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Does Cancer Type Influence Quality of Life? A Hospital based Study in India

Jeseena K

Department of Community Medicine, RIMS, Ranchi

Abstract: ***Background**: The overall well - being of cancer patients is reflected in quality of life (QOL), one of the most significant outcome indicators in oncology. Although the symptoms, prognosis, and treatment options of various cancer types vary, it is yet unclear how these variations directly impact quality of life. The aim of the study is to find out whether there is any significant relation between quality of life and types of cancers. Methods: A cross - sectional study was conducted on 262 cancer patients at a tertiary care hospital in Jharkhand. Quality of life was assessed using the EORTC QLQ - C30 questionnaire validated in Indian scenario by Vidhubala et al, Data analysis was performed using chi - square and Kruskal - Wallis tests to assess statistical differences in Quality of life scores among cancer types. Result: There were no statistically significant differences in QOL scores between the various cancer types (p = 0.9997 for the chi - square test and p = 0.9923 for the Kruskal - Wallis test). The overall effect on quality of life was comparable among cancer patients. Conclusion: Quality of life (QOL) does not appear to differ substantially throughout cancer types, this finding highlights the importance of comprehensive, patient centred fosuses on addressing the universal concerns of cancer patients*

Keywords: Cancer, Quality of Life, Types of cancer, Jharkhand

1. Introduction

With an estimated 19.3 million new cases and about 10 million deaths in 2020, cancer is one of the world's main causes of illness and mortality [1].

Since therapeutic advancements have increased survival rates, quality of life (QOL) has emerged as a crucial outcome measure in oncology., which has a big influence on prognosis, treatment compliance, and overall survival. [2].

Although the effects of various cancer types on quality of life have been studied extensively, the findings have been inconsistent. Some studies indicate that certain malignancies, such as those of the gastrointestinal tract and lungs, have a high burden of symptoms and few treatment options, which reduces their quality of life [3, 4]. However, patients with breast and prostate cancer often report higher quality of life because of their higher survival rates and more specialist treatment options [5]. However, some studies report that medical accessibility, psychological distress, and socioeconomic status can affect quality of life more than the specific cancer type [6].

The progress of the disease, the severity of symptoms, and treatment side effects all impact quality of life, depending on the type of cancer. For example, dyspnoea, psychological distress, and excessive weariness are common in lung cancer patients, significantly lowering their quality of life [7]. By resulting in deformity, speech impairment, and swallowing difficulties, head and neck cancers can affect both physical and mental health [8]. Weight loss, fatigue, and social disengagement can result from gastrointestinal cancers that alter the amount of food consumed and the digestive system's function [9]. Because of effective treatment options and supportive care measures, breast and prostate cancers may have a less substantial impact on quality of life despite their ongoing challenges [10].
Despite these variations, some research indicates that QOL differences between cancer types may be overshadowed by common characteristics including pain, financial burden, and mental distress [6]. Thus, it is still crucial to determine whether QOL varies substantially among different cancers in order to create specialised treatments and enhance patient - centered care.

This study attempts to determine whether QOL differs considerably among various cancer types in light of the conflicting data regarding the association between cancer type and QOL. The results of examining QOL in a wide range of patients will be useful in determining whether the type of cancer alone affects QOL outcomes or whether other elements—like socioeconomic circumstances, therapeutic accessibility, and psychological support—have a greater influence.

2. Methodology

a) Study Design and Setting

This was a cross - sectional, observational study conducted at Rajendra Institute of Medical Sciences (RIMS), India, a tertiary care hospital that provides cancer treatment to patients from across the state of Jharkhand. The study aimed to assess the relationship between different types of cancer and the quality of life (QOL) of affected individuals.

b) Study Population

The study included 262 cancer patients diagnosed with various malignancies, including breast cancer, cervical cancer, lung cancer, stomach cancer, colon cancer, brain tumors, gallbladder cancer, and oral cavity cancers. Patients were selected using convenience sampling from the oncology outpatient and inpatient departments.

Inclusion Criteria:

- Patients above 18 years of age diagnosed with any type of cancer.
- Patients undergoing active treatment (chemotherapy or radiotherapy) or in follow - up.

- Patients mentally and physically capable of responding to the questionnaire.
- Those who provided informed consent for participation.

Exclusion Criteria:
- Patients with severe cognitive impairment or psychiatric illness preventing participation.
- Critically ill patients who could not comprehend the questions.
- Patients who declined participation.

