Quality of life in hematologic oncology patients undergoing chemotherapy

QUALIDADE DE VIDA DE PACIENTES COM CÂNCER HEMATOLÓGICO EM TRATAMENTO QUIMIOTERÁPICO

CALIDAD DE VIDA DE PACIENTES CON CÁNCER HEMATOLÓGICO EN TRATAMIENTO QUIMIOTERÁPICO

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ABSTRACT

This descriptive and cross-sectional study aimed to examine the socio-demographic/clinical aspects of health-related quality of life (HRQoL) and assess the HRQoL of onco-hematological patients undergoing chemotherapy. The data collection instrument was a socio-demographic/clinical questionnaire, the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC) QLQ-C-30. The sample consisted of 32 patients, eight of whom (25%) were diagnosed with Hodgkin's lymphoma; nine (28.12%), with non-Hodgkin's lymphoma; and 15 (46.87%), with leukemia. The data were analyzed using SPSS software. For the functional scales of the QLQ-C-30 (physical, cognitive, emotional, social and role performance), the mean scores ranged from 54.81 to 41.18, demonstrating an unsatisfactory level of functioning. In the symptom scales, there was a predominance of fatigue (64.57), insomnia (56.90) and loss of appetite (50.71). These symptoms interfered with the patients' physical functioning, demonstrating that the emotional and cognitive side effects of the treatment negatively influenced the HRQoL of the patients

DESCRIPTORS

Oncologic nursing
Hematologic neoplasms
Drug therapy
Quality of life

RESUMO

Estudo descritivo, transversal desenvolvido com objetivo de associar aspectos socio demográficos e clínicos aos domínios de qualidade de vida relacionada à saúde (QVRS), para avaliar pacientes onco-hematológicos submetidos à quimioterapia. Na coleta de dados utilizou-se um instrumento sociodemográfico e clínico e o European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC) QLQ-C-30. A amostra foi constituída de 32 pacientes, sendo oito (25%) com diagnóstico de linfoma de Hodgkin, nove (28,12%) linfoma não Hodgkin e 15 (46,87%) leucemia. Os dados foram analisados pelo software Statistical Package for Social Science (SPSS). O QLQ-C-30 mostrou média das funções física, cognitiva, emocional, social e desempenho de papel de 54,81 a 41,18, demonstrando um nível pouco satisfatório. Nas escalas de sintomas, houve predomínio de fadiga média 64,57 seguida de insônia (56,90) e perda de apetite (50,71). Esses sintomas interferiram nas funções físicas, emocionais e cognitivas demonstrando que efeitos colaterais do tratamento influenciam negativamente na QVRS dos pacientes.

DESCRITORES

Enfermagem oncológica
Neoplasias hematológicas
Quimioterapia
Qualidade de vida

RESUMEN

Estudio descriptivo, transversal, objetivando asociar aspectos sociodemográficos y clínicos a dominios de calidad de vida relacionada a la salud (QVRS), para evaluar pacientes oncohematológicos sometidos a quimioterapia. Datos recolectados mediante instrumento sociodemográfico-clínico y European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC) QLQ-C-30. Muestra de 32 pacientes, ocho de ellos (25%) con diagnóstico de linfoma de Hodgkin, nueve (28,12%) con linfoma no Hodgkin y 15 (46,87%) con leucemia. Los datos se analizaron con software Statistical Package for Social Science (SPSS). El QLQ-C-30 expresó promedio de funciones física, cognitiva, emocional, social y desempeño de papel de 54,81 a 41,18, mostrando nivel poco satisfactorio. En las escalas de síntomas hubo predominio de fatiga promedio 64,57, seguida de insomnio (56,90) y pérdida del apetito (50,71). Tales síntomas interfirieron en las funciones físicas, emocionales y cognitivas, demostrando que los efectos colaterales del tratamiento influyen negativamente en la QVRS del paciente.

