age group between 50-59 years of age (32.1%) and were predominantly post-menopausal (64.1%). More than 80 % of the respondents were of Malay ethnicity (84.3%), followed by Chinese (11.8%), Siamese (2.1%), Indians (2.1%) and Others (0.7%). Patients who were classified as others were of Indonesian nationality. The majority of respondents reported that they were diagnosed within 2 years (45.4%), More than one-third of the patients were diagnosed with stage 2 breast cancer (36.2%),

followed by (31.2%) who were diagnosed at stage 4 and (27.2%) who were diagnosed at stage 3. Only a mere (5.4%) of patients were diagnosed at stage 1. The mean Global Health Score was 60.4. Summarizing the QLQ-C30 questionnaire, cognitive functioning has the highest mean score among the functioning scale (67.9,SD=31.09), while fatigue had the highest mean score in the symptom scale (53.8,SD=29.65). Looking at the QLQ-BR23 questionnaire, sexual function had the highest mean score for the functional scales (77.1,SD=25.63) followed by body image (58.2,SD=30.08), while upset by hair loss had the highest mean score for the symptoms scale (64.4,SD=35.16) followed by arm symptoms (41.3,SD=32.17).

**Conclusion:** Income and an early breast cancer (Stage 1 and 2) were found to be a significant predictor of Global Health Status (GHS). Quality of life which is reflected by GHS improves as employment increases and with an early diagnosis of breast cancer. Specific measures should be undertaken to increase awareness, education and early breast cancer screening to aid in early detection and prompt treatment of breast cancer.

**Keywords:** Breast Cancer, Quality of Life, Malaysia, EORTC

# 1.0 INTRODUCTION

## 1.1 INTRODUCTION AND LITERATURE REVIEW

Breast cancer is known to be the leading cause of malignancy related death among women worldwide. It is well documented that breast cancer alone is responsible for approximately 30% of all newly diagnosed cancer cases in women, and there is a probability that one in eight women will develop breast cancer throughout their lifetime. It is revealed that 14% of all cancer-related deaths are attributed to breast cancer [1].

Over the last three decades the number of breast cancer cases has increased at an alarming rate and it has now become the most frequent cancer among females (32.1%). In Malaysia, one in 19 women are at risk for breast cancer compared to one in eight in Europe and the United States[2]. The age pattern for carcinoma of breast showed a peak age-standardized rate (ASR) at the age group of 50-59 years and the cumulative life-time risk of developing this disease is 1 in 16 for Chinese women, 1 in 17 for Indian women, and 1 in 28 for Malay women[3]. Breast cancer five-year survival rate is between 70% and 90% in developed countries and 57% in developing countries. The survival rate has been continuously improving over the years due to the increased awareness, early detection, the advances in treatment and better characterization of prognostic factors [4]. It is well known that the diagnosis and treatment of breast cancer can be a very stressful event which is often confounded with anxiety and depression which is mainly due to the side effects of treatment, destruction of self-image, social relationship, progressive physical deterioration, thoughts of near death and the extra financial burden [2] .

Recently there has been an increase of interest in assessing the quality of life of breast cancer patients due to the high incidence of breast cancer cases globally. The European Organization for Research and Treatment of Cancer questionnaires for breast cancer

consisting of EORTC-QLQ-C30 and the QLQ-BR-23 has been validated to be used among breast cancer patients in Malaysia [3].

Ensuring good quality of life for breast cancer patients has become an important outcome of treatment and for making informed clinical and health policy decisions pertaining to the care of these patients. Hence more information is needed on QOL of breast cancer patients to ascertain what sorts of services are required to improve their QOL. This study can help to formulate effective rehabilitation protocols by promising strategy for enhancing the QOL of breast cancer patients.

The aim of this study is to assess the quality of life (QOL) of breast cancer patients in Kelantan, evaluate the relationship of QOL and the sociodemographic factors which consist of age, ethnicity, marital status and employment status and examine the relationship of QOL and the medical variables that include stage of breast cancer, type of surgery and current clinical management (chemotherapy, radiotherapy, hormonal therapy and targeted therapy).

Quality of life or specifically health-related quality of life was defined as breast cancer patients' perception of their own physical, mental and social health that influenced by diagnosis, treatment, post-treatment, and survivorship as assessed by using well validated instruments [5]. For cancer survivors, QOL is considered an essential outcome variable and is conceptualized according to a system of values, standards or perspectives that vary from person to person, from group to group and from place to place. So, the quality of life is the sense of well-being that can be experienced by people and represents the sum of objective and subjective personal feelings. According to the 5 CDC, in public health and medicine, the concept of quality of life related to health refers to the way a person or group of people perceive their physical and mental health over time.

