Health-Related Quality of Life and Satisfaction with Hospital Treatment in Adults with Cancer: Observational Study

Qualidade de Vida Relacionada à Saúde e Satisfação com o Tratamento Hospitalar de Adultos com Câncer: Estudo Observacional

Calidad de Vida Relacionada con la Salud y Satisfacción con el Tratamiento Hospitalario en Adultos con Cáncer: Estudio Observacional

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ABSTRACT

Introduction: Patients with cancer face a long and high level of complexity therapeutic path. Given this scenario, satisfaction with hospital treatment is an important process in the recovery of health, because of the possibility of obtaining essential information about the experiences of those receiving treatment, which will help to match the conduct for the practice of quality care with possible implications for health-related quality of life (HRQL). **Objective:** To analyze the HRQL and its relationship with satisfaction with hospital treatment of adults with cancer. **Method:** Observational, analytical cross-sectional study conducted with 120 patients undergoing clinical or surgical treatment at a reference hospital of oncohematological treatment located in Southern Brazil between August 2021 and January 2022. The instruments used were Quality of Life Questionnaire Core 30 and Satisfaction with In-Patient Cancer Care, analyzed descriptively and by Spearman correlation test. **Results:** Global quality of life had low scores (58.54/100), greater impairment of the social functioning domain (44.17/100). There was a high level of satisfaction with medical and nursing staff, higher averages of the technical skills scale (89.44/100 and 86.67/100, respectively). Statistical significance was found between global quality of life and all items of the satisfaction instrument ($p<0.05$). **Conclusion:** Satisfaction with hospital treatment impacts the quality of life of adults with cancer. Recognizing changes in quality of life and determinants of the satisfaction with hospital treatment can contribute to improve the care provided.
Key words: quality of life; patient satisfaction; oncology service, hospital; adult health; patient care.

RESUMO

Introdução: Pacientes com câncer enfrentam percurso terapêutico longo e de alto nível de complexidade. Diante desse cenário, a satisfação com o tratamento hospitalar é um processo importante na recuperação da saúde, dada a possibilidade de se obter informações essenciais referentes às experiências de quem recebe o tratamento, as quais auxiliarão na adequação de condutas para prática da assistência de qualidade com possíveis implicações na qualidade de vida relacionada à saúde (QVRS). **Objetivo:** Analisar a QVRS e sua relação com a satisfação com o tratamento hospitalar de adultos com câncer. **Método:** Estudo observacional, analítico, de recorte transversal, realizado com 120 pacientes em tratamento clínico ou cirúrgico em um hospital referência no tratamento onco-hematológico localizado no Sul do Brasil, entre agosto de 2021 e janeiro de 2022. Foram utilizados os instrumentos *Quality of Life Questionnaire Core 30* e *Satisfaction with In-Patient Cancer Care*, analisados descritivamente e por teste de correlação de Spearman. **Resultados:** A qualidade de vida global apresentou baixos escores (58,54/100) e maior comprometimento no domínio função social (44,17/100). Houve alto nível de satisfação com a equipe médica e de enfermagem, e maiores médias na escala habilidades técnicas (89,44/100 e 86,67/100, respectivamente). Verificou-se significância estatística entre a qualidade de vida global e todos os itens do instrumento de satisfação (p<0,05). **Conclusão:** A satisfação com o tratamento hospitalar impacta na qualidade de vida de adultos com câncer. Reconhecer as alterações na qualidade de vida e os determinantes que compõem a satisfação ao tratamento hospitalar pode contribuir para o aperfeiçoamento da assistência prestada.
Palavras-chave: qualidade de vida; satisfação do paciente; serviço hospitalar de oncologia; saúde do adulto; assistência ao paciente.

