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**Original Research Article**

# Quality of life among breast cancer patients: a cross sectional study

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## ABSTRACT

**Background:** Breast cancer is the most common cancer in women globally. Over the last decade, Quality of life (QOL) has become an important outcome measure in the treatment of cancer patients. Aim and Objective-.1) To evaluate the Quality of life among Breast cancer patients; 2) To describe the socio-demographic profile of Breast cancer patients; 3) To find out association between socio-demographic characteristics of patients and Quality of life.
**Methods:** It was a cross sectional, descriptive and hospital based study. Total duration of study was 6 months (April 2015-September 2015), conducted in Rajendra Institute of Medical Sciences (RIMS), Ranchi, Jharkhand 84 breast cancer patients were selected as study subjects and were interviewed by a validated questionnaire.
**Results:** A total of 84 breast cancer patients were included in the study, most of the patients were between 40-60 years, mean age being 43.32±10.2. Most were non tribal, belonging to Hindu Religion. Majority were married. None of the participants had above average or significantly high QOL. 20.2% had average QOL, 51.2% had below average and 28.6% had significantly poor QOL. Married patients were found to have a significantly better QOL ($p<0.05$). QOL had no association with age, ethnicity, religion, education, occupation or socio-economic status of participants ($p>0.05$) .
**Conclusions:** Present study showed that majority of Breast cancer patients had poor QOL. Married patients were leading a comparatively better QOL than unmarried.

**Keywords:** Breast cancer, Quality of life, RIMS

## INTRODUCTION

Breast cancer is the second most common cancer in the world and, by far, the most frequent cancer among women with an estimated 1.67 million new cancer cases diagnosed in 2012 (25% of all cancers). It is the most common cancer in women both in more and less developed regions with slightly more cases in less developed (883,000 cases) than in more developed (794,000) regions. Incidence rates vary nearly four-fold across the world regions, with rates ranging from 27 per 100,000 in Middle Africa and Eastern Asia to 92 in Northern America.[1] Breast cancer ranks as the fifth cause of death from cancer overall (522,000 deaths) and while it is the most frequent cause of cancer death in women in less developed regions (324,000 deaths, 14.3% of total), it is now the second cause of cancer death in more developed regions (198,000 deaths, 15.4%) after lung cancer.[1] The number of cases worldwide has significantly increased since the 1970s, a phenomenon partly attributed to the modern lifestyles.[2,3]

The survival rate of women with breast cancer has increased due to effective available treatments but many of patients suffer from several psychosocial complications such as depression, anxiety, stress and

body image change which can impair the QOL in these patients.[4] QOL is defined by the World Health Organization as "an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns".[5] Quality of life is an important endpoint in cancer clinical trials. It has been shown that assessing quality of life in cancer patients could contribute to improved treatment and could even be as prognostic as medical factors could be prognostic The studies of quality of life can further indicate the directions needed for more efficient treatment of cancer patients.[6]

## METHODS

It was a cross sectional study done in the oncology department of Rajendra Institute of Medical Sciences (RIMS), conducted between April 2015 to September2015. All breast cancer patients above 18 years, who were undergoing treatment (chemotherapy/Radiotherapy), were included in the study. 3 patients who were critically ill and couldn't comprehend our questions and 6 patients who didn't give consent for study were excluded from the study. Ethical clearance was taken from institutional ethical committee of RIMS. Data collection was done by personal interviews by the researchers after getting informed consent from participants. Total number of participants recruited for study was 84.

The quality of life of patients was assessed using a QOL questionnaire designed under EORTC guidelines and validated in Indian scenario by Vidhubala E, *et al* with a reliability of Cronbach alpha of 0.90 and Split-half reliability of 0.74 (using Alpha coefficient and Guttman Split- half reliability method).[7]

The questionnaire consisted of 10 factors.

- Factor 1 evaluated the physical well-being of the study population.
- Factor 2 of the QOL questionnaire included scores relating to psychological well-being of patients.
- Factor 3 contained questions about self adequacy.
- Factor 4 evaluated confidence in self ability.
- Factor 5- assessed the external support attained by the patient.
- Factor 6 evaluated the extent of pain experienced by the study population.
- Factor 7 assessed the mobility of the patients.
- Factor 8 evaluated the optimism and belief of study population.
- Factor 9 assessed the interpersonal relationship.
- Factor 10 assessed self-sufficiency and independence of the study population.