During active cancer treatment, much of the focus of care has been the support of psychological and physical well-being. Concerns about life stress, and social, family and spiritual well-being, most often arise months to years after the diagnosis[6]. Breast cancer patients may have to deal with the challenge of the recovery process which may be accompanied by considerable health problems that become apparent after treatment.[7],[8]). Major findings among young breast cancer survivors also indicate reproductive concerns [9]. Discussing these issues and exploring all the possible options are crucial before beginning cancer treatment. According to the literature, the majority of cancer patients experience interpersonal, psychological and health concerns instead of mental problems. Feeling like a social burden also has been a conclusion of several studies among this population [10].

Socioeconomic factors and sexual behaviours have a big impact on the quality of life of breast cancer survivors. As for the latter, losing employment and a change in marital status while experiencing cancer, together with spiritual issues and physical worries, have negative effects on QOL. Furthermore, breast cancer survivors often report a number of unmet needs that cover various areas in the woman's life [11] . Therefore, it is important to concentrate on cancer patients' quality of life after cancer diagnosis and its treatment. Awareness about patterns of recovery following treatment is just beginning to appear. Survivors' information and support needs in following treatment are little known. How survivors manage the issues discussed earlier, or the resources needed to promote recovery, self-care management or experience of women completing treatment are also less investigated [12]; [13]; [14].

Early detection and advances in new therapies increase the number of survivors and their quality of life. Among breast cancer patients and medical organizations, this is

a 7-growing area of research that can provide a better recovery, evaluation and considerable clinical experience [15].

In mid-2017the Breast Cancer Awareness and Research Unit (BestARi) was officially formed in Hospital Universiti Sains Malaysia (HUSM). This led to and increase for breast cancer-related research and to create a more scientific and systematic database. This lead to raise public awareness about breast cancer, early detection and prompt treatment with the latest remedies. This study will help us identify how we can improve the quality of life for our patients and help us form an effective rehabilitation protocol.

## **1.2 STUDY AIM AND RATIONALE**

The high survival rates and prevalence of breast cancer patients emphasize the need to address the quality of life (QOL) among breast cancer patients in Malaysia. It is explicit that QOL is a complex concept based on an individual's perception of physical, psychological and social wellbeing and satisfaction. QOL predicts survival in late-stage breast cancer cases. Evidence suggests that improvements in QOL by effective protocol results in decreased morbidity and thereby reduce medical costs. Hence attention to the QOL is important as it forms an essential part of modern cancer care and serves as a measurement tool for the success of care provided to patients with chronic illness.

Ensuring a good quality of life of breast cancer patients has become an important outcome of treatment and for making informed clinical and health policy decisions pertaining to the care of these patients. Hence more information is needed on QOL of breast cancer patients to ascertain what sorts of services are required to improve their QOL. Keeping in mind the importance of QOL in breast cancer patients and the scarcity of data from

Kelantan, this study was conducted to assess the quality of life in breast cancer patients by using EORTC QLQ-C30 and BR23 questionnaires in Kelantan. This study can help to formulate effective rehabilitation protocols by promising strategy for enhancing the QOL of breast cancer patients

## **2.0 STUDY PROTOCOL**

### **2.1 Document submitted for ethical approval**

#### **RESEARCH PROPOSAL FOR MEDICAL AND HEALTH SCIENCES**

**Research title:**

Quality Of Life Among Female Breast Cancer Patients in Kelantan

**Protocol JEPeM Code: USM/JEPeM/21080586**

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**Sponsorship:** Self – sponsored

#### **Introduction and Literature Review**

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During active cancer treatment, much of the focus of care has been the support of psychological and physical well-being. Concerns about life stress, and social, family and

spiritual well-being, most often arise months to years after the diagnosis[6]. Breast cancer patients may have to deal with the challenge of the recovery process which may be accompanied by considerable health problems that become apparent after treatment.[7],[8]). Major findings among young breast cancer survivors also indicate reproductive concerns [9]. Discussing these issues and exploring all the possible options are crucial before beginning cancer treatment. According to the literature, the majority of cancer patients experience interpersonal, psychological and health concerns instead of mental problems. Feeling like a social burden also has been a conclusion of several studies among this population [10]

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### **Problem statement & Study rationale**

Ensuring a good quality of life of breast cancer patients has become an important outcome of treatment and for making informed clinical and health policy decisions pertaining to the care of these patients. Hence more information is needed on QOL of breast cancer patients to ascertain what sorts of services are required to improve their QOL. Keeping in mind the importance of QOL in breast cancer patients and the scarcity of data from Kelantan, this study was conducted to assess the quality of life in breast cancer patients by using EORTC QLQ-C30 and BR23 questionnaires in Kelantan. This study can help to formulate effective rehabilitation protocols by promising strategy for enhancing the QOL of breast cancer patients

### **Research Question(s)**

1. What is the quality of life (QOL) among Kelantanese breast cancer survivors?
2. What are the factors that influence the quality of life among female breast cancer patients?