DESCRIPTORES

Enfermería oncológica
Neoplasias hematológicas
Quimioterapia
Calidad de vida

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INTRODUCTION

Data from the Population Database of the National Cancer Institute (INCA) indicate that cancer is a great public health problem in Brazil. In Brazil, for the year 2012/2013, there were an estimated 385 thousand new cases of cancer, excluding cases of non-melanoma skin cancer, reinforcing the magnitude of this health problem(1).

In Brazil, there were a total of 257,870 cases of cancer in males and 260,640 cases of cancer in females in 2012. Of these, there were 5,190 are cases of non-Hodgkin's lymphoma in men and 4,450 in women, which corresponds to an estimated risk of five new cases per 100 thousand men and four new cases per 100 thousand women. There have been an estimated 4,570 cases of leukemia in men and 3,940 in women, which corresponds to an estimated risk of five new cases per 100 thousand men and four new cases per 100 thousand women. Throughout the world, there are 257 thousand new cases of leukemia each year, with approximately 56% involving men. The highest incidence rates of leukemia are found in North America, Australia and New Zealand, whereas the lowest rates are found in sub-Saharan Africa(1).

The cumulative average survival rate over five years for cases of leukemia is approximately 45% in developed countries. These rates are up to three times higher than those observed in developing countries. In cases of non-Hodgkin's lymphoma, the average survival varies depending on the cell type and disease stage at the moment of diagnosis. In developed regions, the cumulative average survival rate over five years is approximately 53%. In the less developed regions, the survival rate is 50%(1).

From 2009 to 2013, the National Coalition for Cancer Survivorship (NCCS) proposed in the literature a new conceptual model for individuals diagnosed with cancer, the *cancer survivors*, in which survival is the period from the diagnosis confirmation through the treatment stages and continues until an equilibrium of life or death occurs(2).

Among the hematological cancers, leukemia is a malignant disease of the white blood cells with its main characteristic being the accumulation of abnormal blast cells in the bone marrow, damaging the replacement of normal blood cells or hindering the production of red blood cells (causing anemia), white blood cells (causing infections) and platelets (causing bleeding)(3).

Hodgkin's lymphoma is a form of cancer that originates in the nodes of the lymphatic system, which consists of organs and tissues that produce the cells responsible for immunity and the vessels that carry these cells throughout the body. There are more than 20 different types of non-Hodgkin's lymphoma(3).

The therapeutic modalities for cancer are locoregional therapy (surgery and radiotherapy), systemic therapy (chemotherapy, hormone therapy and immunotherapy) and/or rehabilitation (physical and psychological). The purpose of therapy is to decrease the possibility of local and distant recurrence by acting on neoplastic circulating cells as well as micro-metastases and metastases that have been detected in order to increase the cure and survival rates and improve quality of life(4).

Chemotherapy, which entails the use of chemical substances alone or in combination with the aim of treating the malignant neoplasm, is one of the main therapies for hematologic cancers. Chemotherapy drugs act systemically at the cellular level, specifically in cells undergoing cell division, interfering with their growth and division. Chemotherapy has been highly effective in curing leukemia and for the early treatment of non-detectable metastases(4).

The adverse effects of chemotherapy involve non-hematological toxicities, including gastrointestinal, pulmonary, cardiac, hepatic, neurological, renal, vesical and skin toxicities; reproductive disorders; metabolic alteration; allergic reactions; fatigue; and hematological toxicities, including leukopenia, anemia, thrombocytopenia and febrile neutropenia(4). Thus, health professionals should be prepared to identify the various disorders, such as the effects of chemotherapy, that individuals experience during cancer survival and to offer treatment options to obtain an improved quality of life.

The evaluation of the quality of life in oncology began in 1940, with a study that developed a scale to evaluate the physical functioning of patients(5). Quality of life is a broad and controversial concept, for which, until now, there has been no single definition that is universally accepted. Health-related quality of life (HRQoL) has been used as a synonym for an individual's perceived health status, with the main objective of evaluating when a disease or chronic condition and its symptoms begin to interfere with the daily life of an individual(5). Measurement of HRQoL has been widely used to evaluate clinical trials with chemotherapy, with the purpose of measuring the side effects induced by chemotherapy. HRQoL has been one of the best ways to evaluate a patient's tolerance to the side effects of the toxicity on tumor cells and the positive and negative impacts on the quality of life of the patients undergoing chemotherapy(6).

