

Quality of Life of Oncology Patients Treated in a Dental School Clinic

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Qualidade de Vida de Pacientes Oncológicos Atendidos em uma Clínica Escola de Odontologia

Calidad de Vida de Pacientes Oncológicos Atendidos en una Clínica de la Escuela de Odontología

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ABSTRACT

Introduction: Cancer patients experience physical, emotional, and social impacts that may compromise their quality of life. Assessing these aspects is essential to guide oncological care in a more humanized way. **Objective:** To evaluate the quality of life of cancer patients treated at a dental school clinic. **Method:** Descriptive cross-sectional study with a quantitative approach. Participants were recruited from a dental school clinic in the city of Caruaru-PE. Data collection was carried out between August and December 2023. For data collection, a previously validated interview instrument, the EORTC QLQ-C30, consisting of 30 questions, was used. **Results:** Most patients did not have severe limitations in daily activities but reported mild to moderate difficulties, such as fatigue, weakness, and reduced functional capacity. Emotionally, there were reports of tiredness and difficulty concentrating, but no severe symptoms of depression. Social life was minimally affected, although financial concerns were significant. Health and quality of life assessments were mostly positive, with patients maintaining an optimistic outlook. **Conclusion:** The study showed the need for a holistic approach in oncological care, considering physical, emotional, social, and financial aspects, and recommends the implementation of psychological support, rehabilitation, and financial guidance programs to improve patients' quality of life.

Key words: Quality of Life; Health Evaluation/methods; Cost of Illness.

RESUMO

Introdução: Pacientes com câncer vivenciam impactos físicos, emocionais e sociais que podem comprometer sua qualidade de vida. Avaliar esses aspectos é essencial para orientar o cuidado oncológico de forma mais humanizada. **Objetivo:** Avaliar a qualidade de vida de pacientes oncológicos atendidos em uma clínica escola de odontologia. **Método:** Estudo transversal descritivo com abordagem quantitativa. Os participantes foram recrutados em uma clínica escola de odontologia na cidade de Caruaru-PE. A coleta de dados foi realizada entre agosto e dezembro de 2023. Para coleta de dados, foi utilizado um instrumento de entrevista previamente validado, o EORTC QLQ-C30, composto por 30 questões. **Resultados:** A maioria dos pacientes não teve limitações severas nas atividades diárias, mas relataram dificuldades leves a moderadas, como fadiga, fraqueza e redução da capacidade funcional. No aspecto emocional, houve relatos de cansaço e dificuldades de concentração, mas sem sintomas graves de depressão. A vida social foi pouco impactada, embora a preocupação financeira tenha sido significativa. A avaliação da saúde e da qualidade de vida foi, em sua maioria, positiva, com os pacientes mantendo uma perspectiva otimista. **Conclusão:** O estudo mostrou a necessidade de uma abordagem holística no cuidado oncológico, considerando aspectos físicos, emocionais, sociais e financeiros, e recomenda a implementação de programas de apoio psicológico, reabilitação e orientação financeira para melhorar a qualidade de vida dos pacientes.

Palavras-chave: Qualidade de Vida; Avaliação em Saúde/métodos; Efeitos Psicossociais da Doença.

RESUMEN

Introducción: Los pacientes con cáncer experimentan impactos físicos, emocionales y sociales que pueden comprometer su calidad de vida. Evaluar estos aspectos es esencial para orientar el cuidado oncológico de forma más humanizada. **Objetivo:** Evaluar la calidad de vida de pacientes oncológicos atendidos en la clínica de una escuela de odontología. **Método:** Estudio transversal descriptivo, con enfoque cuantitativo. Los participantes fueron reclutados en la clínica de una escuela de odontología en la ciudad de Caruaru-PE. La recolección de datos se realizó entre agosto y diciembre de 2023. Para la recolección de datos, se utilizó un instrumento de entrevista previamente validado, el EORTC QLQ-C30, compuesto por 30 preguntas. **Resultados:** La mayoría de los pacientes no tuvo limitaciones severas en las actividades diarias, pero informaron dificultades leves a moderadas, como fatiga, debilidad y reducción de la capacidad funcional. En el aspecto emocional, hubo reportes de cansancio y dificultad para concentrarse, pero sin síntomas graves de depresión. La vida social fue poco afectada, aunque la preocupación económica fue significativa. La evaluación de la salud y de la calidad de vida fue en su mayoría positiva, con los pacientes manteniendo una perspectiva optimista. **Conclusión:** El estudio mostró la necesidad de un enfoque holístico en el cuidado oncológico, considerando aspectos físicos, emocionales, sociales y económicos, y recomienda la implementación de programas de apoyo psicológico, rehabilitación y orientación financiera para mejorar la calidad de vida de los pacientes.