### **Objective**

**General:** To assess the quality of life among breast cancer patients in Kelantan.

### **Specific:**

- To evaluate the relationship of QOL and the sociodemographic factors which consist of age, ethnicity, marital status, household income, educational level and employment status.
- To examine the relationship of QOL and the medical variables that include Stage of breast cancer and type of surgery and current clinical management (chemotherapy, radiotherapy, hormonal therapy and targeted therapy).

## Conceptual Framework

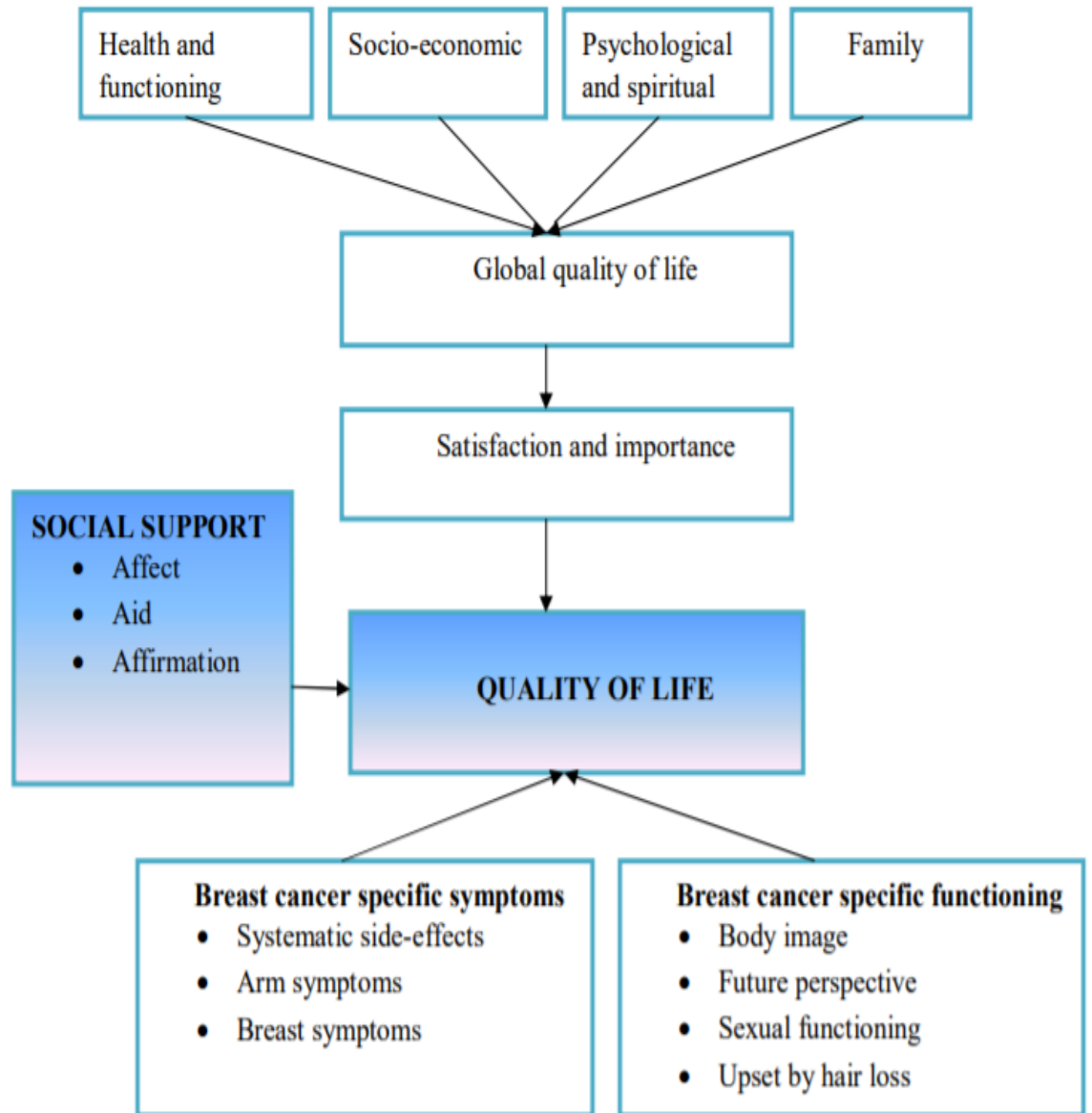


Figure 1. Concepts of this study

## **Research design**

Cross-sectional study

Breast cancer patients attending follow-up consultations at the BestARi Clinic, HUSM, which fulfils the inclusion and exclusion criteria will be recruited for the study.