Measurement of health-related quality of life has been widely used to evaluate clinical trials with chemotherapy, with the purpose of measuring the side effects induced by chemotherapy. HRQoL has been one of the best ways to evaluate a patient's tolerance to the side effects of the toxicity on tumor cells and the positive and negative impacts on the quality of life of the patients undergoing chemotherapy.

Given the above, the present study aimed to characterize the subjects of the study regarding sociodemographic and clinical aspects to associate them with the domains of HRQoL and evaluate the HRQoL of patients with blood cancer undergoing chemotherapy.

METHODS

This exploratory study has an observational-descriptive design and is cross-sectional. It was performed at the Center for Chemotherapy (CC) of the Clinical Hospital of the Federal University of Triangulo Mineiro (HC/UFTM). The data collection occurred after the project was approved by the Ethics Committee on Human Research of UFTM (protocol nº 1357), and 32 oncologic patients of the specialized Hematology in chemotherapy treatment assisted by SUS signed the free and informed consent form from December 2009 to December 2010.

The data were collected by researchers on the return days of the onco-hematology patients in the referred unit to guarantee the uniformity and accuracy of the information. The inclusion criteria were being in chemotherapy treatment during the mentioned period and being older than 18 years old. The exclusion criteria were refusal to participate in the study and non-attendance of the chemotherapy center after three attempts. During the study period, there were 63 patients with blood cancer, and of these, according to the information collected in the chemotherapy center, 43 were undergoing chemotherapy treatment.

To obtain the data, two instruments were applied during the interview. A sociodemographic and clinical questionnaire was used to obtain the social demographic and clinical characteristics of the subjects (age, gender, income, marital status, employment status, type of cancer, treatment adopted and symptomatology), which were submitted to apparent and content validation by an panel of experts consisting of three specialists who evaluated the questionnaire regarding the manner of presentation, adequacy of the items and appropriateness for the proposed objectives. The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire *Core* 30 items (EORTC-QLQ-C30) was used to evaluate the aspects of HRQoL.

The EORTC-QLQ-C30 includes five functional scales: physical, cognitive, emotional, social and role performance. It also considers three symptom scales (fatigue, pain, and nausea and vomiting), a range of quality of life and general health aspects and six other items that evaluate symptoms commonly reported by cancer patients (dyspnea, lack of appetite/anorexia, insomnia, constipation, diarrhea, and financial impact of the treatment and the disease). The responses are based on the week preceding the interview(7). In the study(8), the QLQ-C30 was validated for Brazilian culture, and the internal consistency in this study was 0.86, which is considered reliable.

For the QLQ-C30, scores closer to 100 on the general health status/QOL scale and functional scales indicate better status and functioning. For the symptom scales and financial difficulties, values closer to 100 indicate a greater presence symptoms and difficulties(7).

SPSS 13.0 was used for the data analysis. A descriptive analysis of the data with absolute frequencies and percentages was conducted. To test the reliability of the instruments, internal consistency was tested using Cronbach's alpha (α). To verify the association the sociodemographic and clinical data with the scores on the EORTC-QLQ-C30, an ANOVA was applied. A p value <0.05 was considered statistically significant.

RESULTS

Of the 32 patients, 43.75% were female, and 56.25% were male. The following characteristics were predominant: age older than 60 years, retired, married, income between one and two minimum wages and elementary school (Table 1).

