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Quality of Life Among Breast Cancer Patients During Chemotherapy

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A B S T R A C T

Background: Breast cancer women experience the side effects of chemotherapy sessions that can effect quality of life and lead towards the poor outcomes. By, understanding these changes, the treatment of breast cancer women can be improved.

Objective: The study purpose was to determine the quality of life (QOL) among breast cancer patients during chemotherapy.

Methodology: This was a cross-sectional survey to determine the health related quality of life (HRQOL) among breast cancer patients during chemotherapy in twin cities of Pakistan. Breast cancer patients who were receiving chemotherapy included in the study. Male breast cancer patients and females with the history of mastectomy were excluded. This study was conducted from June, 2016 to December, 2016 with the duration of 6 months. Purposive, non- probability sampling techniques was used for the study. Total sample size of breast cancer patients was 182. This study was conducted at the chemotherapy department of INMOL cancer hospital Lahore and NORI hospital, Islamabad. Data was collected through Questionnaire i.e. EORTC QLQ-C30 and BR23 Pakistani version for the assessment of HRQOL. The data was analyzed by SPSS version 21.0.

Results: Results showed that there was a marked deterioration in emotional functioning (53.67±20.31) and future perspective (52.56±29.56). The symptom scale showed that maximum patients were reported with the problem of fatigue (52.31±19.43), financial difficulties (57.50±33.44) and with upset by hair loss (60.43±30.71). The overall QOL of breast cancer patients was fair (54.87±8.06).

Conclusion: It was concluded that the quality of life of breast cancer patients during chemotherapy was fair with a marked deterioration in Emotional functioning and the maximum patients reported to experience fatigue and upset by hair loss.

Introduction

Breast cancer is the most commonly reported malignancy among women. It is estimated that1.67 million Women were diagnosed with breast cancer in the year 2012. [1] Breast cancer is also a major cause of cancer associated mortality among women; the estimated figure for deaths in 2012 was 522,000 globally (WHO-IARC, 2012).[2] During the last 30 years, incidence of breast cancer has been shown to increase worldwide.[3] Breast cancer spreads through lymph system. If cancer cells spread to lymph nodes than women will be at higher chance of spreading cancer to other places of body.[4] The condition is common among ladies more than 50 years, who have been through the menopause.[5] Around 8 out of 10 instances of breast cancer happen in ladies more than 50. [6]

In general breast cancer patients have a good prognosis and increased survival rates after diagnosis compared to women diagnosed with other types of cancer. It is believed that women have an integral role in family. When a woman is diagnosed with breast cancer, the family members are also influenced either directly or indirectly. Therefore, to restore and enhance the quality of life of breast cancer patients would have major influence on individual and social health aspects.

The quality of life (QOL) is an assessment of consequences of the diagnosis, progression and treatment of the disease on the personal and social life of patients with breast cancer as well as their course of rehabilitation. Now QOL is regarded as the most important measure for the quality of patient management and outcomes in the oncology medicine.[7] QOL is a subjective evaluation of physical, social and psychological well-being, and reflects patients' observation of the result of breast cancer diagnosis and management on daily living.

HRQOL is concerned with an individual's well-being and capacity to perform activities of daily living that are more prone to be affected by an illness or a health condition. It is a multidimensional concept that encompasses physical, social, psychological, and functional well-being that is predominantly affected by diagnosis and treatment of cancer. Physical well-being includes fatigue, pain, shortness of breath and bleeding. Psychological wellbeing includes loss of fertility, depression and anxiety. Social well-being includes interest and performance in activities or others. Functional well-being refers to the functional status of patient and his ability to do basic daily activities independently.

The most misfortunate times for patients, physically as well as emotionally, includes the time of diagnosis, early phases of the treatment protocol and the months subsequent to the end of the treatment. Studies predict an early treatment cessation due to decreased HRQOL as a consequence of chemotherapy after effects. The HRQOL data aims at helping to guide clinical decision making concerning the selection of the best possible treatment, to provide an insight about the experience of patients undergoing treatment and to predict prognosis. However, it is not known whether HRQOL evaluations influence clinical decision-making or whether the QOL measurement depends on the stage of disease or the type of treatment intervention in guiding clinical decision-making.

A number of clinical studies have shown that better the QOL measure, longer is the survival of patients with variety of cancers. [8] Most of these studies were conducted in developed countries. These measurements may not be appropriate and applicable to cancer patients in the developing countries such as Pakistan that has distinct social, cultural and ethical approach when compared with Western societies.

In Pakistan, HRQOL among cancer patients has never been a subject of significance. For this reason it can be said that it is the first attempt to study Pakistani breast cancer patients via EORTC QLQ-C30 and QOL-BR23 questionnaire for the assessment of HRQOL. This study empirically investigated the impact of breast cancer diagnosis and its treatments on quality of life among patients with breast cancer.

