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PROFILE OF PATIENTS ADMITTED IN A ONCOLOGICAL INTENSIVE THERAPY UNIT[1]

Daianny Arrais de Oliveira da Cunha*
Robson Lopes da Cunha**
Mauro Leonardo Salvador Caldeira dos Santos***
Elaine Machado de Oliveira****
Raquel de Souza Soares*****
Patrícia dos Santos Claro Fuly******

ABSTRACT

This study aims to analyze the profile of patients admitted to an oncology intensive care unit. This is a descriptive study with a quantitative approach. The data collection was carried out from September to December 2016, through a computerized system used by the institution. Fifty-five patients were admitted during the collection period. Age ranged from 18 to 80 years, with a mean age of 55 years. Most of them are patients with gastrointestinal neoplasms (29.09%), coming from hospital wards (32.73%). Overall, 14.55% received palliative care and total mortality in the period was 34.55%. The workload presented was 79.04%, translated into a work demand of 18 hours and 57 minutes.There was predominance of Karnofsky Performance Status 30% (52.73%) and of patients with the Charlson Comorbidity Index between 2 and 5 points (76.36%). Oncology intensive care units should be prepared to work with patients with no cure potential. Mortality is not higher when compared to intensive care units of other specialties, demystifying the admission of cancer patients in intensive care units.

Keywords: Critical care. Intensive care units. Oncological nursing. Intensive care. Health management.

INTRODUCTION

According to the National Cancer Institute, estimates for the years 2018 and 2019 point to the occurrence of approximately 600,000 new cases of cancer each year, including cases of non-melanoma skin cancer. Except for this, the most common types of cancer in men will be prostate (31.7%), lung (8.7%), intestine (8.1%), stomach (6.3%) and oral cavity ,2%). In women, cancers of the breast (29.5%), intestine (9.4%), cervix (8.1%), lung (6.2%) and thyroid (4.0%) are the main types[1].

Advances in the care of cancer patients in recent years have provided a greater chance of control or cure of the disease. On the other hand, advances related to the treatment, with the use of chemotherapy and more aggressive surgical procedures, directly implicate the greater use of Intensive Care Units (ICU)[2].

Another important factor is related to the recent advances in intensive care that have resulted in the reduction of the mortality of critically ill patients with cancer, even in populations at higher risk, such as those diagnosed with sepsis or requiring mechanical ventilation[3].

These gains related to survival are directly related to the more aggressive treatments, which, on the other hand, present greater toxicity, increasing the possibility of complications. The main causes of admission of cancer patients in the ICU are related to toxicity from chemotherapy or radiotherapy, metastatic lung disease, heart failure, immunosuppression, respiratory infection, and sepsis[4].

In this sense, we highlight the need for better management for the care of these patients in ICUs, mainly regarding organic dysfunctions, especially respiratory failure resulting from infectious, malignant or toxic complications[5].

Correct assessment and early admission to the ICU offer a valuable chance of avoiding and managing cancer complications that can be fatal,

[1] From the dissertation titled: Association between nursing workload and clinical variables in cancer intensive care unit. Federal Fluminense University, 2017.

*Nurse, Master of Science in Health Care, in the Palliative Care Unit of the National Cancer Institute. Rio de Janeiro, RJ, Brazil. E-mail: daianny.oliveira@rocketmail.com
**Nurse, Obstetrics Specialist, Head of the surgical ward of the National Institute of Traumatology and Orthopedics. Rio de Janeiro, RJ, Brazil. E-mail: robsonrlc41@gmail.com
***Nurse, Ph.D. in Nursing Philosophy, Associate Professor, Department of Medical-Surgical Nursing, Aurora de Afonso Costa Nursing School, Federal Fluminense University. Niterói, RJ, Brazil. E-mail: mcaleo@gmail.com
****Nurse, Post Doctor in Nursing. Lecturer at the Nursing Department, University of Western São Paulo. Presidente Prudente, SP, Brazil. E-mail: elainemachado@usp.br
*****Nurse, Specialist in Intensive Care, on-call at the Intensive Care Unit of the National Cancer Institute. Rio de Janeiro, RJ, Brazil. E-mail: quel_fenf@yahoo.com.br
******Nurse, Post-Doctorate in Nursing, Adjunct Professor, Department of Medical-Surgical Nursing, Aurora de Afonso Costa Nursing School, Federal Fluminense University. Niterói, RJ, Brazil. E-mail: claropatricia@yahoo.com.br

such as cases of tumor lysis syndrome, leukostasis, and macrophage activation syndrome[6].

