Assessment of the level of distress in cancer patients treated at a chemotherapy outpatient clinic

Evaluación del nivel de angustia en pacientes con cáncer tratados en una consulta externa de quimioterapia

Avaliação do nível de distress em pacientes oncológicos atendidos em um ambulatório de quimioterapia

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Abstract

The aim of this study was to describe the socio-economic, occupational and clinical characteristics of cancer patients undergoing outpatient chemotherapy treatment and to assess the level of distress during chemotherapy treatment, using the Distress Thermometer instrument. This was a descriptive, cross-sectional study with a quantitative approach, developed at the chemotherapy outpatient clinic of a University Hospital, with 30 cancer patients. The Distress Thermometer instrument was used, and the data were analyzed using Software R (4.0.0). As a result, it was identified that the majority were men, average age of 59.5 years, married, employed and monthly income between 1 and 5 minimum wages. The result of the Distress Thermometer observed a high degree of suffering (>4), with a mean of 6.3 and standard deviation of 2.54. Associations between explanatory variables and outcome were not statistically significant. It was concluded that the instrument evaluated the level of distress of patients, being an important tool in nursing consultations in chemotherapy, favoring the perception and monitoring of stressors.

Descriptors: Psychological Stress; Oncology; Chemotherapy; Clinical Nursing Research; Cancer.

Resumén

El objetivo de este estudio fue describir las características socioeconómicas, laborales y clínicas de pacientes con cáncer en tratamiento ambulatorio de quimioterapia y evaluar el nivel de angustia durante el tratamiento de quimioterapia, utilizando el instrumento Distress Thermometer. Se trata de un estudio descriptivo transversal con abordaje cuantitativo, desarrollado en el ambulatorio de quimioterapia de un Hospital Universitario, con 30 pacientes oncológicos. Se utilizó el instrumento Distress Thermometer y los datos se analizaron mediante el Software R (4.0.0). Como resultado, se identificó que la mayoría eran hombres, edad promedio de 59,5 años, casados, empleados y renta mensual entre 1 y 5 salarios mínimos. El resultado del Termómetro de Angustia observó un alto grado de sufrimiento (>4), con una media de 6,3 y una desviación estándar de 2,54. Las asociaciones entre las variables explicativas y el resultado no fueron estadísticamente significativas. Se concluyó que el instrumento evaluó el nivel de angustia de los pacientes, siendo una herramienta importante en las consultas de enfermería en quimioterapia, favoreciendo la percepción y seguimiento de los estresores.

Descriptores: Estrés Psicológico; Oncología; Quimioterapia; Investigación Clínica en Enfermería; Cáncer.

Resumo

O objetivo deste estudo foi descrever as características socioeconômico–ocupacionais e clínicas dos pacientes oncológicos em tratamento quimioterápico ambulatorial e avaliar o nível de *distress* no tratamento quimioterápico, utilizando o instrumento Termômetro do *Distress*. Este estudo foi descritivo, de corte transversal e abordagem quantitativa, desenvolvido no ambulatório de quimioterapia de um Hospital Universitário, com 30 pacientes oncológicos. Utilizou-se o instrumento Termômetro do *Distress*, sendo os dados analisados através do *Software R* (4.0.0). Como resultados, identificou-se que a maioria era homem, média de idade de 59,5 anos, casados, empregados e renda mensal entre 1 e 5 salários-mínimos. O resultado do Termômetro do *Distress* observou alto grau de sofrimento (>4), com média de 6,3 e desvio padrão de 2,54. As associações entre as variáveis explanatórias e desfecho não foram estatisticamente significantes. Concluiu-se que o instrumento avaliou o nível de *distress* dos pacientes, sendo ferramenta importante nas consultas de enfermagem em quimioterapia, favorecendo a percepção e o acompanhamento dos fatores estressores.

Descritores: Estresse Psicológico; Oncologia; Quimioterapia; Pesquisa em Enfermagem Clínica; Câncer.

Introduction

Cancer is a serious public health problem and ranks fourth among the leading causes of premature death in the world. There is an increase in the incidence of new cases and in mortality. As causes, some factors are predominant: demographic growth, population longevity, changes in distribution and the predominance of risk factors for its development. It can be caused by internal and/or external factors. External causes are related to the environment and lifestyle of each person, while internal causes are, in many cases, genetically predetermined. Added to these factors are issues closely related to world socioeconomic development[1].