RESUMEN

Introducción: Los pacientes con cáncer enfrentan una larga y compleja experiencia terapéutica. Ante ese escenario, la satisfacción con el tratamiento hospitalario es un proceso importante en la recuperación de la salud, dada la posibilidad de obtener informaciones esenciales referentes a las experiencias de quien recibe el tratamiento, las cuales ayudarán en la adecuación de conductas para la práctica de la asistencia de calidad con posibles implicaciones en la calidad de vida relacionada con la salud (CVRS). **Objetivo:** Analizar la CVRS y su relación con la satisfacción con el tratamiento hospitalario de adultos con cáncer. **Método:** Estudio observacional, analítico, de corte transversal, realizado con 120 pacientes en tratamiento clínico o quirúrgico en un hospital referencia en el tratamiento oncohematológico localizado en el Sur de Brasil, entre agosto de 2021 y enero de 2022. Se utilizaron los instrumentos *Quality of Life Questionnaire Core 30* y *Satisfaction with In-Patient Cancer Care*, analizados descriptivamente y por prueba de correlación de Spearman. **Resultados:** La calidad de vida global presentó bajas puntuaciones (58,54/100), mayor comprometimiento en el dominio función social (44,17/100). Hubo un alto nivel de satisfacción con el personal médico y de enfermería, mayores promedios en la escala habilidades técnicas (89,44/100 y 86,67/100, respectivamente). Se verificó significación estadística entre la calidad de vida global y todos los ítems del instrumento de satisfacción (p<0,05). **Conclusión:** La satisfacción con el tratamiento hospitalario impacta en la calidad de vida de adultos con cáncer. Reconocer los cambios en la calidad de vida y determinantes que componen la satisfacción al tratamiento hospitalario puede contribuir a mejorar la asistencia prestada.
Palabras clave: calidad de vida; satisfacción del paciente; servicio de oncología en hospital; salud del adulto; atención al paciente.

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INTRODUCTION

Cancer is becoming a quite frequent disease worldwide due to the high number of new cases. According to the International Agency for Research on Cancer (Iarc)[1], 20% of the women and 25% of the men will develop cancer in the course of their lives with an estimate of 28.4 million new cases until 2040 in the world. The National Cancer Institute (INCA)[2] estimates 704 thousand new cases for each year of the triennium 2023-2025, it is a public health problem because of the socioeconomic impact of high complexity treatment[2,3].

Although in the last decades technological improvement and better quality of the diagnosis associated with novel therapies have increased, favoring early detection and expanded life expectancy, cancer has an important impact on patients' health-related quality of life (HRQL)[4]. An integrative review of the literature by Binotto and Schwartsmann[5] to evaluate the quality-of-life (QoL) of patients with breast cancer in chemotherapy treatment revealed that global health declined in ten of the 25 studies investigated and nine emphasized damages on the patients' HRQL. Cancer treatment can cause many changes on patients' lives, potentially increasing symptoms of depression and anxiety[6].

HRQL is a construct evaluated by the patient with more than one dimension, including well-being or dissatisfaction with important aspects to the individual[7]. Pursuant to the European Organisation for Research and Treatment of Cancer (EORTC)[8], HRQL is the satisfaction of the patient with its functional ability and control of the disease, achievements beyond the expectations and perception of what diagnosis and treatment are.

Patients with cancer face a long-term disease since the diagnosis, prolonging up to the cure or palliative care depending on the clinical evolution of each case. In this context, health institutions are part of this routine due to the frequent demand for consultations, treatments, and other specialties and need to be prepared to attend to these patients with proper structure, skilled multidisciplinary team, science and humanity. One of the health indicators to identify the quality of the treatment offered is the satisfaction with hospital treatment, recognized as an indispensable component of the patient-centered care, respecting the preferences, needs and individual values for best HRQL for individuals with cancer[9,10].

Satisfaction with hospital treatment is to what extent the patient expectations are met during the process of care. The factors associated with hospital treatment are hospitality, infrastructure, accessibility, companion during hospitalization, technical and personal skills, communication by health professionals and toxicity caused by the treatment due to chemotherapy side effects[3,10,11] in the oncologic context.

High levels of satisfaction can be associated with better adherence to professional guidelines and therapeutic regimens leading to best prognosis, reduction of mortality rates and readmission becoming an essential part of a complex system of health quality[9,10]. However, satisfaction with hospital treatment should not be handled only as an indicator of quality but as a proposal to redesign and adjust clinical care provided by health professionals for effective-based health efficiency driven by the patient's needs through human, full and individualized care[10].

