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Living with Cancer: The Association Between Disease Duration and Quality of Life Outcomes, A Cross Sectional Study

Jeseena K

Senior Resident, Rajendra Institute of Medical sciences

Abstract

Background: Cancer patients' quality of life (QOL) is an important measure that affects both their gener al health and responses to treatment.

Assessing the effect of cancer duration on patients' quality of life is the aim of this study. Methodology QOL in cancer patients was measured in a cross-sectional study using a four-point Likert type rating scale.

The QOL scores were classified as average, above average, significantly high, below average,and signifi cantly poor. Appropriate statistical tests were applied in the statistical analysis and p value<0.05 is taken as significant

Results: The QOL was higher for patients who had been diagnosed for less than six months. On the other hand, QOL significantly declined as cancer duration progressed.Of those who had cancer for more than 36 months, only 17.3% had an average quality of life (QOL), whereas 44.8% had significantly poor QOL.These correlations were found to be statistically significant($p<0.05$)

Conclusion:QOL is adversely affected by the course of cancer; longer disease duration is linked to a lower quality of life. Cancer patients may benefit from early therapies to retain a higher quality of life.

Introduction

Keywords: QOL, Cancer, Duration, Tertiary centre, Jharkhand

Introduction

Cancer has a major impact on patients' physical, mental, and social well-being and is one of the world's leading causes of illness and mortality. Since many cancer patients now live longer thanks to improvements in early detection and treatment, the emphasis has shifted from survival rates to quality of life, or QOL [1]. QOL is a multifaceted notion that includes social interactions, emotional well being, physical health, and functional capacities [2]. Patients frequently face worsening symptoms, treatment-related issues, emotional discomfort, and financial strains as their cancer worsens, all of which have an adverse effect on their general quality of life.

An important measure of patient wellbeing and the efficacy of treatment is quality of life. Numerous factors, such as the stage of the disease, the course of therapy, psychological fortitude, social support, and financial standing, all have an impact [3]. Numerous studies have highlighted how crucial it is to combine psychological therapies with palliative care in order to enhance cancer patients' quality of life [4]. Likert-type scales that evaluate several aspects, such as pain levels, emotional distress, fatigue,

functional limits, and overall life satisfaction, are frequently included in validated questionnaires used to measure quality of life (QOL) in cancer patients [5]. QOL often decreases as the disease advances, though it may differ depending on the kind of cancer and personal coping strategies [6].

One important factor influencing QOL results is the duration of time since the cancer diagnosis. Although they frequently maintain comparatively higher physical condition, patients in the early phases of diagnosis may feel emotional shock and anxiety. But as cancer worsens, the combined impacts of long-term care, physical deterioration, and psychological stress lead to a reduction in quality of life [7]. Chronic pain, ongoing exhaustion, and mental health issues such anxiety and depression are common among long-term cancer survivors [8]. Furthermore, over time, the decline in quality of life is made worse by financial toxicity, which is brought on by ongoing medical costs and income loss [9].

Although previous studies have explored the variables affecting cancer patients' quality of life, little of it has explicitly examined the effect of cancer duration. When creating therapies to enhance cancer patients' long-term well-being, healthcare professionals can benefit greatly from an understanding of how QOL evolves over time.

The aim of this study is to examine the relationship between cancer duration and quality of life, given the substantial impact that cancer has on patients' lives. We want to ascertain if and to what degree QOL reduces over time by examining data from individuals with different cancer durations. By recognizing these trends, medical practitioners can better direct the implementation of focused measures aimed at improving the quality of life for patients with chronic cancer.

Objectives

1. To evaluate cancer patients' quality of life according to how long they have had the disease.
2. To determine whether a longer cancer course is linked to worse quality of life outcomes.
3. To ascertain whether the relationship between cancer duration and QOL is statistically significant.

By illuminating the long-term effects of cancer on patients' general well-being, this study adds to the expanding corpus of research on cancer survivorship.