Data Collection
Data were collected through face - to - face interviews using a structured questionnaire based on the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ - C30). This questionnaire has been validated in the Indian population and measures multiple dimensions of QOL, including:
- Physical functioning
- Emotional well – being
- Social interactions
- Pain and fatigue
- Cognitive function

Each interview lasted approximately 15–20 minutes.

Quality of Life (QOL) Categorization

Based on questionnaire responses, QOL was categorized into three levels:
1) Average QOL – Patients reporting minimal impact of cancer on daily life.
2) Below Average QOL – Patients experiencing moderate impairment in daily activities.
3) Significantly Poor QOL – Patients reporting severe disruption in physical, emotional, and social well - being.

Statistical Analysis
Data were entered into SPSS (Version 25.0) for statistical analysis. The following tests were performed:
- Descriptive Statistics: Used to summarize patient demographics, cancer types, and QOL distribution.
- Chi - square Test: Applied to evaluate the association between cancer type and QOL categories.
- Kruskal - Wallis Test: Used to compare median QOL scores among different cancer types.

A p - value <0.05 was considered statistically significant.

Ethical Considerations
Ethical approval was obtained from the Institutional Ethics Committee of RIMS before commencing the study.

Distribution of Quality of Life by Type of Cancer
262 cancer patients were included in the study; they had been diagnosed with a variety of cancers, including Ca breast (29.4%), Ca cervix (11.1%), Ca lung (8.4%), Ca oral cavity (8%). To ascertain whether particular cancers were linked to noticeably higher or lower QOL scores, the distribution of QOL across various cancer types was assessed.

To assess whether QOL significantly differed based on cancer type, two statistical tests were performed:

Chi - Square Test for Association:
- The chi - square test was applied to determine whether there was a significant association between cancer type and QOL categories.
- The test result showed p = 0.9997, indicating no statistically significant relationship between cancer type and QOL levels.

Kruskal - Wallis Test for QOL Score Comparison:
- Given that QOL scores are ordinal in nature, the Kruskal - Wallis test was conducted to compare median QOL scores across different cancer types.
- The test result showed p = 0.9923, further confirming that there were no significant differences in QOL scores across various cancer types.

3. Discussion

The aim of this study was to determine whether QOL varies considerably between cancer types. There was no significant correlation between cancer type and QOL scores, despite differences in disease burden, treatment options, and symptom severity (Chi - square test: p = 0.9997; Kruskal - Wallis test: p = 0.9923). This result is in contrast to some other research that indicated the type of cancer significantly influences QOL outcomes [11, 12].

A lower quality of life is frequently associated with some diseases, such as gastrointestinal and lung cancers, because of their severe physical symptoms, which include pain, weight loss, dyspnoea, and digestive problems [13, 14]. On the other hand, because breast and prostate cancers frequently have superior treatment options and longer survival rates, patients with these malignancies typically report higher quality of life [15].

The lack of substantial variations in QOL in our study, however, raises the possibility that QOL is more heavily influenced by variables other than cancer types, such as financial burdens, psychological discomfort, and treatment accessibility. Socioeconomic circumstances and healthcare accessibility have a substantial impact on quality of life (QOL), often more so than the biological basis of the disease itself, according to studies done in India and other developing nations [16].

Even while the symptoms of various malignancies vary, they can all have a comparable cumulative effect on general health. As an illustration, head and neck cancers frequently result in speech and swallowing issues, which impact social relationships and mental health [17].

Breathing problems in lung cancer patients lead to exhaustion and a decrease in physical activity [18].

Gastrointestinal malignancies cause digestive problems that have a major impact on daily functioning and dietary intake [19].

The psychological and functional effects, including pain, exhaustion, social disengagement, and emotional distress, are common to many cancer types, thus even with these disease - specific symptoms, the overall impact on quality of life may not be notably different. This could be the reason our study's statistical tests failed to detect any appreciable differences in QOL according to cancer type.

Since there are no appreciable differences in quality of life between cancer types, supportive care interventions ought to be tailored to the needs of each patient rather than being cancer - specific. The significance of the following is emphasised by this study:

1) Holistic supportive care programs that cover physical rehabilitation, mental health support, and pain management for all forms of cancer.
2) Interventions that focus on symptom management rather than improving QOL according to cancer type. Improving healthcare access to lessen inequalities that can have a greater impact on quality of life than the specific form of cancer.