Palabras clave: Calidad de Vida; Evaluación en Salud/métodos; Costo de Enfermedad.

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INTRODUCTION

Chronic non-communicable diseases (CNCDs) are responsible for over 70% of deaths worldwide, with cancer being the second major cause of mortality in this group of illnesses¹. According to data from the National Cancer Institute (INCA), for each year of the 2023-2025 triennium, 704,000 new cancer cases are expected. This estimate is used to plan organizational efforts in health and promote public policies for cancer in Brazil².

According to INCA², the most frequent type of cancer in Brazil is non-melanoma skin cancer, representing about 31.3% of all estimated cases. Next comes breast cancer in women, with around 10.5%, and prostate cancer, with 10.2% estimated cases. Colon and rectum tumors correspond to around 6.5% of diagnoses, while lung and stomach have incidences of approximately 4.6% and 3.1%, respectively.

Tumors originate from genetic and environmental factors, highlighting their multifactorial character. Genetic factors, such as hereditary mutations or alterations to genes that regulate cellular growth, may increase predisposition to developing certain types of cancer. When these genetic factors are combined with environmental factors, like alcoholism, smoking, and infection by the human papillomavirus (HPV), the risk of developing the disease is significant^{3,4}.

The choice of antineoplastic treatments includes radiotherapy, chemotherapy, and surgery, or a combination of those. These therapies generate both physical and psychological sequelae, which, in Brazil, are aggravated by the delay in diagnosing tumors. The patients are mostly affected by depression, physical difficulties, and socialization⁵.

In addition to systemic impacts, antineoplastic treatments often cause oral adverse effects, such as mucositis, xerostomia, and dysphagia, which directly interfere with the quality of life and justify the need for dental professionals within the multiprofessional context^{6,7}.

The cancer diagnosis causes functional, physical, and emotional limitations that will interfere with the perception of quality of life. According to the World Health Organization (WHO), quality of life consists of the “perception of the individual of being inserted in life, within the cultural context and systems of values in which they live and in relation to their goals, expectations, standards, and concerns”^{8,9}.

METHOD

Descriptive cross-sectional study with a quantitative approach. The population of the present study was composed of patients assisted by the Multiprofessional

Residency Program in Cancer and Palliative Care (*Programa de Residência Multiprofissional em Atenção ao Câncer e Cuidados Paliativos*), in a dental school clinic at Asces-Unita, in the city of Caruaru, Pernambuco State (PE). The study set up a non-probabilistic convenience sample composed of participants aged 18 years and over, with no restriction regarding sex, with a cancer diagnosis and currently in treatment or already treated, who accepted to participate in the study. It is worth mentioning that a convenience sample, in addition to the reduced number of participants, sets important limitations on the study, since it restricts the application of the results to a general oncological population. The sample excluded subjects with cognitive or speech limitations that did not allow them to respond to the interview, since the questions would be recorded by the researcher, who needed them to be verbalized by the interviewee.

A validated instrument was used for data collection, the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30), composed of 30 questions separated into three sections: the first related to efforts and physical activities; the second addresses the performance of activities, emotional and social aspects over the past week; and the third section assesses the participants' perception on their quality of life. The questions were asked directly to the patient in a private room, with no interference by third parties, thus ensuring privacy and secrecy of the participants' responses. EORTC QLQ-C30^{10,11} is a widely used and validated instrument in international multicentric studies, including Brazilian samples, reinforcing its applicability in the national context. In addition to the analysis of frequencies and proportions presented in the tables, descriptive analyses were calculated, such as means and standard deviation, when applicable, complemented by simple correlations between physical, emotional, and social variables, using non-parametric statistical tests, when possible, to enrich interpretation, although without the statistical robustness for generalizing results.