Methodology

This is a cross-sectional to assess the impact of cancer duration on the quality of life (QOL) among cancer patients.. It was conducted among cancer patients at a tertiary health institute in Jharkhand state of India

Inclusion Criteria:

1. Patients with cancer of varying durations (<6 months, 6-12 months, 12-36 months, >36 months).
2. Patients with Age >18 yrs
3. Patients who provided informed consent to participate in the study.

Exclusion Criteria:

1. Patients with severe cognitive impairment or conditions that prevented them from completing the questionnaire.

Data Collection Tool

A structured questionnaire was used to assess QOL. The questionnaire included questions regarding;

- Physical health (pain, fatigue, mobility issues).
- Emotional well-being (anxiety, depression, stress levels).

- Social relationships (support from family and friends, social interactions).
- Overall life satisfaction.

Responses were scored on a 1-4 scale, with some items reverse-scored to ensure consistency in calculating the QOL index. The QOL score was classified as follows:

- 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.

Data collection was conducted through face-to-face interviews with patients .

Sampling method-Consecutive sampling method was used and data collection was done for 6 months. A total of 262 patients were interviewed.

Statistical Analysis

The collected data was analyzed using statistical software. Appropriate statistical tests were applied to find out the association between cancer duration and QOL categories. A p-value of less than 0.05 was considered statistically significant.

Ethical Considerations

The study was conducted after approval from the institutional ethics committee. All participants provided informed consent, and their confidentiality was maintained.

Results

Patients with shorter cancer duration (<6 months) exhibited a relatively higher proportion of 'Average QOL' (38.4%) compared to those with cancer duration exceeding 36 months, where only 17.3% reported 'Average QOL'. Similarly, patients with prolonged cancer duration (>36 months) had the highest percentage of 'Significantly Poor QOL' (44.8%), indicating a decline in QOL with disease progression.(Table.1) An ANOVA test was conducted to determine whether there is a statistically significant difference in QOL across cancer duration groups. Since the p-value is less than 0.05, it indicates a significant difference in QOL scores among the different cancer duration groups.(Table.2)This confirms that cancer duration has a measurable effect on the QOL of patients. To evaluate the strength of association between cancer duration and QOL scores, a Spearman correlation test was performed. The negative correlation coefficient (-0.195) suggests that as cancer duration increases, QOL decreases. The relationship is weak but statistically significant ($p < 0.05$), implying that longer cancer duration is associated with lower QOL (Table.2).To further assess whether cancer duration is a significant predictor of poor QOL, a logistic regression was applied. It indicates that cancer duration is a significant predictor of poor QOL. The odds ratio of 1.99 suggests that for every increase in cancer duration category, the odds of experiencing poor QOL increase by approximately 68.7 %(Table.2)

1. Distribution of QOL across Cancer Duration Groups

Cancer Duration	Average QOL (%)	Below Average QOL (%)	Significantly Poor QOL (%)
<6 months	38.4	37.0	24.6

6-12 months	17.5	57.7	24.7
12-36 months	6.4	69.8	23.8
>36 months	17.3	37.9	44.8
Overall	20.6	52.7	26.7

Table.2. Summary Table of Statistical Tests

Test	Statistic	p-value	Interpretation
ANOVA	F = 3.66	0.0129	Significant difference in QOL across cancer duration groups
Spearman Correlation	ρ = -0.195	0.0015	Weak but significant negative correlation between cancer duration and QOL
Logistic Regression	Coefficient = 0.6867	<0.001	Cancer duration significantly predicts poor QOL (Odds Ratio: 1.99)

Discussion

Prolonged disease duration has a detrimental effect on patients' physical, emotional, and social well-being, as this study shows a substantial correlation between cancer duration and Quality of Life (QOL). Many physiological, psychological, and socioeconomic factors contribute to the well-documented decline in quality of life that occurs when cancer advances.