For Brazil, the estimate for each year of the three-year period 2020-2022 indicates that there will be 625,000 new cases of cancer (450,000, excluding cases of non-melanoma skin cancer). Non-melanoma skin cancer will be the most incident (177,000), followed by breast and prostate cancer (66,000 each), colon and rectum (41,000), lung (30,000) and stomach (21,000)[1].

The incidence in men (9.5 million) represents 53% of new cases, being slightly higher in women, with 8.6 million (47%) of new cases. The most frequent types of cancer in men were lung cancer (14.5%), prostate (13.5%), colon and rectum (10.9%), stomach (7.2%) and liver (6 .3%). In women, the highest incidences were breast cancer (24.2%), colon and rectum (9.5%), lung (8.4%) and cervix (6.6%)[1].

It is understood, therefore, that the incidence of cancers in general has been high worldwide and the process of illness has generated negative impacts on mental health in the individual. These impacts contribute to the worsening of the clinical picture and the exacerbation of symptoms.

In view of the above, it is noteworthy that the diagnosis of cancer gives the patient an important psychological impact and feelings such as suffering, anger, guilt, sadness and impotence are very common, combined with all the uncertainty caused by the fear of the unknown and everything that comes with it. treatment, in addition to the physical and social dysfunctions involved in this process. Therefore, the cancer patient is susceptible to a range of stressors, which arise with the diagnosis and can be exacerbated throughout the treatment[2].

In this perspective, distress is defined as an unpleasant multifactorial experience of a psychological nature (cognitive, behavioral, emotional, social, spiritual and physical) that can interfere with the individual's ability to deal effectively with cancer, its physical symptoms and its treatment[2].

For the early and timely management of stressors to be efficient, it is necessary for the interdisciplinary team to continuously improve their technical-scientific knowledge. The nurse is the team member who first tends to identify the unwanted effects of the treatment and the psychological and social changes demonstrated and/or referred by the patient, both during the nursing consultation and during the assistance to the patient undergoing chemotherapy treatment, hence the role and the importance of this professional from diagnosis to end-of-life care[3].

In this sense, there is the evaluation instrument – Distress Thermometer (DT), which is simple and easy to analyze. It aims to identify the level of distress and its possible causes in the period referring to the previous week, including the day on which the assessment is taking place[4].

In view of the above, it is hypothesized that: H0) There is no relationship between levels of distress and socio-economic - occupational characteristics in outpatient chemotherapy treatment in adult and/or elderly patients. H1) There is a relationship between levels of distress and socio-economic - occupational characteristics in outpatient chemotherapy treatment in adult and/or elderly patients.

Based on the above, the objectives of this study were: To describe the socio-economic, occupational and clinical characteristics of cancer patients undergoing outpatient chemotherapy treatment and to assess the level of distress during chemotherapy treatment, using the Distress Thermometer.

Methodology

A descriptive, cross-sectional study with a quantitative approach was carried out at the chemotherapy outpatient clinic of a large university hospital in the state of Rio de Janeiro.

The non-probabilistic sample consisted of 30 cancer patients undergoing outpatient chemotherapy treatment.

It was decided to comply with the size recommended in the literature of at least 30 cases in the sample. The statistical and experimental literature points out that whenever the sample size is smaller than 30, the statistical analysis can be difficult and the performance of the statistical tests can be compromised[5].

A sample size greater than or equal to 30 is considered in statistics as a large sample. Large samples are those where the probability density can be verified in a definite way and are supported by the Central Limit Theorem[6,7].

The inclusion criteria adopted were: being over 18 years old, adult and/or elderly, of both sexes, attended at the chemotherapy outpatient clinic; being on the first day of chemotherapy treatment, which may be adjuvant, neoadjuvant or exclusive. Patients with cognitive impairment and/or reading difficulties were excluded from the study.

Data collection took place from November 2019 to July 2020, through the application of a socioeconomic and occupational questionnaire and the Distress Termometer (TD) instrument, translated and validated into Portuguese and composed of two tools, one that analyzes the level of distress and the other that identifies its possible causes (List of Problems).