## **Study area**

The Study will be conducted at the BestARi Clinic, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan

and Hospital Raja Perempuan Zainab II (HRPZII), Kota Bharu, Kelantan

## **Study population**

Reference population – Female patients with breast cancer in Kelantan.

Target population – Female patients with breast cancer who attended follow-up consultations at BestARi Clinic, HUSM.

Source population/sampling pool – Patients with breast cancer attending follow-up consultations at BestARi Clinic, HUSM,

Sampling frame – All patients with breast cancer attending follow-up consultations at BestAR1 and Oncology clinic, HUSM which fulfil the inclusion and exclusion criteria from December 2021 to March 2022.

## **Subject criteria**

### **Inclusion criteria:**

- Patient's age 18 years old and above whose diagnosis has been established for at least 6 months
- Patients with primary or recurrent breast cancer.

### **Exclusion criteria:**

- Patients who are terminally ill and not able to speak

## **Sample size estimation**

### **Objective 1**

**Objective:** Assess the QOL of breast cancer patients in Hospital Univeristi Sains Malaysia (HUSM).

**Method:** We applied the Single Mean Formula using Sample Size Calculator by Arifin, W. N. (2021) to estimate our sample size. Details of the formula is listed below:

- Standard deviation of QOL score = ( $\sigma$ )
- Confidence level  $100(1 - \alpha) = 95\%$
- Precision ( $\pm$  mean) = 0.05
- Number of sample size = (n)
- Drop-out rate = 10 %

Variable	$\sigma$	$\pm$ mean	n	n+10 drop out	%	Literature Review
Global Health	21.4	3	196	<b>218</b>		Ganesh <i>et al</i> (2016)
Physical Functioning	17.6	3	133	148		Ganesh <i>et al</i> (2016)
Fatigue	19.9	3	170	189		Ganesh <i>et al</i> (2016)
Breast Symptom	14.6	3	91	102		Ganesh <i>et al</i> (2016)

## Objective 2

**Objective:** To determine the relationship of QOL and the sociodemographic factors.

**Method:** We applied the Two Mean Formula using Sample Size Calculator by Arifin, W. N. (2021) with power of study: 80%,  $\alpha$  as 0.05 and expected drop-out rate was 10% to estimate our sample size. The proportions are explained as below.

$\sigma$ : Standard deviation of relationship between QOL and sociodemographic factors.

ED: expected difference of relationship between QOL and sociodemographic factors.

Variable	$\sigma$	ED	N	n+10 % drop out	Total sample size (n)	Literature Review
Age	26.7	10	112	125	<b>250</b>	Ganesh <i>et al</i> (2016)
Ethnicity	21.5	10	73	82	164	Ganesh <i>et al</i> (2016)
Marital Status	22.1	10	77	86	172	Ganesh <i>et al</i> (2016)

### Objective 3

**Objective:** To determine the relationship of QOL and the clinical factors.

**Method:** We applied the Two Mean Formula using Sample Size Calculator by Arifin, W. N. (2021) with power of study: 80%,  $\alpha$  as 0.05 and expected drop-out rate was 10% to estimate our sample size. The proportions are explained as below.

$\sigma$ : Standard deviation of relationship between QOL and clinical factors.

ED: expected difference of relationship between QOL and clinical factors.

Variable	$\sigma$	ED	N	n+10 % drop out	Total sample size (n)	Literature Review
Stage of Cancer	28.3	10	126	140	<b>280</b>	Ganesh <i>et al</i> (2016)
Surgical Intervention	17.9	10	51	57	114	Ganesh <i>et al</i> (2016)
Clinical Management	21.0	10	70	78	154	Ganesh <i>et al</i> (2016)

### Final Sample Size

The final total sample size for our study is **280 samples**.

### Sampling method and subject recruitment

A cross-sectional, descriptive study of the quality of life among patients with breast symptoms attending BestARi Clinic, HUSM which fulfil the inclusion and exclusion criteria December 2021 to March 2022 will be recruited for the study. Approximately 100-120 patients will be recruited into the study per month.