



## QUALITY OF LIFE IN CANCER PATIENTS UNDERGOING CHEMOTHERAPY IN A TERTIARY CARE HOSPITAL: A CROSS-SECTIONAL STUDY

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### ABSTRACT

Cancer is the second most common cause of death after heart diseases and it accounted for 8.8 million deaths worldwide in 2015. Cancer affects a person's quality of life (QOL) in all domains. The impairment in the QOL starts from the diagnosis of cancer and continues with the aggressive nature of treatment. Present cross-sectional study was carried out in 95 cancer patients undergoing chemotherapy at GMCH, Nagpur to assess their quality of life. Data was collected using predesigned and pretested questionnaire based on WHOQOL BREF Scale.

**Results:** The overall QOL was good in 30 (31.59%), fair in 62 (65.26%) and poor in 3 (3.15%) study subjects. However, majority 39(41.05%) perceived their QOL as poor and 54(56.84%) were dissatisfied with their health. It was found that most compromised domains were physical and psychological and most preserved one was social relationship.

**KEYWORDS :** Quality of life, cancer patients, chemotherapy, tertiary care hospital

### Introduction

Cancer is the second most common cause of death after heart diseases.<sup>[1]</sup> According to WHO, cancer accounted for 8.8 million deaths worldwide in 2015. The data of National Cancer Registry Programme(2012-2014) of Indian Council of Medical Research revealed that 1300 Indians succumb to cancer everyday. The total number of new cancer cases in India is expected to reach nearly 17.3 lakhs by 2020.<sup>[2]</sup>

Cancer affects a person's quality of life (QOL) in all domains. The impairment in the QOL starts from the diagnosis of cancer and continues with the aggressive nature of treatment.<sup>[3]</sup> Chemotherapy is one of the most common treatment modalities with majority of patients receiving it as the first line of treatment. However, besides the therapeutic effects chemotherapy has serious adverse effects which can have detrimental effects on QOL of an individual. Moreover, chemotherapy treatment is administered for a long duration to get the desired effect and requires frequent hospitalization for disease management, which poses an additional burden on cancer patients.<sup>[4]</sup>

Quality of life assessment is important as it has been identified as the second most important outcome with survival being the most important.<sup>[5,6]</sup> Quality of life is the state of well-being that is a composite of two components: the ability to perform everyday activities that reflect physical, psychological, and social well-being; and patient satisfaction with levels of functioning and control of the disease.<sup>[7]</sup> The purpose of chemotherapy is not only to cure cancer and increase the survival of the patient but also to minimize symptoms and improve the quality of life.<sup>[8]</sup> However, treatment produces an enormous physical, psychological and emotional trauma among cancer patients, influencing their overall quality of life.<sup>[9]</sup>

There is a paucity of available literature related to the QOL of cancer patients undergoing chemotherapy in India, more so from Central India. Thus, this study aims to bring out information regarding QOL of cancer patients which can be expanded further.

### Material and methods

Present cross-sectional study was carried out in Day Care Centre, Department of Radiation Therapy and Oncology, Govt. Medical College and Hospital, Nagpur. The duration of the study was two months.

The estimated sample size came out to be 95 (with 95% confidence interval and 10% absolute precision) considering the prevalence of below average QOL in patients undergoing chemotherapy to be 56%<sup>[10]</sup>. The study subjects were selected by systematic random

sampling. There were approximately 330 patients undergoing chemotherapy every month, so every 7<sup>th</sup> patient was selected.

Approval from Institutional Ethics Committee was obtained and informed consent of subjects was taken after apprising them of the purpose of the study. The data was collected by interview technique using predesigned and pretested questionnaire based on the WHOQOL BREF scale.

General information regarding socio-demographics such as gender, age, marital status, occupation, level of education was noted. Socio-economic status was assessed using Modified Kuppuswamy classification (urban) and BG Prasad classification (rural) corrected as per current CPI.

WHO QUALITY OF LIFE BREF scale is an abbreviated version of WHOQOL-100. It comprises of 26 questions, two about the quality of life in general and 24 representing each facet that make up the original instrument. The questions are organised in four domains: Physical health (activities of daily living; dependence on medical substances and medical aids; energy and fatigue; mobility; pain and discomfort; sleep and rest; work capacity); Psychological (bodily image and appearance; negative feelings; positive feelings; self esteem; spirituality/religion/personal beliefs; thinking, learning, memory, concentration); Social relationships (personal relationships; social support; sexual activity); and Environment (financial resources; freedom, physical safety and security; health and social care, accessibility and quality; home environment; opportunity for acquiring new information and skills; participation in and opportunities for recreation/leisure activities; physical environment; transport).

The instrument uses a five point interval response- Likert scale. The score of each question ranges from 1 to 5 and higher scores indicate better evaluation. The domain score reflects the individual's quality of life in that particular domain. Domain scores are scaled in a positive direction i.e. higher scores denote higher quality of life.<sup>[11]</sup>

Mean score of each domain and total mean score (overall quality of life) were calculated. Score >60 indicated good QOL, score between 40-60 fair QOL and score <40 poor QOL.<sup>[12]</sup>

### Results

Of the 95 study subjects undergoing chemotherapy 77(81.03%) were females and 18(18.94%) were males. The mean age of the study subjects was 49.35 ± 11.75 years with the range being 25-80 years. Majority of them 77(81.05%) were Hindu, mostly 65(68.42%) from urban area and most 78(82.10%) were married. Education levels of most were low, 25(26.13%) were illiterate, 22(23.15%)

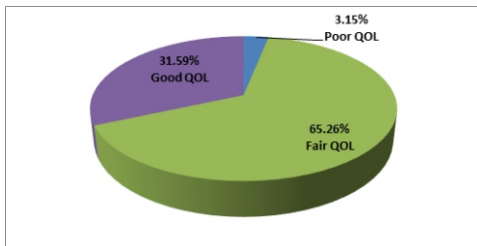
studied till Primary school and 16(16.84%) studied till Secondary school. Majority 66(69.47%) were from lower socio-economic class. A large number of study subjects, 55 (57.89%) had support from their spouses, other main supporters being children and parents.