However, despite the evolution of cancer treatment and its benefits, the repercussions of the disease and treatment continue and may affect the HRQL. In addition, hospital stay can unchain or potentialize stressors to the patient who lives the new routine[3]. Thus, the research question of the study is: "Are adult patients with better HRQL more satisfied with hospital treatment?"

The objective of the present study is to analyze the HRQL and its relation with the satisfaction adults patients with cancer feel about hospital treatment.

METHOD

Quantitative, analytical, cross-sectional study according to the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)[12] for observational studies. Non-probabilistic data collection took place between August 2021 and January 2022 at a private reference oncohematological hospital at Brazil's South region.

The sample size was determined by the mean of consultations of adult patients with cancer with at least three days of hospitalization from 2018 to 2020 and minimum of 117 participants.

One hundred and twenty patients (120) ≥18 years of age with solid or hematologic cancer with at least three days of hospitalization were included. Patients unable to respond to the questionnaire due to cognitive, mental and communication disabilities reported at the chart or upon evaluation by the investigator when invited to join were excluded.

Three instruments were utilized to meet the study's objectives: 1) Sociodemographic and clinic questionnaire developed by the investigators and adapted from other Brazilian study about cancer and HRQL[5], with questions about sex, age, marital status, comorbidities, previous treatments among others; 2) Quality of Life Questionnaire Core 30 (QLC-C30) version 3 to measure HRQL; 3) Satisfaction with In-Patient Cancer Care (IN-PATSAT32) to evaluate the satisfaction with hospital treatment. The

instruments 2 and 3 were translated and validated to Brazil[13,14], authorized after registration for use at the EORTC site and accepted by e-mail addressed to the investigators.

QLQ-C30 is a generic instrument to evaluate the HRQL of patients with cancer with 30 questions based in general health evaluation and global QoL scale, five functional scales (physical, cognitive, social, emotional and personal performance) and simple items/scale of symptoms frequently reported by patients with cancer. The scores of the instrument are expressed as rates from zero to one hundred. A high rate at the functional and general health/global QoL scale represents better functional level but for the scale of symptoms, it means low tolerance to treatment side effects[15].

IN-PATSAT32 is a 32-items questionnaire assessing cancer patient's satisfaction with care in oncology hospitals, organized into 11 multi-items scale including interpersonal skills, availability of doctors and nurses and how information is provided. In addition, organizational, structural and information aspects and hospital environment were evaluated as well. All the scales and items are expressed from zero to 100, a high score reflects best satisfaction[16].

The data were organized in Microsoft Office Excel® spreadsheet, double typed and later revised. The data were analyzed by mean ($\bar{x}$), simple (f) and relative (%) frequency for sociodemographic characterization. The information obtained through the instruments QLQ-C30 and IN-PATSAT32 were organized and analyzed as recommended by EORTC's manual and expressed as mean and standard deviation[15,16]. The Spearman's correlation coefficient was applied to analyze the relation between the domains and scores of the instruments with the Software Statistical Package for the Social Sciences (SPSS) version 20. Values of $p < 0.05$ were considered statistically significant. A mean ≥70 was considered satisfactory for general health and global QoL[17].

The Institutional Review Board (IRB) of "*Complexo Hospital de Clínicas da Universidade Federal do Paraná*" approved the study in compliance with ethical guidelines of Resolution 466/2012[18] of the National Health Council, report number 4,854,043 (CAAE (submission for ethical review): 48015521.4.0000.0096). EORTC approved the utilization of the instruments, and two copies of the Informed Consent Form were signed by the study participants.

RESULTS

One hundred and twenty patients diagnosed with cancer with mean age of 57 years old ranging from 18 and 88 years, mostly males (52%; n=62), who claimed they were married or in stable union (67%; n=80); 62% (n=74) completed university and 23% (n=27), high school. Regarding occupation, 52% (n=62) declared they were economically active with month income from US$ 766.65 to US$ 1,916.4, within the range of four to ten minimum wages in Brazil in 2022.