Likert-type four-point rating scale was added to elicit responses from the respondents ranged from 1-4. Example- Do you have any sleep problem, 1-very much, 2-moderate, 3-a little, 4-not at all.

A few items were scored in reverse so as to make the questionnaire unidirectional and to yield a global QOL score. For example, ′Are you satisfied with your working capacity? If the answer is ′very much′, it will be scored in reverse, i.e., 4 as 1 and 1 as 4 to obtain a positive QOL index.

The responses obtained from the patients were scored as stated in the questionnaire and QOL was measured on the basis of it.

### *Interpretation of QOL scale [7]*

The maximum score for the questionnaire was 152 and the minimum score was 38.

- 88 and below=significantly poor QOL
- 89-108=below average QOL
- 109-132=average QOL
- 133-144=above average QOL
- Above 144=significantly high QOL

### *Statistical analysis*

Data were entered in MS Excel and analysis was done with SPSS statistical software (20.0 versions). Chi-square test was performed to find out the association between socio-demographic characteristics and QOL of the patients. $P<0.05$ was considered significant.

## RESULTS

Participants of our study were from different ethnical, religious, educational and socio-economic backgrounds (Table 1). Out of 84 patients, 54 (24 (28.6%) were below 40 years, 43 (51.2%) were between 40-60 years and 17 (20.2%) were above 60 yrs. Mean age of the patient was 43.32±10.2years. Most of them were non-tribal and Hindu. 76.2% was married. Most of them were housewives and had primary education. Majority of the patients (51.2%) were leading below average QOL.20.2% had average QOL and 28.6% were having significantly poor QOL. In the study population, none of the patients were leading significant high or above average quality of life. There was no significant correlation between any socio-demographic characteristics like age, ethnicity, Religion, Education. Occupation and socio economic status of patients and QOL ($p>0.05$). However married women were found to have a better QOL than unmarried women and this association was statistically significant ($p<0.05$).

**Table 1: Socio-demographic profile of participants (n=84).**

| Variable | Category | Frequency | % |
|---|---|---|---|
| **Age** | <40 | 24 | 28.6 |
| | 40-60 | 43 | 51.2 |
| | >60 | 17 | 20.2 |
| **Gender** | Male | 3 | 3.6 |
| | Female | 81 | 96.4 |
| **Ethnicity** | Tribal | 39 | 46.4 |
| | Non tribal | 45 | 53.6 |
| **Religion** | Hindu | 40 | 47.6 |
| | Christian | 16 | 19.1 |
| | Muslim | 28 | 33.3 |
| **Area of residence** | Rural | 54 | 64.3 |
| | Urban | 30 | 35.7 |
| **Education** | Illiterate | | |
| | Primary/middle | 19 | 22.6 |
| | Secondary/interm | 33 | 39.3 |
| | ediate | 20 | 23.8 |
| | Graduates/post | 12 | 14.3 |
| | graduates | | |
| **Occupation** | House wife | 56 | 66.7 |
| | Employed | 28 | 33.3 |
| **Marital status** | Married | 64 | 76.2 |
| | Un married | 20 | 23.8 |
| **Socio-economic status (Modified BG Prasad)** | Class 1 | 8 | 9.5 |
| | Class 2 | 12 | 14.3 |
| | Class 3 | 19 | 22.6 |
| | Class 4 | 27 | 32.2 |
| | Class 5 | 18 | 21.4 |

**Table 2: QOL of participants (n=84).**

| QOL | Frequency | Percentage |
|---|---|---|
| Average | 17 | 20.2 |
| Below average | 43 | 51.2 |
| Significantly poor | 24 | 28.6 |
| Total | 84 | 100 |

## DISCUSSION

In the present study, females contributed to 96.4% of the case load with only 3.6% being males. Maximum patients were between 40-60 years and those less than 40 years as well as elderly were comparatively less. Mean age was43.32±10. This is a cause of concern because cancer seems to me emerging more in younger age groups than the elderly. Among ethnic groups, though majorities were nontribal, the no. of tribal cancer patients was also high. This is mainly because Jharkhand state is a tribal predominated state. Hindus were majority because of their predominance in the community. As far as area is concerned majority (54, 64.2%) patients belonged to rural area. This might be due to the fact that around ¾ $^{th}$ of total population live in the rural area in Jharkhand. There was a lower distribution of Breast cancer among those who had graduate/ post graduate education. This could be due to higher awareness about screening methods, knowledge about preventive measures and appropriate caution to life management and life styles among them.