Table 1 – Sociodemographic characteristics - Uberaba, MG, 2010

Sociodemographic characteristics	Nº of subjects	Frequency(%)
GENDER		
Female	14	43.75
Male	18	56.25
AGE		
20 to 30 years old	05	15.62
40 to 59 years old	08	25
More than 60 years old	18	56.25
EMPLOYMENT		
Retired	15	46.87
Full Time	07	21.87
Part Time	10	31.25
INCOME		
Up to 1 minimum wage	01	3.12
1 to 2 minimum wages	11	34.37
2 to 4 minimum wages	16	50
More than 4 minimum wages	04	12.5
SCHOLARITY		
Not literate	03	9.37
Incomplete elementary school	16	50
Complete elementary school	05	15.62
Incomplete high school	05	15.62
Complete high school	03	9.37
MARITAL		
Married	19	59.37
Single	08	25
Divorced	04	12.5
Widower	01	3.12

Regarding the type of blood cancer, there was a predominance of patients diagnosed with leukemia and patients who began chemotherapy treatment more than five months ago. Regarding the side effects of chemotherapy, there was a predominance of weakness and insomnia, followed by tiredness, mouth ulcers and pain or discomfort (Table 2).

Table 2 – Clinical characteristics - Uberaba, MG, 2010

Clinical characteristics	Nº of subjects	Frequency(%)
Blood cancer type		
Hodgkin's lymphomas	08	25
Non-Hodgkin's lymphomas	09	28.12
Leukemia	15	46.87
Beginning of the treatment		
1 month	04	12.5
2 to 3 months	06	18.75
4 to 5 months	01	3.12
More than 5 months	21	65.62
Symptoms		
Fever and vomiting	07	21.87
Nausea	20	62.5
Diarrhea	12	37.5
Dry mouth	10	31.25
Low self-esteem	19	59.37
Physical effects of other diseases	14	43.75
Fatigue	12	37.5
Mouth ulcer	21	65.62
Pain or discomfort	19	59.37
Insomnia and weakness	24	75
Tiredness	23	71.87

Table 3 shows the averages and standard deviations of the scores on the QLQ-C30. The average score for general health status/QOL was 82.38, illustrating that these patients consider their quality of life to be very good. With respect to physical, cognitive, and social functioning and role performance, the averages ranged from 54.81 to 41.18, showing an unsatisfactory level. For emotional functioning, the average was low (41.18%), indicating that such patients are nervous, depressed, worried and angry: 25 (78.12%) reported worrying with their family and friends, 22 (68.75%) feared the side effects of the treatment and 21 (65.62%) reported worrying about their health status and decisions to be made regarding their treatment.

Table 3 – Averages and standard deviations of score for the scales of the QLQ-C30 - Uberaba, MG, 2010

Scale	Average	Standard deviation
General Health Status (GHS/QOL)	82.38	16.28
Physical Functioning (PF)	54.81	23.60
Role performance (RP)	51.40	24.55
Emotional functioning (EF)	41.18	17.75
Cognitive functioning (CF)	47.15	29.71
Social functioning (SF)	53.00	27.36
Fatigue (FAD)	64.57	25.77
Nausea and vomit (NAV)	35.93	31.13
Dyspnea (DYS)	45.30	22.88
Pain	18.59	29.05
Insomnia (INS)	56.90	30.76
Loss of Appetite (LAP)	50.71	33.79
Constipation (CON)	14.46	25.16
Diarrhea (DIA)	27.96	36.89
Financial difficulties (FDI)	51.68	27.94

With respect to the symptom scales, there was a predominance of fatigue with an average of 64.57, followed by insomnia at 56.90, loss of appetite at 50.71, dyspnea at 45.30, nausea and vomiting at 35.93, diarrhea at 27.96, pain at 18.59, and constipation at 14.46. These symptoms can be inferred to have interfered with the physical, emotional and cognitive functioning of the patients.

Regarding financial difficulties, the average score was 51.68, demonstrating that although the SUS service provides full coverage, chemotherapy is a complex and costly treatment that often results in the head of household having to stop work, thereby bringing some financial concerns.