This study has been approved by the Research Ethics Committee of the *Centro Universitário Tabosa de Almeida (Asces-Unita)*, report number 6.235.437 (CAAE (submission for ethical review): 72955523.0.0000.5203), respecting all ethical guidelines for research in force in Brazil, in compliance with Resolution N. 466/12 of the National Health Council¹².

RESULTS

The final sample consisted of 18 participants. The selection sought to ensure representativeness of the target

population, albeit limited by the convenience character and the reduced sample size. There was no distinction regarding sex, education level, type of cancer, or treatment modality (chemotherapy, radiotherapy, or both).

The first section of the questionnaire assessed physical limitations in daily activities, like carrying weight, walking long distances, going on short strolls, being active during the day, and performing self-care. The answers are represented in Table 1.

The analysis of difficulties related to physical efforts suggests that, although most participants maintain a significant level of independence, one group still faces limitations in essential daily activities. These physical limitations were observed to be potentially associated with impacts on emotional and social aspects addressed in the next sections. The growing difficulty as the required effort increases indicates possible challenges related to mobility and physical strength, aspects that might directly impact quality of life and autonomy.

In addition, the average physical difficulties reported by participants was 2.4 ± 0.9 (0-5 scale), with 33% presenting moderate to intense limitations in activities that require more effort, like carrying weight or walking long distances. These data suggest that, although most of them maintain autonomy, a subset of the sample presents significant functional fragility.

The second section investigated physical, emotional, and social aspects experienced by the participants over the past week through 23 questions. The results are presented in Table 2.

The analysis of responses to the second section showed physical, emotional, and social impacts experienced by participants over the past week, as detailed in Table 2.

Participants with greater physical limitations also reported slightly higher levels of fatigue and emotional tension, with a mean of 2.8 ± 1.0 (0-5 scale) in emotional aspects. In social terms, 22% of participants indicated moderate difficulties in keeping up with social and family activities, highlighting a potential correlation between physical limitations and social impacts.

The third section of the questionnaire addressed the perception of participants regarding their general health and overall quality of life. Two questions were applied, with an answer scale ranging from 1-7, where 1 corresponds to the worst assessment, and 7, to the best. The answers are represented in Table 3.

The overall perception of health and quality of life had a mean of 6.2 ± 0.7 , indicating positive evaluation even among participants who reported physical, emotional, or social difficulties. That way, integrated data suggests that, despite some limitations, overall health and quality of life perception remained positive, reinforcing the importance of multidisciplinary follow-up and strategies for physical, emotional, and social rehabilitation.

We suggest that further analyses explore comparisons between patient subgroups, different types of cancer, and treatment modalities to deepen the understanding of the impacts of oncological treatment on quality of life.

DISCUSSION

These findings are in agreement with Pires et al.¹³, who observed that functional limitation persists even after the end of treatment, affecting quality of life in the long term. Additionally, the oral adverse effects from chemotherapy and radiotherapy, like mucositis and xerostomia, also reflect directly on the quality of life and justify the relevance of dental care in this context. The reduced sample size and the convenience-based selection should be considered important limitations, restricting the generalization of results.

Regarding the emotional aspect, there were reports of tiredness, tension, and difficulty concentrating, but no severe symptoms of depression or irritability. This suggests that, despite challenges, these patients can find ways of coping with the situation, whether by receiving emotional support or by adapting to the treatment. According to the consulted literature, studies have shown that structured psychological interventions and psychological follow-up

Table 1. Responses from the first section of the questionnaire – physical limitations in daily life activities