**Table 1:- Quality of life in cancer patients undergoing chemotherapy**

| Domains             | Mean  | Standard deviation | Minimum | Maximum |
|---------------------|-------|--------------------|---------|---------|
| Physical            | 49.63 | 9.97               | 14.00   | 69.00   |
| Psychological       | 49.47 | 11.38              | 13.00   | 69.00   |
| Social relationship | 67.71 | 12.11              | 19.00   | 100.00  |
| Environment         | 58.17 | 10.18              | 31.00   | 81.00   |
| Overall QOL         | 56.32 | 7.50               | 32.75   | 72.00   |

Mean scores of study subjects for various domains as per WHOQOL BREF Scale are depicted in Table 1. It was observed that most compromised domains were physical and psychological and most preserved was the social relationship domain.

**Fig 1:- Distribution of study subjects according to measured overall QOL**



The overall QOL was good in 30 (31.59%), fair in 62 (65.26%) and poor in 3 (3.15%) study subjects.

**Table 2:- Self rating of QOL and health satisfaction of the study subjects**

| Self rating of QOL    | Total N=95 (%) | Satisfaction with one's health     | Total N=95 (%) |
|-----------------------|----------------|------------------------------------|----------------|
| Very poor             | 06 (6.31)      | Very dissatisfied                  | 03 (3.15)      |
| Poor                  | 39 (41.05)     | Dissatisfied                       | 54 (56.84)     |
| Neither poor nor good | 29 (30.52)     | Neither satisfied nor dissatisfied | 21 (22.10)     |
| Good                  | 21 (22.10)     | Satisfied                          | 17 (17.89)     |
| Very good             | 00 (0.00)      | Very satisfied                     | 00 (0.00)      |

Self rating of QOL and health satisfaction of study subjects is shown in Table 3. Majority 39(41.05%) perceived their QOL as poor and 54(56.84%) were dissatisfied with their health. Although, the measured QOL was poor in 3 (3.15%) the perceived QOL was poor or very poor in 45 (47.36%).

**Discussion**

Cancer is a major public health problem causing a large number of deaths. The mere knowledge of diagnosis with ongoing ambiguity regarding the course of illness add up to considerable distress.[13] QOL can be considered to be the effect of the illness and its treatment as perceived by patients and is modified by factors such as impairments, functional stress, perceptions, etc.[14,15] Chemotherapy produces immense physical, psychological and emotional trauma among cancer patients, influencing their overall QOL.[9] QOL also, as an early indicator of disease progression could help the physician in daily practice to closely monitor the patients.[16] Cancer outcomes are traditionally measured in terms of overall survival, disease free survival, time to disease progression and other disease variables. Although these outcomes remain essential, there is a general recognition of the need to assess the impact of cancer and its treatment on patient's QOL.[17] Till date very few studies have been carried out on cancer patients' QOL, particularly in Central India. Hence, this cross-sectional study was aimed at throwing more light on this subject. Over the last decades, clinicians have accepted that while survival

and disease free interval are critical factors for cancer patients, overall QOL is fundamental to understand the impact of cancer.[18] In the present study, the overall QOL was good in 30 (31.59%), fair in 62 (65.26%) and poor in 3 (3.15%) study subjects. These results were in consonance with those of Dehkordi A, et al.[19] However, Sunderam S, et al found that none of the participants had significantly good QOL.[20] Ananthanarayan RM, et al observed that 56% patients had below average QOL, 9% had above average and 6.25% had significantly good QOL.[10]

Quality of life is an individuals' perception of their aims, expectations, interests and ideas, satisfaction and happiness among their cultural values as a whole.[21] The measured QOL was either good or fair in majority of subjects, however, many perceived their QOL as poor and more than half were dissatisfied with health.

From the results obtained from WHOQOL BREF it was found that physical and psychological domains were most compromised and most preserved was social relationship domain. These findings were consistent with those of Chagani P, et al.[22] However, Mansano-Schlosser TC, et al noted that most compromised domains were social and physical and most preserved was environment.[23] It may be because the toxicity and intensity of chemotherapy treatment regime and their adverse effects like nausea, vomiting, tiredness, alopecia were interfering with their daily activities, mobility and self sufficiency.[24] Majority of the study subjects had support from their family members, hence, social relationship domain was most preserved.

**Conclusion**

The measured quality of life is either good (31.59%) or fair (65.26%) in majority of subjects, however, 41.05% perceive their QOL as poor and 56.84% are dissatisfied with their health. The most compromised domains are physical and psychological and most preserved is the social relationship.

**Limitation**

Present study has all the limitations inherent in a cross-sectional study. More studies with larger sample size and varied study designs need to be carried out on this oft neglected topic.

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