Table 4 – Pearson's correlation between the scores for the functional and symptom scales of the EORTC-QLQ-C30, Uberaba, MG, 2010

	Fatigue **(FAD)**	Pain	Dyspnea **(DIA)**	Insomnia **(INS)**	Loss of appetite **(LAP)**
Global Health Scale **(GHS)**	-0.138	-0.133	-0.029	-0.016	-0.400*
Physical functioning **(PF)**	-0.606**	-0.221	-0.415*	-0.505**	-0.190
Role performance **(RP)**	-0.719**	-0.469**	-0.324	-0.128	-0.301
Emotional functioning **(EF)**	-0.026	-0.151	0.081	-0.375*	-0.229
Cognitive functioning **(CF)**	-0.494**	-0.378*	-0.464**	-0.348	-0.283
Social functioning**(SF)**	-0.330	-0.351*	-0.041	-0.226	0.071

*p < 0.05; ** p < 0.001

Table 4 shows the Pearson correlation between the scores for the functional and symptom scales. Fatigue showed a highly significant correlation with physical functioning, role performance and cognitive functioning. The presence of pain was correlated with role performance and cognitive and social functioning. The presence of dyspnea was correlated with cognitive and physical functioning. Insomnia was correlated with physical and emotional functioning. Loss of appetite was the only symptom that showed a significant correlation with general health status.

To verify whether the sociodemographic and clinical variables interacted with the domains of the EORTC-QLQ-C30, an ANOVA was applied, with $p < 0.05$ as the level of significance. The results are shown in Table 5.

Table 5 – Averages, standard deviations and statistical significance of the QLQ-C30 and sociodemographic and clinical data - Uberaba, MG, 2010

Scale	Sociodemographic variable	Average	Standard deviation	P value
(NAV) Nausea and Vomit	Beginning of the treatment			
	1-2 months	36,11	38,61	0,032*
	4-5 months	44,44	27,04	
(LAP) Loss of Appetite	Beginning of the treatment			
	1-2 months	49,83	40,90	0,039*
	4-5 months	59,90	27,14	
(FDI) Financial difficulties	Income			
	2-3 minimum wages	60,09	20,09	0,044*
	3-4 minimum wages	53,81	29,51	
(SF) Social Functioning	Educational Level			
	Incomplete elementary school	23,80	15,20	0,009**
	Complete high school	67,00	33,00	

*p < 0.05; ** p < 0.001

Table 5 shows significant differences, at p <0.05, in scores on the nausea and vomiting (NAV) and loss of appetite (LAP) scales between patients beginning of treatment early compared with patients beginning treatment later, namely, patients with more than five months of treatment scored higher on the NAV and LAP scales. Regarding the sociodemographic data related to educational level, there was a highly significant difference, at p <0.001, in scores on the social functioning scale (SF), with patients with an elementary school education scoring lower than patients with a high school education.

Regarding the sociodemographic data related to income, there were significant differences, at p <0.05, in the scores on the financial difficulty (FDI) scale, with higher scores for patients with lower income.

DISCUSSION

With the increasing sophistication of chemotherapy regimens, chemotherapy has significantly improved survival rates for cancer. However, because of the side effects of the treatments and the symptoms associated with cancer, these patients may experience diminished HRQoL.

Few experiments have been published regarding HRQoL in patients with blood cancer. Highlighting the changes in the HRQoL domains for the scientific community, however, would facilitate the proper handling of these signs and symptoms to improve patient functioning and thus increase the acceptance of chemotherapy.

A limitation of this study is the small number of subjects, but the results are in agreement with the literature, demonstrating the importance of such studies that identify the influence of the effects of chemotherapy on the HRQoL of cancer patients. Understanding these implications helps nurses plan the services aimed at reducing these symptoms and the strategies to improve the HRQoL of these patients. The selection of the quality of life instrument is also important, which must be performed very carefully; these instruments have been demonstrated to be sensitive for the evaluation of the HRQoL of onco-hematological patients undergoing chemotherapy.

According to a study(9), Hodgkin's lymphoma (HL) mainly affects young adults between 15 and 39 years old, with a male predominance (gender ratio of men: women = 1.4:1.0). Our data corroborate the male predominance in HL. However, regarding age, eight of the patients in this study (25%) with a diagnosis of Hodgkin's lymphoma were 21 to 69 years old, with only two (8%) between 20 and 25 years old.