4. Conclusion

This study did not find any significant difference in QOL between cancer types, despite prior research suggesting that QOL is influenced by cancer type. The results suggest that disease - specific impacts on quality of life may be obscured by common characteristics including emotional distress, financial hardship, and symptom burden. Future research should explore longitudinal changes in QOL and investigate how socioeconomic and psychological factors interact with disease burden to impact overall well - being.

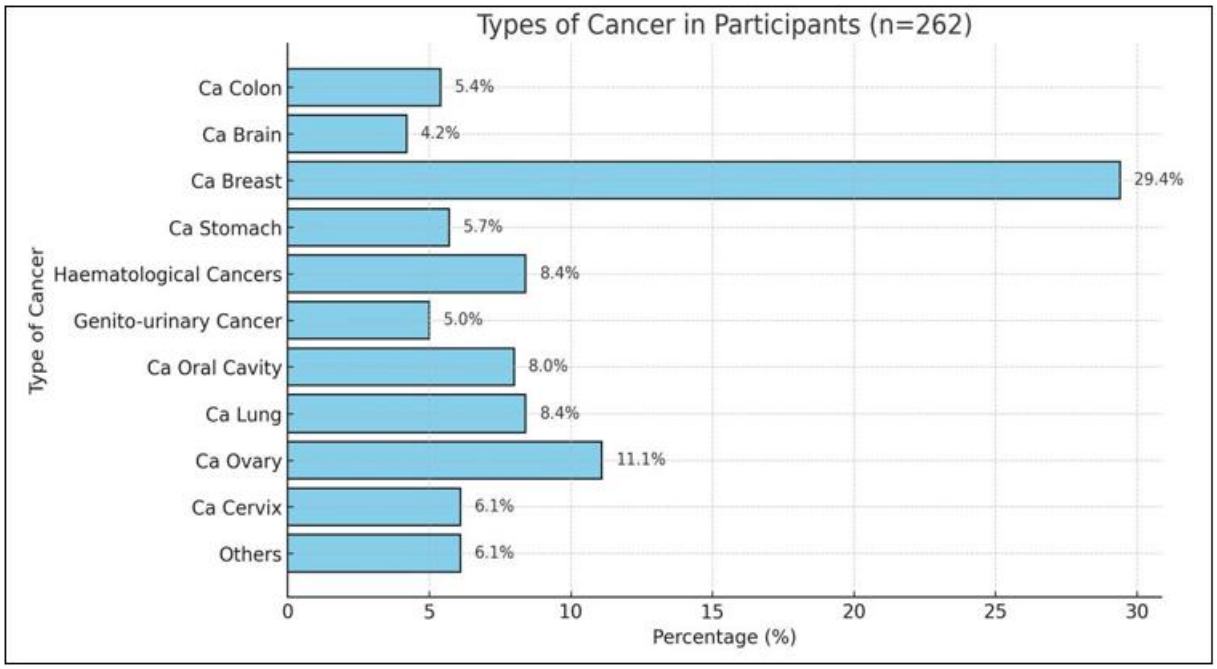

Figure 1: Types of cancers

Table 1: Quality of Life (QOL) in Different Types of Cancer

Cancer Type	Gender	Average	Average (%)	Below Average	Below Average (%)	Significantly Poor	Significantly Poor (%)	Total
Ca Breast	Male	15	19.5%	41	53.2%	21	27.3%	77
Ca Breast	Female	14	18.9%	39	52.7%	21	28.4%	74
Ca Cervix	Female	6	20.7%	16	55.2%	7	24.1%	29
Ca Lung	Male	5	22.7%	10	45.5%	7	31.8%	22
Ca Ovary	Female	3	21.4%	7	50.0%	4	28.6%	14
Ca Oral Cavity	Male	4	21.1%	10	52.6%	5	26.3%	19
Ca Stomach	Male	4	26.7%	8	53.3%	3	20.0%	15
Ca Stomach	Female	3	21.4%	7	50.0%	4	28.6%	14
Ca Colon	Female	2	18.2%	6	54.5%	3	27.3%	11
Ca Brain	Male	2	18.2%	6	54.5%	3	27.3%	11
Ca Gall Bladder	Male	2	25.0%	4	50.0%	2	25.0%	8
Ca Gall Bladder	Female	2	33.3%	3	50.0%	1	16.7%	6
Chi - square Test	p - value	-	-	-	-	-	-	0.9997
Kruskal - Wallis Test	p - value	-	-	-	-	-	-	0.9923

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