The global QoL was 58.54/100, a low figure in what concerns the HRQL measured by QLQ-C30. The lowest means of the functional scales were social function (44.17/100), personal performance (44.54/100) and emotional function (52.99/100). Fatigue (56.02/100), insomnia (52.22/100), loss of appetite (50/100) and pain (42.78/100) scored the highest rates in the scale of symptoms (Table 1).

The results of the instrument IN-PATSAT32 revealed that the general satisfaction was 87.92/100, indicating high level of satisfaction with hospital care. Medical and nursing team received the higher means of the scale of technical skills (86.67/100 and 89.44/100, in that order) and interpersonal skills (86.25/100 and 89.38/100, respectively). The lowest means were attributed to organizational and structural aspects of the respective scales, with emphasis in accessibility (63.85/100) and waiting time (78.96/100), indicating poor level of satisfaction (Table 2).

Table 1. Descriptive measures of the domains of QLQ-C30 of inpatients in treatment (n=120). Curitiba-PR, Brazil, 2022

	Scales	Mean (SD)
Global QoL	Global QoL	58.54 (24.69)
Functional Scale	Physical function	61.15 (30.57)
	Personal performance	44.54 (41.86)
	Emotional function	52.99 (32.69)
	Cognitive function	65.00 (33.50)
	Social function	44.17 (36.33)
Symptoms Scale	Fatigue	56.02 (34.46)
	Nausea and vomit	30.69 (31.61)
	Pain	42.78 (38.82)
	Dyspnea	25.00 (36.73)
	Insomnia	52.22 (41.61)
	Loss of appetite	50.00 (41.45)
	Constipation	35.00 (41.42)
	Diarrhea	24.44 (38.10)
	Financial issues	32.50 (38.75)

Caption: SD = standard deviation; QLQ-C30 = Quality of Life Questionnaire Core 30; QoL = quality of life; n = number of participants.

Statistical significance among all the items was found while correlating global QoL and the scales of the instrument IN-PATSAT32, suggesting that patients with better levels of satisfaction had high global QoL (Table 2).

DISCUSSION

The correlation between HRQL and satisfaction with hospital treatment can help the patient to identify the determinants of the general skills of the medical and nursing team, and organizational and structural aspects to best define the strategies for continuous improvement of medical care. Satisfaction with treatment has been acknowledged as a critical component to analyze the quality of care.

Cancer diagnosis can impact the activities of daily life of the patient and its family due to hospitalization and job discontinuation. The study population consists in younger older adults (61-70 years of age) mostly, similar to other Brazilian studies, for example, an investigation conducted at the oncology center of Alfenas, State of Minas Gerais where 60 years or older patients were the target-population and another study at a public oncology clinic in Belém, State of Pará where 67.4% of the patients were older adults[20]. Currently, younger older adults are still working, economically active and household providers and the disease may compromise the HRQL and potentialize treatment's side effects.

The characteristics of the family income are not consistent with the Brazilian profile[21] because nearly the entire sample investigated consists in private insured patients. Souza Junior et al.[22] revealed that as high the education level and income, high is the proportion of private insured individuals, reaching more than 80% of those earning more than five minimum wages. Age can contribute to more adherence to private health insurance as affirmed by the national entity of private insurers[23].

Hematological cancer was the most frequent, mostly after 50 years of age and high world incidence[2,24]. Usually this type of cancer requires aggressive treatment and is associated with significant side effects, high risk of death and high hospitalization rate *versus* other cancers[25]. A study conducted in Minas Gerais analyzed the impact of hematological cancer on the HRQL with the instrument QLQ-C30 concluding that the HRQL was affected in many domains, standing out social and emotional function and personal performance[17], similar to the present investigation. The analysis of HRQL showed that global QoL was low.

Patients affected by cancer may present a variety of physical and psychological symptoms that affect their daily lives and can be intensified by hospitalization[26] as anxiety and depression usually present since the diagnosis.

Even with scientific advances and favorable outcomes, with more odds of cure and increase of survival because of early diagnosis and effective treatment, it appears that cancer is associated with suffering and death, resulting in loss of emotional functionality. The difficulties to perform daily tasks favor the development of psychological alterations, specifically for being associated with fear patients have of dependence from family and caretakers[27].