The first tool is presented as a thermometer and allows the patient to indicate the level of distress, starting from 0 (zero) – no distress – to 10 (ten) – extreme distress. The List of Problems is made up of 35 items aimed at recognizing possible causes of distress, even if these are not associated with the diagnosis and/or treatment4. The application of the questionnaire and the instrument occurred on the first day of chemotherapy treatment of the

participant, who, upon accepting to participate in the research, received the Free and Informed Consent Form (TCLE), in two copies.

The explanatory variables of this study were: gender, age, marital status, education, employment status, family income, presence or absence of metastasis, presence of a companion during chemotherapy, waiting time between diagnosis and initiation of chemotherapy. And the outcome variable is the level of distress.

The observed data were presented in the form of tables, expressed by measures of central tendency and dispersion adequate for numerical data and by percentage frequency for categorical data. Statistical analysis was processed using Software R version 4.0.0, using the chi-square test for categorical variables and Fisher's exact test for quantitative variables, considering the significance value $p > 0.05$.

This research is an integral part of a wide-ranging project and was approved by the Research Ethics Committee (CEP), under opinion number 3,443,800, in April 2019, in line with Resolutions n.º 466/2012 and n. 510/2016, regulated by the National Health Council (CNS), which deal with ethical and legal research issues.

Results

In this study, it was identified that, of the total of 30 participants, the majority were men (63.3%), with a mean age of 59.5 years (± 12.25), married (53.3%), with primary education (46.7%), mostly employed (80%) and with monthly income between 1 and 5 minimum wages (53.3%).

The most prevalent cancers among the participants were lung (30%), followed by head-neck (20%) and cervix (13.3%), among others. Of this total, 80% had no metastasis, as shown in Table 1.

Table 1. Socioeconomic-occupational and clinical characteristics of cancer patients in outpatient care. Rio de Janeiro, RJ, Brazil, 2019-2020

	n	%
Gender		
Masculine	19	63,3
Feminine	11	36,7
Age		
From 27 to 45 years old	5	16,7
From 46 to 64 years old	14	46,7
65 years or older	11	36,7
Marital status		
Married	16	53,3
Not married	14	46,7
Education		
Elementary School	14	46,7
High school	12	40,0
Higher education	4	13,3
Employment status		
Employee	24	80,0
Unemployed	6	20,0
Income		
Less than 1 minimum-wage*	14	46,7
From 1 to 5 minimum-wages	16	53,3
Type of cancer		
Bladder	1	3,3
Head and neck	6	20,0
Cervix	4	13,3
Intestine	2	6,7
Leukemia	2	6,7
Lymphoma	1	3,3
Breast	2	6,7
Prostate	3	10,0
Lung	9	30,0

Metastasis		
No	24	80,0
Yes	6	20,0

Note: Considering the minimum wage for the year 2020 – BRL 1,045.00.

As a result of the DT, a high degree of suffering was observed (>4), with a mean of 6.3 and a standard deviation of 2.54. Regarding the associations of the explanatory variables and the outcome variable, no statistically significant difference was identified, that is, gender (p= 0.372), age (p= 0.604), marital status (p= 0.176), education (p= 0.193), employment status (p= 0.998), income (p= 0.378) and presence of metastasis (p= 0.571) did not significantly influence the level of distress (Table 2).

Table 2. Distress level of cancer patients in outpatient care at a University Hospital. Rio de Janeiro, RJ, Brazil, 2019-2020

Gender	n	%	No Distress		Distress		
			n	%	n	%	p-value
Masculine	19	63,3	5	26,3	14	73,7	0,372
Feminine	11	36,7	1	9,1	10	90,9	
Age							
From 27 to 45 years old	5	16,7	1	20,0	4	80,0	0,604
From 46 to 64 years old	14	46,7	4	28,6	10	71,4	
65 years or older	11	36,7	1	9,1	10	90,9	
Marital status							
Married	16	53,3	5	31,3	11	68,8	0,176
Not married	14	46,7	1	7,1	13	92,9	
Education							
Elementary School	14	46,7	3	21,4	11	78,6	0,193
High school	12	40,0	1	8,3	11	91,7	
Higher education	4	13,3	2	50,0	2	50,0	
Employment status							
Employee	24	80,0	5	20,8	19	79,2	0,998
Unemployed	6	20,0	1	16,7	5	83,3	
Income							
Less than 1 minimum-wage	14	46,7	4	28,6	10	71,4	0,378
From 1 to 5 minimum-wages	16	53,3	2	12,5	14	87,5	
Metastasis							
No	24	80,0	4	16,7	20	83,3	0,571
Yes	6	20,0	2	33,3	4	66,7	

On average, the waiting time between diagnosis and initiation of chemotherapy was 6.4 months, with a minimum waiting time of 2 months and a maximum of 13 months. When crossing this variable with the explanatory variables, no statistically significant result was found (Table 3).