According to statistics of the INCA(1), cancer occurs predominantly in the age group older than 40 years with low educational levels and a low monthly income. Such epidemiological aspects were also found in this study, in which 26 of the patients (81.25%) were older than 40 years, 19 (59.37%) were from the surrounding regions of Uberaba and 24 (75%) had a low level of education and a monthly income of 1-2 minimum wages.

The results of a study(7) that evaluated the impact of nausea and vomiting on quality of life in patients undergoing chemotherapy showed that the symptoms of fatigue, nausea and vomiting had the greatest impact on the HRQoL of patients undergoing chemotherapy. In this study, there were eight of the patients in this study significant differences in symptoms of nausea and vomiting between patients beginning of treatment early compared with patients beginning treatment later, i.e., such symptoms were more frequently found in patients who had begun chemotherapy after four months.

A study performed in the clinic of the Association Against Cancer of Central Brazil(10) highlighted that the fatigue related to cancer is a clinical problem that requires a complex, multifactorial and multidimensional approach. Until then, there was no standard method to measure fatigue related to cancer, making it difficult to determine how to compare the results already found in studies. In this study, fatigue had a relatively high average of 64.57.

Fatigue is one of the most common symptoms mentioned by survivors of Hodgkin's lymphoma, in which 30% reported symptoms consistent with chronic fatigue compared with 12% of the general population(11). In recent years, studies conducted in Norway(12) and at the Dana-Farber Cancer Institute(13) used a variety of research instruments that have reaffirmed that quality of life, fatigue, or both are worse in the survivors of Hodgkin's lymphoma. In the Norwegian cohort study, approximately half of the subjects were evaluated eight years beforehand(12). Subjects who had chronic fatigue at the beginning of treatment continued to experience fatigue more frequently than those with other types of hematological cancer. The results of this study support the findings of previous studies, which have also reported that patients diagnosed with Hodgkin's lymphoma undergoing chemotherapy experienced fatigue.

Fatigue is a multifactorial phenomenon that it common in cancer patients, and it is difficult to treat(14). Fatigue results from radiotherapy, chemotherapy and daily activities. The fatigue associated with chemotherapy depends on neurotoxicity, encephalopathy, drug effects on hormones, low magnesium, and other factors. In our study, fatigue showed a significant relationship with the functional scales of role performance and physical and cognitive functioning.

Fatigue is defined as an unpleasant physical sensation with cognitive and emotional symptoms, described as tiredness that is not relieved with the use of common strategies for restoring energy(15). Considering this definition, we can infer that fatigue is related to cognitive and emotional functioning, as in this study fatigue was the most common symptom and the domains of cognitive and emotional functioning had the lowest averages.

A predominant complaint of the 32 subjects was related to sleep disorders, given that insomnia had a relatively high score with a mean of 56.7. Chemotherapeutic agents have previously been associate with sleep disorders, but the direct or indirect effects of these agents in causing sleep disorders are unknown(16-17).

The results of a pilot study(18) indicated that the quality of life of patients with acute leukemia and highly malignant lymphoma at the start of the treatment was severely reduced, principally by changes in role performance (44.7), social functioning (51.0) and global quality of life (54.2) and by the presence of symptoms such as fatigue (47.9), dyspnea (25.0) and sleep disturbance (25.0). In our study, the presence of pain (18.59) correlated with role performance (51.4), cognitive functioning (47.15) and social functioning (53.0). Dyspnea (45.3) presented a correlation with physical and cognitive functioning. Insomnia/sleep disorders (56.9) correlated with physical and emotional functioning.

In the literature, there are significant differences between groups of patients who underwent bone marrow transplants and those who did not in terms of emotional functioning (P = 0.001) and experiencing sleep disorders, pain, and constipation (P = 0.001)(19). Cognitive functioning was significantly better in the non-transplanted individuals (P = 0.001). In our study, pain was correlated with role performance (P = -0.469), cognitive functioning (P = -0.378) and social functioning (P = -0.351), whereas insomnia was correlated with physical (P = -0.505) and emotional (P = -0.375) functioning.