**Table 3: QOL and socio-demographic characteristics.**

| Variable | Category | QOL | | | Total (%) | P value |
|---|---|---|---|---|---|---|
| | | Average | Below average | Significantly poor | | |
| Age | <40 | 5 | 13 | 6 | 24 | |
| | 40-60 | 9 | 22 | 12 | 43 | P=0.968 |
| | >60 | 3 | 8 | 6 | 17 | |
| Ethnicity | Tribal | 7 | 21 | 11 | 39 | P=0.864 |
| | Non tribal | 10 | 22 | 13 | 45 | |
| Religion | Hindu | 8 | 22 | 10 | 40 | |
| | Christian | 4 | 7 | 5 | 16 | P=0.925 |
| | Muslim | 5 | 14 | 9 | 28 | |
| Area of Residence | Rural | 11 | 28 | 15 | 54 | P=0.977 |
| | Urban | 6 | 15 | 9 | 30 | |
| Education | Illiterate | 5 | 8 | 6 | 19 | |
| | Primary | 6 | 19 | 8 | 33 | P=0.791 |
| | Secondary/intermediate | 5 | 10 | 5 | 20 | |
| | Graduates | 1 | 6 | 5 | 12 | |
| Occupation | House wife | 12 | 28 | 16 | 56 | P=0.921 |
| | Employed | 5 | 15 | 8 | 28 | |
| Marital status | Married | 15 | 38 | 11 | 64 | P<0.01 |
| | Un married | 2 | 5 | 13 | 20 | |
| Socio-economic status (modified BG Prasad) | Class 1&2 | 6 | 7 | 7 | 20 | P=0.431 |
| | Class 3&4 | 9 | 26 | 11 | 46 | |
| | Class 5 | 2 | 10 | 6 | 18 | |

In this study, quality of life was assessed on the basis of responses given by the participants to the questions related to 10 domains such as physical well-being, psychological well-being, self-adequacy, confidence in self ability, optimism and belief, inter personal relationship, extent of pain experienced by the patient, mobility, external support attained and independence of the patients. The scores of all domains were summed at the end to get the overall quality of life. None of the Breast cancer patients in the present study had above average or significantly higher quality of life. Most of the patients were leading below average and significantly poor quality of life. Some of the patients had an average quality of life. Similar to our study, in a study by Damodar et al in India, it was found that QOL of Breast cancer patients was poor.[8] But contradictory to our result a study done by Dubashi et al.showed a good QOL in breast cancer patients.[9] This could be because their study was done among young patients who were long-term disease-free survivors.

Present study showed that patients physical activity and sleep was affected badly by cancer and its treatment. Similar to this, in a study by Pandey M et al, it was observed that surgery and adjuvant chemotherapy, duly interfere with general health-related parameters, sleep, appetite, mobility physical activity and the social life of cancer patients, thereby adversely affecting the QOL.[10] A study done in Andhra Pradesh, India by Dr. Yedukondala Rao and G Sudhakar also found that physical domain affected QOL of breast cancer patients significantly.[11]

Though most of them were able to do day to day activities, they were not satisfied with their working capacity. We had maximum number of patients with Ca breast who had undergone surgery. Most of them were not satisfied with their body looks. Due to this they were not comfortable in attending any social functions as usual. Similar findings were also seen a study in breast cancer patients by Damodar, et al.[8] Efforts should be made for reconstructive surgery of the cancer patients to improve cosmetic appearance. Our study showed that QOL had no correlation between age, sex, ethnicity, education, religion, socio-economic status and occupation. In many studies in breast cancer as well as other cancers it was seen that QOL has no or minimal correlation with socio demographic characteristics of patients.[9,12] However married women were found to be having significantly better QOL than unmarried. This could be because married women were feeling more secured and were getting more physical and mental support from their spouse and children.

## CONCLUSION

In the present study most of the breast cancer patients were leading a poor QOL. Married women had a better QOL than unmarried and other socio-demographic characteristics had no association with QOL. In view of the high morbidity and short survival, assessment of QOL needs to be included as an end-point in evaluation and treatment of cancer. As far as the patient is concerned, the primary goal of the physician should be to try and improve his overall QOL using all measures available.

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