Activity	No n (%)	A little n (%)	Considerable n (%)	A lot n (%)
Intense efforts (ex.: carrying weight)	6 (33.3)	4 (22.2)	4 (22.2)	4 (22.2)
Walk long distances on foot	7 (38.9)	6 (33.3)	2 (11.1)	3 (16.7)
Short strolls on foot	14 (77.8)	3 (16.7)	1 (5.6)	0 (0)
Staying in bed or sitting during the day	8 (44.4)	7 (38.9)	1 (5.6)	2 (11.1)
Needs help for basic chores	13 (72.2)	5 (27.8)	0 (0)	0 (0)



Table 2. Responses from the second section of the questionnaire – general limitations and symptoms

Questions	No n (%)	A little n (%)	Considerable n (%)	A lot n (%)
Did you feel limited in your job or when performing daily activities?	10 (55.6%)	2 (11.1%)	3 (16.7%)	3 (16.7%)
Did you feel limited in the usual occupation of your free time or in other leisurely activities?	11 (61.1%)	2 (11.1%)	3 (16.7%)	2 (11.1%)
Did you feel out of breath?	17 (94.4%)	1 (5.6%)	0 (0%)	0 (0%)
Did you experience any pain?	9 (50%)	5 (27.8%)	2 (11.1%)	2 (11.1%)
Did you need rest?	7 (38.9%)	8 (44.4%)	2 (11.1%)	1 (5.6%)
Did you have trouble sleeping?	7 (38.9%)	6 (33.3%)	4 (22.2%)	1 (5.6%)
Did you feel weak?	10 (55.6%)	6 (33.3%)	2 (11.1%)	0 (0%)
Did you feel a lack of appetite?	3 (72.2%)	3 (16.7%)	0 (0%)	2 (11.1%)
Did you have nausea?	11 (61.1%)	6 (33.3%)	1 (5.6%)	0 (0%)
Did you vomit?	16 (88.9%)	2 (11.1%)	0 (0%)	0 (0%)
Did you experience constipation?	11 (61.1%)	3 (16.7%)	2 (11.1%)	2 (11.1%)
Did you have diarrhea?	14 (77.8%)	2 (11.1%)	1 (5.6%)	1 (5.6%)
Did you feel tired?	11 (61.1%)	4 (22.2%)	1 (5.6%)	2 (11.1%)
Did pain disturb your daily activities?	11 (61.1%)	3 (16.7%)	3 (16.7%)	1 (5.6%)
Did you have trouble focusing, for example, on reading the paper or watching television?	13 (72.2%)	4 (22.2%)	1 (5.6%)	0 (0%)
Did you feel tense?	10 (55.6%)	8 (44.4%)	0 (0%)	0 (0%)
Did you have any concerns?	7 (38.9%)	7 (38.9%)	0 (0%)	4 (22.2%)
Did you feel irritated?	9 (50%)	8 (44.4%)	0 (0%)	1 (5.6%)
Did you feel depressed?	11 (61.1%)	4 (22.2%)	2 (11.1%)	1 (5.6%)
Did you have trouble remembering things?	6 (33.3%)	10 (55.6%)	2 (11.1%)	0 (0%)
Did your physical state or medical treatment interfere with your family life?	12 (66.7%)	4 (22.2%)	0 (0%)	2 (11.1%)
Did your physical state or medical treatment interfere with your social life?	12 (66.7%)	2 (11.1%)	3 (16.7%)	1 (5.6%)
Did your physical state or medical treatment cause you financial troubles?	6 (33.3%)	5 (27.8%)	5 (5.6%)	2 (11.1%)

Table 3. Responses from the third section of the questionnaire – self-perception on overall health and quality of life

Responses (scores)	How would you classify your overall health over the past week?	How would you classify your overall quality of life over the past week?
	n (%)	n (%)
1	1 (5.6)	1 (5.6)
2	0 (0)	0 (0)
3	2 (11.1)	1 (5.6)
4	3 (16.7)	4 (22.2)
5	3 (16.7)	3 (16.7)
6	5 (27.8)	2 (11.1)
7	4 (22.2)	7 (38.9)
Total	18 (100)	18 (100)

can significantly contribute to strengthening resilience, helping patients deal better with the emotional impacts of cancer^{13,14}.