Methodology

This was a descriptive cross-sectional study to determine the health related quality of life among breast cancer patients during chemotherapy. Breast cancer patients receiving chemotherapy were included and male breast cancer patients and breast cancer patients with the history of mastectomy were excluded from the study. This study was conducted from June, 2016 to December, 2016 with the duration of 6 months. Purposive, non- probability sampling techniques was used for the study. Total sample size of breast cancer patients was 182. Patients of all ages, all stages of cancer, married, unmarried were included in this study .This study was conducted at the chemotherapy department of institute of nuclear medicine and oncology (INMOL) hospital, Lahore and nuclear medicine oncology and radiotherapy institute (NORI) hospital Islamabad. The study group comprised patients who were followed up for breast cancer in these hospitals.

Data was collected through Questionnaire EORTC QLQ-C30 and QOL-BR23 for the assessment of HRQOL. We used Pakistani version of this questionnaire i.e. in Urdu so that patient can easily understand the questions. The polls with respect to the statistic qualities and QOL were finished by the patients themselves. The stage of cancer and number of courses of chemotherapy were recorded from patient's file provided by hospital.

The European Organization of Research and Treatment for Cancer (EORTC) QLQ-C30 edition 3.0 is a 30-item core cancer particular poll measuring QOL in cancer patients. This self-directed poll consolidates five useful scales: Physical (PF), role (RF), cognitive (CF), emotion (EF) and social (SF), three side effect scales for fatigue, pain and nausea a worldwide wellbeing QOL scale, and a few single things for the apparent money

related effect of sickness and treatment and for the evaluation of extra indications, for example, dyspnea, appetite loss, sleep disturbance, constipation and loose bowels which are usually reported by tumor patients. All things were scored on 4-point Likert scales extending from 1 (not in any manner) to 4 (in particular). As a special case, thing 29 and 30 in the worldwide wellbeing QOL subscale were scored on a changed 7 point straight simple scale.

The EORTC QLQ-BR23 is a 23-item breast cancer-specific questionnaire about the common side effects of therapy such as dry mouth and redness of eyes, self-body image, sexual perspective, and future outlook. All components were scored on 4-point Likert scales ranging from 1 (not at all) to 4 (very much). The scoring approach for the QLQ-BR23 is similar to that of QLQ-C30. Pakistani version of the QLQ-BR23 was obtained from the EORTC Quality of Life Group.

The collected data was entered in computer program SPSS version 21.0 and analyzed through this software. Calculation of the quality of life scores of breast cancer patients was done using the scoring manual provided by the EORTC group.

Results

182 breast cancer patients, their mean age was 42.2 ± 9.2 years (Mean ± SD) and range varied from 22-71 years.

Out of 182 participants 168 (92.3%) were married, 97(53.3%) women belonged to lower middle class, 79 (43.4%) had primary level of education, 142 (78%) were housewives, 131 (72%) had 0-3 children, Most 121 (66.5%) reported with menopause. Figure 1

The functional scale of QLQ-C30 shows a marked deterioration in emotional functioning of breast cancer patient (53.67±20.31) whereas role functioning is least affected (62.57±19.31). The functional scale of QLQ-BR23 shows a marked deterioration in future perspective score (52.56±29.56).

According to the items of QLQ-C30 maximum patients reported financial difficulties (57.50±33.44) as one of the major problems that they experience during chemotherapy sessions. A high score for fatigue (52.31±19.43) made it the most common symptom among breast cancer patients going through chemotherapy treatment. Rest of the symptoms including nausea and vomiting, pain, dyspnea, insomnia, appetite loss, constipation and diarrhea showed a minimum score implying a lack of these symptoms in this sample. Among the symptom/items of QLQ-BR23 a high score of upset by hair loss (60.43±30.71) reflect that maximum patients were upset by hair loss during their chemotherapy sessions. Whereas systemic therapy side effects, arm symptoms and breast symptoms shows a minimum score implying a lack of these symptoms in this sample of breast cancer patients. (Table I)

Table I: Functional and symptom scales according to QLQ-C30 and QLQ-BR23 components

	Variable	Mean ± std
QLQ-C30	**Global health status/QOL**	52.47±17.45
	Functional scales	
	Physical functioning	58.03±18.54
	Role functioning	62.57±19.31
	Emotional functioning	53.67±20.31
	Cognitive functioning	60.71±26.96
	Social functioning	57.08±22.72
	Symptom scale/item	
	Fatigue	52.31±19.43
	Nausea and vomiting	49.99±23.95
	Pain	47.80±24.17
	Dyspnea	48.16±19.67
	Insomnia	40.47±31.79
	Appetite loss	47.06±35.22
	Constipation	35.89±31.62
	Diarrhea	36.63±34.7
	Financial difficulties	57.50±33.44
QLQ-BR23	**Functional scales**	
	Body image	57.55±25.44
	Sexual functioning	80.12±22.03
	Sexual enjoyment	80.76±22.76
	Future perspective	52.56±29.56
	Symptom scales/items	
	Systemic therapy side effects	48.24±15.52
	Breast symptoms	43.40±25.58
	Arm symptoms	37.91±18.97
	Upset by hair loss	60.43±30.71