Table 2. Spearman's correlation coefficient of satisfaction of IN-PATSAT32 and QLQ-30 global quality-of-life of inpatients in cancer treatment (n=120). Curitiba-PR, Brazil, 2022

	Scales and Items	Mean (SD)	Spearman	p*
Medical Team	Technical skills	89.44 (15.83)	0.2610	0.0040
	Interpersonal skills	89.38 (17.01)	0.3335	0.0002
	Information skills	85.35 (20.21)	0.2257	0.0132
	Availability	85.31 (21.54)	0.2696	0.0029
Nursing Team	Technical skills	86.67 (18.69)	0.2666	0.0032
	Interpersonal skills	86.25 (19.82)	0.3019	0.0008
	Information skills	78.43 (24.21)	0.2163	0.0186
	Availability	81.15 (22.51)	0.2835	0.0017
Organization and structural aspects	Team interaction	77.47 (23.97)	0.2789	0.0020
	Waiting time	78.96 (23.26)	0.2984	0.0009
	Accessibility	63.85 (25.46)	0.2160	0.0178
	Information exchange	79.20 (24.43)	0.3020	0.0008
	Comfort/cleaning	82.92 (23.37)	0.2760	0.0023
General satisfaction	General satisfaction	87.92 (17.45)	0.2588	0.0043

Captions: SD = standard-deviation; IN-PATSAT32 = Satisfaction with In-Patient Cancer Care32; QLQ-C30 = Quality of Life Questionnaire Core C30; n= number of participants
(*) $p < 0.05$

The results of social function and personal performance in the present study are similar to a cross-sectional study conducted by a philanthropic institution in the city of Recife, State of Pernambuco with 608 patients with cancer[28]. The authors emphasize the social function among the domains with lowest scores for participants in the age range of 65-74 years of age, the same age range of most of the study sample; the compromise of the social function, personal performance and emotional function was possibly related to the COVID-19 pandemic due to social distancing for the population with cancer *versus* the general population because of their immunosuppression condition. Hospital visitation was restricted or banned to inpatients, reinforcing the impact on social and labor relations causing additional concerns.

Social relations are part of the basic human needs and are grounded in bonds and affection[29], potentially compromised due to COVID-19 social distancing to prevent virus spread[29,30]. A study conducted in Austria[31] concluded that due to COVID-19 restrictions, nearly half of the participants in oncologic treatment reported problems and consequences negatively affecting their daily lives, the most frequent affecting social well-being were job loss, organizing child care at home and sense of isolation missing contact with family and friends due to social distancing.

Fatigue, insomnia, loss of appetite and pain had the highest scores in the scale of symptoms, similar to other studies conducted in Brazil[6,17] with the same profile of participants with compromise of these symptoms. Results of this and other studies[19,32,33] suggest that the symptoms are related among themselves, the presence of one can trigger the appearance of another, leading to decline of HRQL.

The application of IN-PATSAT32 in the study sample revealed high means of general satisfaction with hospital treatment, similar to a Brazilian study conducted with oncologic patients in clinical and surgical treatment in an institution of Rio de Janeiro, Brazil[3], unlike the low level of general satisfaction of a study conducted in the cities of Rabat and Casablanca in North Africa[11].

A cross-sectional study[10] presented determinant factors for better satisfaction of the patient and revealed that as best the overall health condition and HRQL of the patient with cancer, better is the general satisfaction. In addition, concluded that satisfaction with hospital treatment can impact the adherence to the therapeutic regimen, frequency of medical consultations, contributing to the progress of the treatment.

The study sample was satisfied with the medical team, expressed in higher means of technical, interpersonal, information providing and availability skills according to the IN-PATSAT32. These data are consistent with a study conducted by INCA in Rio de Janeiro-RJ, which also found high level of satisfaction with the medical team[3]. However, the data differ from a study conducted in Sanok, Polland[34], with higher means of the scales evaluating the same aspects for the nursing team.