According to our study's findings, patients' quality of life (QOL) is greatly impacted by the duration of their malignancy, and their wellbeing considerably decreases as the illness advanced. ANOVA ($p = 0.0129$) and Spearman correlation analysis ($\rho = -0.195$, $p = 0.0015$) showed that worsening QOL is linked to longer cancer duration. Montazeri [3] revealed that long-term cancer survivors frequently experience rising levels of exhaustion, chronic pain, and psychological anguish. This is in line with earlier research on the subject.

Although some research indicates that cancer survivors gradually acquire adaptive coping strategies, our results show a clear trend of worsening quality of life. According to a research by Deimling et al. [10], age, social support available, and cancer kind all have a significant impact on how well long-term survivors adjust. Young cancer survivors, for example, could experience more social and professional obstacles than older patients, which could affect their quality of life.

A major contributing factor to long-term cancer survivors' deteriorating quality of life is physical deterioration. According to Schmidt et al. numerous investigations have documented persistent effects such neuropathy, exhaustion, chronic discomfort, and loss of mobility [11]. Patients' everyday functioning and independence are impacted by long-term physiological damage caused by treatments such chemotherapy, radiation, and surgery (Avis et al.) [12].

QOL is also significantly impacted by psychological distress in addition to physical impacts. The health burden of long-term cancer patients is further increased by the prevalence of depression, anxiety, and post-traumatic stress disorder (Giese-Davis et al.) [13]. Strong psychosocial support networks are associated with higher emotional well-being in long-term survivors, according to Spiegel et al. [14], which highlight the significance of psychological therapies.

Prolonged cancer treatment has a substantial financial impact on patients' quality of life. According to Zafar and Abernethy , long-term survivors frequently suffer from financial toxicity, which includes exorbitant medical expenses, income loss, and less job chances [15]. Studies have also shown that economic instability can worsen mental health conditions, raise stress levels, and restrict access to excellent healthcare, all of which can lead to a decline in quality of life (QOL) Smith et al.[16].

Studies also indicated that poorer QOL outcomes are linked to a lower socioeconomic position. Low-income patients were less likely to obtain complete supportive care, which further deteriorated their long-term health outcomes, according to Husson et al. [17]. Long-term cancer patients' quality of life may be enhanced by removing financial obstacles through patient assistance programs and legislative changes.

The results of several earlier studies that focused at how cancer duration affected QOL are generally in agreement with the current study. According to Ferrell et al. [1], early-stage cancer patients typically have higher quality of life because they are more resilient physically and hopeful psychologically. However, when the illness worsens, side effects from treatment, lingering symptoms, and growing psychological distress cause QOL to decline.

It's interesting to note that according to certain research, a portion of cancer survivors have stable or even better quality of life over time. According to Hess and Insel [18], coping strategies and resilience are important factors in determining how survivors experience life. Further research should examine the mechanisms that allow certain patients to sustain well-being despite long-term disease duration, even though our study indicated a primarily downward trend in QOL.

Healthcare professionals need to take a more comprehensive approach to patient care in light of the notable drop in quality of life seen in long-term cancer survivors. It has been demonstrated that early palliative care interventions enhance mental and physical health (Temel et al) [19]. Furthermore, long-term survivors may have less anxiety and depression if mental health assistance is incorporated into standard cancer care (Mehnert et al.) [20].

Finding protective factors that enable certain patients to maintain a consistent quality of life in spite of a protracted illness should be the main goal of future research. Deeper insights into enhancing survivorship outcomes will come from longitudinal research that look at the roles of psychological resilience, social support, and customized rehabilitation programs.

Conclusion

This study highlights how the course of cancer has a large impact on quality of life (QOL), showing that prolonged disease causes significant decreases in social, emotional, and physical well-being. These results underline the necessity of preventative measures to help cancer patients who have had the disease for a long time. Improving overall survivability results requires addressing the physiological, psychological, and financial costs associated with long-term cancer therapy.

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