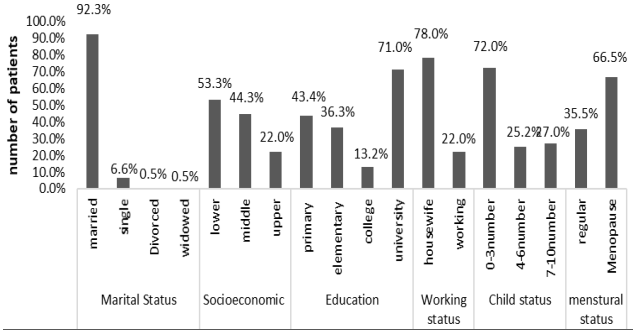

Figure 1 Demographics of breast cancer patient

Results of this study showed a fair score for overall health related quality of life (54.87±8.06) implying an intermediate deterioration level of QOL among breast cancer patients going through chemotherapy treatment. Out of 182 breast cancer women 128 (70.3%) were with fair QOL and only 1 (0.5%) was with good QOL. Figure **2**

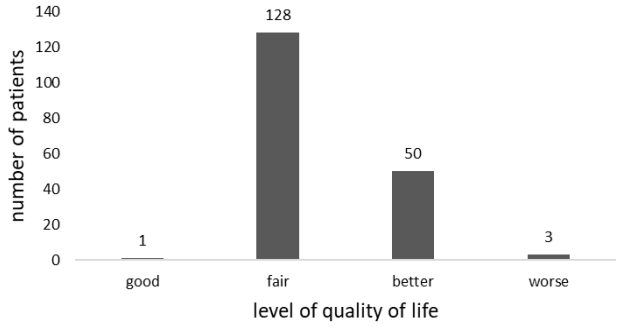

Figure 2. Overall quality of life of breast cancer patients during chemotherapy

Discussion

This study shows that the mean age of breast cancer women was 42.2 ± 9.2 which is supported by Zouladeny H et al., who conducted a study in 2015 in Niger and found that the mean age of breast cancer women was 45.4 ±13.26 years.(9)

This study shows that most of the women belong to lower middle class with percentage of 53.3% (97/182) and most of the women were housewives 78% (142/182) which is supported by Balekouzou A et al., who conducted a study in 2018 in breast cancer women of the Central African Republic and found that (69.5%) were housewives with a moderate economic status (56.9%). [10]

This study shows the menstrual history of breast cancer patients during chemotherapy. According to results most commonly women with breast cancer were seen with menopause with a high percentages of 66.5% (121/182) and those with regular periods were 33.5% (61/182). These results are supported by Overbeek A et al., who conducted a study in Nov 2016, according to their results the commonness of menopause fluctuated from 0% to 83%. In Breast cancer survivors receiving chemotherapy sessions, the prevalence of menopause was 40-80 %. [11]

This study shows that maximum patients reported financial difficulties (57.50±33.44) as one of the major problem that they experience during chemotherapy sessions which is supported by a study conducted by Zaidi AA et al., in agha Khan University, hospital (AKUH) whose result showed that the money related weight of disease was seen as critical by 28 (42%) patients and unmanageable by 18 (27%) patients. [12]

This study shows a high score for Fatigue (52.31±19.43) making it the most common symptom among breast cancer patients going through chemotherapy treatment which is supported by Reinertsen KV et al., who conducted a study in Dec 2016 showing the results that prevalence of fatigue increases from 8% to 36% during chemotherapy.[13]

This study shows a marked deterioration in Emotional functioning of breast cancer patient (53.67±20.31) which is supported by Fondjo LA who conducted on breast cancer patients, the study results shows that fatigue and emotional distress were constant issues among breast cancer patients.[14]

The results of this study show a high score of Upset by hair loss (60.43±30.71) reflect that maximum patients were upset by hair loss during their chemotherapy sessions and these results are supported by Choi EK et al., who conducted a study in Oct 2014. According to their study 55.3% of the patients experienced higher depression from hair loss. These depressed patients were more likely to report with lower emotional, role and social functioning. [15.]

This study shows a moderate score for overall health related quality of life (54.87±8.06) implying an intermediate deterioration level of QOL among breast cancer patients going through chemotherapy treatment which is opposed by a study conducted by Partridge AH et al., who conducted a study in 2001 which shows that high-measurement chemotherapy brings about to a great extent impedance of general QOL and physical working.[16]

Conclusion

It was concluded from this study that the quality of life of breast cancer patients during chemotherapy was fair with a marked deterioration in Emotional functioning and fatigue. Maximum patients were upset by hair loss during chemotherapy sessions. The study shows that fatigue, nausea and vomiting, pain, dyspnea, insomnia, appetite

loss and financial difficulties all these symptoms had an association with emotional functioning.

Limitations and Recommendations: Due to limited time frame data was collected only from two cancers hospitals of Pakistan. So, need to collect more data from other cancer hospitals of Pakistan. Recommendation for future perspective is to ensure the patient counselling session to manage the depression and anxiety along with pain management during chemotherapy sessions.

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