The technical skills of the medical team reached the highest scores of satisfaction evaluated by IN-PATSAT32, although the patients are poorly knowledgeable in that concern, suggestive of the existence of other important factors during the treatment, empathy and relation patient-team, for instance[35]. Ratifying these findings, a review study[36] revealed that medical and technical skills based in humanized care are an effective and promising strategy to cope with cancer since diagnosis.

Most of the study's participants were already in outpatient treatment with the same medical team who diagnosed them, facilitating the construction of bonds. Apparently, this is critical to develop a reliable relation with the patient and the family, contributing for improved satisfaction.

Technical and interpersonal skills had the highest rates of the scales which evaluated the nursing team. Further to the satisfaction with the therapeutic conduct, minimizing the negative impact on HRQL of these patients while in treatment should be pondered to promote a humanized care potentially benefitting safety and treatment adherence[37].

Empathy, emotional support and comfort are among the interpersonal skills evaluated by the scale as these are essential variables of a patient-centered care within the therapeutic itinerary to establish a reliable patient-health professional bond. A review[38] concluded that the construction of a bond among the hospital team, patient and family is an important factor of humanized care to make the patient a key component of its own treatment, with low impact on HRQL and better satisfaction with the team.

The availability of the nursing team can minimize the errors in providing care and risks of side effects due to their absence. A cross-sectional study conducted in the United Kingdom[39], with 66,348 patients and 2,963 nurses in a hospital revealed that the availability of the nursing team was compromised by work overload and provoked lack of care such as pain management, prevention of pressure injury and elaboration of patient-centered plan. Several Brazilian studies[40,41] showed that work overload was considered one of the fragilities of the nursing team, directly impacting the patient's safety, increasing poor care and number of avoidable side effects.

The application of IN-PATSAT32 to evaluate the general skills of the nursing team revealed low means

of information provision, similar to the results of the validation of the instrument in Morocco, with lower means than the present investigation[11]. The authors affirmed that the nursing team is not fully aware of the conducts and treatment that only the medical team knows, and the patient does not receive accurate information. However, a study in Polland found different results, the information provision by the nursing team achieved the third higher mean in the scales of IN-PATSAT32[34].

The results of waiting time and accessibility stand out within the hospital structure. Almeida and Góis[42] analyzed the factors related to low levels of satisfaction and the impact on the quality of health services and concluded that overcrowding and delay in hospital admission caused this outcome.

The results of the present study are similar to a study conducted in Morocco[11] which found low means of accessibility because the patients did not live in the city where the treatment was conducted.

The level of satisfaction may be affected by the easy or difficult journey to the hospital and find the different medical specialties in the hospital. Given that the hospital environment is unknown and new for the patient with cancer, the nursing team and the institution should offer an inclusive and accessible environment with appropriate structures and visual signs for temporarily impaired patients due to the pathology[43]. Minimize accessibility problems that may affect the quality of care is beneficial to the patient[38].

CONCLUSION

Regardless of therapeutic advances boosting life expectancy of patients with cancer, little is known about HRQL and its connection with hospital satisfaction. This study found important changes on the HRQL of patients with high compromise of the social and emotional function and personal performance, resulting in low HRQL of the participants. On the other hand, the level of hospital satisfaction was high.

The result of the correlation between global QoL and satisfaction with hospital treatment indicates that the higher the level of satisfaction with hospital treatment, higher is the global QoL of the participants.

The COVID-19 world health emergency may have potentialized the negative impact on HRQL mainly in the domains of social relations and emotional well-being, which is a limitation of the study. Furthermore, the pandemic may have collaborated for low scores related to the availability of the health team due to excess of occupation of hospitals beds, a possible bias of agility and availability of the nursing team the patient has perceived.

The possibility of incorporating health indicators as HRQL measurement and satisfaction with hospital treatment stand out as contributions of the study. These tools favor the identification of determinants related to life conjuncture and providing of care, both equally important in the perspective of these patients. Consequently, it is possible to focus the intervention that benefits high HRQL and satisfaction with hospital treatment.

CONTRIBUTIONS

All the authors contributed substantially to the study design, analysis and/or interpretation of the data, wording and/or critical review and approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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