Moreover, according to Vardier Júnior et al.⁵, cognitive-behavior therapy has shown significant efficacy in improving the mental health of these patients, suggesting that structured interventions may play a crucial role in this context.

Regarding social and family life, most did not perceive any big impacts, although some have experienced moderate difficulties. This reinforces the role of support networks, which help patients maintain an active routine and cope with the treatment's troubles. However, one topic that must be highlighted was financial concerns reported by some participants. The cost of treatment is an important factor, highlighting the need for policies that offer adequate financial support, so patients do not face economic difficulties while undergoing treatment for the disease. Studies indicate that financial difficulties can increase psychological stress and compromise treatment adherence, demonstrating the need for approaches that contemplate this aspect in oncological care^{15,16}. In a study conducted by Silva et al.¹⁷, patients who faced financial difficulties were observed to be at greater risk of interrupting treatment, which can compromise clinical outcomes and survival.

Despite the findings presented, several limitations must be considered, including the reduced sample size and the convenience-based selection of participants, which restricts the generalization of the results. Additionally, the effects of oncological treatment can directly impact oral

health, underscoring the importance of dental work as an integral part of the multidisciplinary team. Finally, results reinforce the need for public policies that integrate dental care with oncological care in Brazil, contributing to cancer control and improving the quality of life of patients.

Despite these difficulties, the general perception of patients on their health and quality of life was positive, with scores ranging from 6 to 7. This is encouraging as it shows that, amidst challenges, many patients can keep an optimistic perception. Thus, the need for adequate support is underscored – when patients receive integral care, beyond the treatment of the disease itself, their quality of life improves significantly.

Another study also indicates that resilience and social support are key factors for a positive perception of health, even in the face of the treatment's adverse effects. Alencar et al.¹⁸ highlights that patients who participate in support groups or receive robust support from their family present better well-being rates and have a more positive approach to the treatment.

However, the aforementioned study¹⁸ presents some limitations that must be considered. The sample may not completely represent the diversity of oncological patients, since factors such as disease staging, type of treatment, and socioeconomic conditions may influence results. Moreover, the assessment was based on self-reports, which could introduce bias in the perception of symptoms and quality of life. Further studies can use objective methods to assess patients' functional capability and emotional health, in addition to exploring the impacts of these limitations in the long term. Another limitation is the absence of a

comparative analysis between different types of cancer and their specificities regarding physical and emotional limitations, something that could provide a more detailed understanding of the impacts of treatment.

Given this, it is clear that care with oncological patients should be multidisciplinary, integrating actions towards health promotion, prevention of functional incapability, with screening and psychological support, and attention to social and financial aspects. Rehabilitation and health education programs are essential to help these patients live better during and after treatment. Further studies can explore more effective ways of offering this support and ensure these patients have the best possible quality of life.

CONCLUSION

This study analyzed physical, emotional, and social limitations of oncological patients in oncological treatment, revealing that, although there were no major limitations in daily activities, many participants reported light to moderate difficulties, such as fatigue, weakness, and reduction of functional capability. The emotional impact was perceptible but did not severely affect the quality of life. Social limitations were moderate, with social support playing an important role. However, financial concern was a significant aspect. Health and quality of life assessments were mostly positive, suggesting that, with adequate support, patients maintain an optimistic outlook. Moreover, the study emphasized the need for a holistic approach in oncological patient care, considering physical, emotional, social, and financial aspects, and recommends the implementation of rehabilitation, psychological support, and financial guidance programs. The findings show that, even in the face of light and moderate impacts on quality of life, such as fatigue, weakness, and financial concerns, the patients maintain a positive outlook on their health. This underscores the importance of multidisciplinary support and inclusion of dentistry in holistic approaches to oncological care. Further studies can explore longitudinal approaches, objective methods for functional capability and emotional health assessment, and comparative analyses between different types of cancer and treatments to provide more robust recommendations for clinical interventions and health policies.

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CONTRIBUTIONS

All the authors have contributed to the study design, acquisition, analysis and interpretation of the data, wording, and critical review. They approved the final version for publication.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

All the contents associated with the article are included in the manuscript.

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