In this study, when asked about their concerns, 25 (78.12%) of the subjects reported worrying about their family and friends. Studies conducted in clinical hospitals specializing in the diagnosis and treatment of cancer indicate that cancer is the most feared by patients, family members and their closest friends. As a result, in most cases, patients experience negative feelings such as fear of the diagnosis and the treatment side effects, uncertainty about the prognosis and fear of suffering pain and possibly dying(14).

With respect to the concerns raised by the studied sample, 22 (68.75%) of the respondents feared the side effects of the treatment, and 21 (65.62%) reported worrying about their health and the decisions to be made about their treatment. Such responses highlight the influence of these concerns in the low averages shown in the domains of emotional functioning (41.18) and role performance (51.40), corroborating other research that emphasized the importance of considering the domains of physical and psychological well-being, general well-being, and social and religious aspects when assessing the HRQoL of cancer patients(20).

A study conducted at the University of Oxford(16) found significant associations among anxiety, stress, depression and low scores in the domains of cognitive functioning (CF) and emotional functioning (EF). The results presented in our study support such a relationship, as these domains also presented low scores.

A prospective study on quality of life showed the presence of impairments in functional roles in the face of the ability and presence of anxiety, even with eight of the patients in this study visible symptoms, and 80% of the respondents considered their quality of life to be good or excellent(21). The data presented in this study also showed that despite the low scores for physical, emotional and cognitive functioning, the patients had high scores for general health status/quality of life, with an average of 82.38.

CONCLUSION

This study evaluated the HRQoL of patients with blood cancers undergoing chemotherapy. In recent years, numerous studies have addressed HRQoL in oncology, and such studies have actually become essential, as one cannot think about prolonging a patient's survival without preserving his or her quality of life.

Evaluating the HRQoL of onco-hematology patients is difficult due to the characteristics of subjectivity and multidimensionality, and there is no criterion standard. Therefore, using valid and reliable instruments is necessary.

The obtained data showed that the symptoms that most affected HRQoL were nausea and vomiting, insomnia, weakness, pain or discomfort and that the most affected domains were emotional and cognitive functioning.

By linking the sociodemographic and clinical data with the HRQoL domains, significant differences in symptoms of nausea and vomiting and loss of appetite were found between patients beginning of treatment early compared with patients beginning treatment later; in social functioning between patients of different educational levels; and in financial difficulties between patients of different income levels.

In this context, the results of this study will contribute to the nursing care of onco-hematology patients under chemotherapy once the key symptoms have been identified and related to the domains of HRQoL in these patients. Multidisciplinary action is important to alleviate these symptoms and plan the process to rehabilitate these patients.

To provide quality assistance to this category of patients, the multidisciplinary health care team needs to demonstrate knowledge about the biological and physiological dimensions of the disease, the type of treatment and its impact on the lives of the patients and their families. Thus, the multidisciplinary health care team is responsible for detecting, intervening and evaluating the signs and symptoms of the disease and of the treatment effects in the patients seeking a better quality of life related to health.