Table 3. Waiting time between diagnosis and initiation of chemotherapy in outpatient cancer patients. Rio de Janeiro, RJ, Brazil, 2019-2020

Gender	From 2 to 4 months		From 5 to 7 months		From 8 to 13 months		
	n	%	n	%	n	%	p-value
Masculine	5	26,3	7	36,8	7	36,8	0,563
Feminine	3	27,3	6	54,5	2	18,2	
Age							
From 27 to 45 years old	0	0,0	3	60,0	2	40,0	0,723
From 46 to 64 years old	5	35,7	5	35,7	4	28,6	
65 years or older	3	27,3	5	45,5	3	27,3	

Marital status							
Married	6	37,5	6	37,5	4	25,0	0,464
Not married	2	14,3	7	50,0	5	35,7	
Education							
Elementary School	4	28,6	4	28,6	6	42,9	
High school	2	16,7	7	58,3	3	25,0	---
Higher education	2	50,0	2	50,0	0	0,0	
Employment status							
Employee	7	29,2	11	45,8	6	25,0	0,608
Unemployed	1	16,7	2	33,3	3	50,0	
Income							
Less than 1 minimum-wage	4	28,6	4	28,6	6	42,9	0,273
From 1 to 5 minimum-wages	4	25,0	9	56,3	3	18,8	

With regard to potentiating/stressing factors, no increase in the level of distress was observed when the patient had practical problems such as taking care of the children (p= 0.502), taking care of the house (p= 0.196), having financial problems (p= 0.196). = 0.120), problems related to transportation (p= 0.998) or problems related to work/school (p= 0.637).

The same was demonstrated when analyzing emotional problems, such as depression (p= 0.360), fear (p= 0.641), sadness (p= 0.075), nervousness (p= 0.360), worry (p= 0.998), loss of interest in daily activities (p= 0.998) and spiritual/religious involvement (p= 0.998).

The increase in levels of distress was not significant in the items evaluated from the perspective of physical problems, such as appearance (p= 0.673), self-care (p= 0.998), breathing (p= 0.998), urinary difficulty (p= 0.041), constipation (p= 0.603), diarrhea (p= 0.998), feeding (p= 0.698), fatigue (p= 0.300), edema (p= 0.998), fever (p= 0.998), impaired walking (p= 0.049), indigestion (p= 0.372), memory and concentration (p= 0.372), nausea (p= 0.360), nasal congestion (p= 0.637), pain (p= 0.998), sexual activity (p= 0.998), itching (p= 0.338), insomnia (p= 0.329) and tingling (p= 0.998).

In the studied sample, we can observe a high prevalence of financial difficulties during treatment (80%), and this may have been a relevant stressor for the increase in the level of distress, as well as the prevalence of fatigue (86.4%).

Discussion

The present study showed a high incidence of men affected by cancer at working age, with lung cancer being the most prevalent. This type of cancer has a high incidence on the national scene with high mortality rates. It was estimated only for the State of Rio de Janeiro, where this research took place, 2,930 new cases of lung cancer, trachea and bronchus for the year 2020. Nationally, it is estimated 30,200 new cases for the same year[1].

Despite all this effort, tobacco consumption among the Brazilian population is still high, especially among young people, causing various repercussions, such as, for example, a great financial impact on national public health[8].

The Ministry of Health recommends that the patient with malignant neoplasm confirmed by pathological report must undergo the first treatment (surgical, chemotherapy and/or radiotherapy) in the Unified Health System within a period of up to 60 (sixty days) or in a shorter period according to the therapeutic need[9].

In this study, even having observed a long waiting time for the start of chemotherapy treatment, there was no statistically significant relationship between this variable and the level of distress. However, a cross-sectional study published in 2020 found a solid relationship between the patient's current emotional state and their perception of the passage of time. The period prior to the start of chemotherapy was then related to anxiety levels in patients whose cancer was more aggressive and the treatment more challenging. These patients had a faster perception of the passage of time, thus generating more anxiety and anguish[10]. This makes us recommend that more comprehensive studies be carried out in order to better clarify the relationship between the waiting time to start treatment and the increase in levels of distress.