REFERENCES

1. Brasil. Ministério da Saúde; Instituto Nacional de Câncer. Estimativas 2012: incidência de câncer no Brasil [Internet]. Rio de Janeiro; 2010 [citado 2011 dez. 14]. Disponível em: http://www.inca.gov.br/estimativa/2012/estimativa20122111.pdf
2. Fisher PT. Survivorship. Clin J Oncol Nurs. 2006;10(1):93-8.
3. Brasil. Ministério da Saúde; Instituto Nacional do Câncer. Tipos de câncer [Internet]. Rio de Janeiro; 2010 [citado 2009 out. 10]. Disponível em: http://www2.inca.gov.br/wps/wcm/connect/tiposdecancer/site/home/leucemia
4. Bonassa EMA. Enfermagem em terapêutica oncológica. 3ª ed. São Paulo: Atheneu; 2005. p. 538-40.
5. Karnofsky DA, Abelmann WH, Craver LF, Burchenall JF. The use of nitrogen mustard in the palliative treatment of cancer with particular reference to bronchogenic carcinoma. Cancer. 1948;1(4):634-56.
6. Sawada NO, Nicolussi AC, Okino L, Cardoszo FMC, Zago MMF. Quality of life evaluation in cancer patients to submitted to chemotherapy. Rev Esc Enferm USP [Internet]. 2009 [cited 2011 Dec 14];43(3)581-87. Available from: http://www.scielo.br/pdf/reeusp/v43n3/en_a12v43n3.pdf
7. Polit DF, Beck CT, Hungler BP. Fundamentos de pesquisa em enfermagem: métodos, avaliação e utilização. 5ª ed. Porto Alegre: Artes Médicas; 2004.
8. Brabo EP, Paschoal MEM, Biasoli I, Nogueira FE, Gomes MCB, Gomes IP, et al. Brazilian version of the QLQ-LC13 lung cancer module of the European Organization for Research and Treatment of Cancer: preliminary reliability and validity report. Qual Life Res. 2006;15(9):1519-24.
9. Ballatori E, Roila F. Impact of nausea and vomiting on quality of life in cancer patients during chemotherapy. Health Qual Life Outcomes; 2003;1:46.
10. Vena C, Parker K, Cunningham M, Clarck J, McMillan S. Sleep-wake disturbances in people with cancer part II: evaluating the evidence for clinical decision making. Oncol Nurs Forum. 2004;31(4):747-67.
11. Loge JH, Abrahamsen AF, Ekeberg O, Kaasa S. Hodgkin's disease survivors more fatigued than the general population. J Clin Oncol. 1999;17(1):253-61.
12. Hjermstad MJ, Fossa SD, Oldervoll L, Holte H, Jacobsen AB, Loge JH. Fatigue in long-term Hodgkin's disease survivors: a follow-up study. J Clin Oncol 2005;23(27):6587-95.
13. Ng AK, Li S, Recklitis C, Neuberg D, Chakrabarti S, Silver B, et al. A comparison between long-term survivors of Hodgkin's disease and their siblings on fatigue level and factors predicting for increased fatigue. Ann Oncol. 2005;16(12):1949-55.
14. Understanding and treating cancer-related fatigue. J Support Oncol. 2006;4(2):72.
15. Mota DDCF, Cruz DALM, Pimenta CAM. Fadiga: uma análise do conceito. Acta Paul Enferm. 2005;18(3):285-93.
16. Lezak MD, Howieson DB, Loring DW. Neuropsychological assessment. New York: Oxford University Press; 2004.
17. Barichello E, Sawada NO, Sonobe HM, Zago MMF. Quality of sleep in postoperative surgical oncologic patients. Rev Latino Am Enferm. 2009;17(4):481-8.
18. Persson L, Larsson G, Ohlsson O, Hallberg IR. Acute leukaemia or highly malignant lymphoma patient's quality of life over two years: a pilot study. Eur J Cancer Care (Engl). 2001;10(1):36-47.
19. Hjermstad MJ, Evensen SA, Kvaløy SO, Fayers PM, Kaasa S. Health-related quality of life 1 year after allogeneic or autologous stem-cell transplantation: a prospective study. J Clin Oncol. 1999;17(2):706-18.
20. Monga U, Kerrigan AJ, Thornby J, Monga TN, Zimmermann KP. Longitudinal study of quality of life in patients with localized prostate cancer undergoing radiotherapy. J Rehabil Res Dev. 2005;42(3):391-9.
21. Hjermstad MJ, Knobel H, Brinch L, Fayers PM, Loge JH, Holte H, et al. A prospective study of health-related quality of life, fatigue, anxiety and depression 3-5 years after stem cell transplantation. Bone Marrow Transplant. 2004;34(3):257-66.

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