The analysis of the Distress Thermometer (DT) revealed a high degree of suffering, however when this data is related to the explanatory variables and the outcome variable, no statistically significant difference was identified. The same occurred in the correlation with the List of Problems.

However, when the prevalence of financial difficulties and symptoms such as fatigue during treatment was observed, these were shown to be relevant stressors in increasing the level of distress, as shown in a study[11].

These data are reinforced by a cross-sectional study carried out in a Cancer Rehabilitation Clinic in a medium-sized hospital in southern Sweden. In that research, 384 patients answered a questionnaire with the aim of investigating the rehabilitation experience of cancer survivors of working age. As a result, a high degree of suffering (>3) was observed according to the Thermometer of Distress instrument in several listed problem areas, more than 50% of the sample stated that financial problems brought a very high degree of suffering during and after the treatment[12].

A study carried out at a cancer treatment center in Canada also corroborates the findings of this research. 48.5% of patients had fatigue (p<0.001), followed by pain (26.4%) and depression (24%). Fatigue was one of the most reported symptoms by patients with high levels of distress, equivalent to 44% of the total variance of health-related quality of life[13].

It was observed that fatigue is a strong stressor for the elevation of levels of distress. This is supported by a German multicenter study that demonstrates that cancer patients have high levels of fatigue compared to the general population. The stage of the disease and the presence of metastasis were clearly associated with fatigue in the cited study[4].

Distress should be considered as the sixth vital sign in cancer patients, and as such it needs to be recognized, documented, monitored and treated at all stages of the disease. Therefore, it is necessary that the multidisciplinary team be attentive and know how to identify the signs of increased levels of distress[14].

Given the above, it is necessary to consider that the professional who is closest to the patient and family, from the diagnosis and during the course of the therapeutic process, is the nurse. Among the actions developed by this professional is the nursing consultation, a crucial moment for identifying demands, by surveying problems and establishing diagnoses.

Comprehensiveness is produced in the nursing consultation and it is with this look that the nurse will be able to assess the patient beyond their physical state. The application of the Distress Thermometer, by the nurse, at each consultation and the interpretation of their answers, will ensure the monitoring of the levels of distress and the due referral of the demands found.

Caring for cancer patients is complex due to the peculiar characteristics of the illness itself, requiring nurses to have responsibilities that are unique to them, technical and scientific skills and knowledge, as well as skills in interpersonal relationships.

Therefore, the importance of the nurse's role is evident, highlighting, as an act of responsibility, the incessant search for harmony in the quality of life[3].

Conclusion

The objectives of this research were met and the null hypothesis was confirmed. The sample mostly consisted of men, with a mean age of 59.5 years, married, employed and with a monthly income between 1 and 5 minimum wages. An increase in levels of suffering (>4) was observed in the Distress Thermometer, however, when performing the associations with the explanatory variables and the outcome variable (distress level) there were no statistically significant changes.

In our study, patients had to wait an average of 6.4 months to start chemotherapy treatment after confirming the diagnosis. Even though this data is contrary to what the Ministry of Health recommends, when we relate this information to the exploratory variables, no statistically relevant result was found regarding the increase in levels of distress.

Distress levels were also not statistically significant when we analyzed the List of Problems, however we observed in the sample a high prevalence of financial difficulties and fatigue during treatment, which are stressors considered relevant.

The application of a reliable and easy-to-use instrument such as the Distress Thermometer, by the professional nurse, in nursing consultations that take place during the stages of chemotherapy treatment, favors the perception and monitoring of the development of stressors before they cause greater damage to patients.

The study presented the COVID-19 pandemic as a limitation, as it limited the number of participants, since there were changes in the organization of outpatient service flows in the unit, thus avoiding circulation in other areas of the institution. It is suggested that new studies be carried out with the aim of deepening the theme discussed in this research, as well as in order to create mechanisms and effective ways of controlling stressors.

In addition, this study may expand discussions related to oncology and distress in the fields of teaching, research and care, as well as highlighting the importance of nurses in reducing the stressors that manifest themselves in cancer patients, in order to reduce levels of anxiety. anxiety, depression and pain, in addition to improving quality of life and reducing mortality.

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