Identifying the presence of comorbidities, for example, is fundamental for managing the care of these patients, aiming to anticipate measures and evaluations that may favor survival. A multicenter prospective study evaluated 717 cancer patients from different Brazilian ICUs and indicated a general mortality rate of 30%, and it was higher in patients admitted due to clinical complications (58%) than in emergency situations (37%) and in elective surgeries (11%). Mortality depended primarily on the severity of complications, such as organ failure, poor functional capacity, and the need for mechanical ventilation, rather than cancer-related characteristics such as malignancy or the presence of neutropenia[7].

The nursing workload is an important factor for the management of ICU care. With this emphasis, the Nursing Activities Score (NAS) acts as a tool to quantify the workload in the ICUs. The NAS was constructed to evaluate nursing activities in a broader way, since the Therapeutic Interventions System Score (TISS), the most used instrument previously, contemplated only 43.3% of the nursing time with ICU patients. 99 UTIs from several countries were included in the study for the elaboration of the instrument, consisting of 23 items, with weights varying from 1.3 to 32.0. The sum of the scores can vary from 0% to 177%, which means that 1.8 nursing professionals are required to work with the patient in the 24 hours of the day[8].

The studies that evaluate nursing workload generate subsidies for a better staffing, being a systematic process that aims to guide the quantitative and qualitative planning of the nursing team of an organization, considering the general aspects of the work to be performed[9].

The relevance of the study is related to the fact that it works more adequately with oncology clients in ICUs when its characteristics are known, allowing to determine the best management of nursing care. Thus, knowledge of the nursing workload in the unit can provide support to the management and quality of the care provided.

It is worth mentioning that, during the stay of the patients in the ICU, the treatment orientation can be modified and, consequently, cause patients to change their profile. Therefore, regardless of the cause of admission to the ICU, these patients have an oncologic disease that is evolving, which may influence the decision making regarding the interruption of behaviors considered irrelevant when the cancer treatment becomes impracticable. Thus, the patient will be approached under the vision of palliative care within the ICU.

Therefore, the objective of the study was to analyze the profile of patients admitted to the oncology ICU, according to demographic and clinical data.

METHODOLOGY

The study is linked to the research project titled "Association between nursing workload and clinical variables in oncology intensive care unit". This is a descriptive and retrospective study that uses a quantitative approach.

The study was developed at the ICU of adults of the National Cancer Institute José Alencar Gomes da Silva (INCA) - Unit I. The referred ICU, which consists of ten beds and has an approximate occupancy rate of 92%, serves the clientele that needs to solve clinical or surgical complications that, at the moment, prevent the oncological treatment from being maintained.The nursing team of the sector is composed of three nurses and five nursing technicians during the daytime period and two nurses and five technicians during the night period.

Data collection was performed in patients' electronic records from September 22 to December 22, 2016. The non-probabilistic sample consisted of patients who met the following eligibility criteria:patients admitted to the ICU with a diagnosis of cancer, regardless of type and location, of both sexes, aged 18 years or more and who were hospitalized for a minimum of 24 hours.

Sociodemographic data were collected. These included patients' sex and age, and clinical data, such as oncology diagnosis, ICU admission diagnosis, origin, length of hospital stay, ICU discharge or exit conditions (survivor or non-survivor), readmission, Karnofsky Performance Status (KPS), comorbidities score through the Charlson Comorbidity Index (ICC) and measurement of the workload through the NAS.

KPS is one of the oldest performance status scales. The assessment can be performed by any health professional, which takes about 1 to 2 minutes to rank the patient in one of 10 categories ranging from 0 (dead) to 100 (normal activity, with

no evidence of disease). Although most of the evidence supporting KPS has been derived from patients with malignancy, its efficacy in predicting mortality has also been validated in populations of elderly and chronic patients[10].

The ICC is an instrument composed of 19 clinical conditions, namely: cerebrovascular disease, chronic lung disease, congestive heart failure, dementia, diabetes, mild liver disease, myocardial infarction, peptic ulcer disease, peripheral vascular disease, connective tissue disease, lymphoma, leukemia, moderate to severe renal disease, malignancy, hemiplegia, diabetes with complications, moderate to severe liver disease, metastatic solid tumor and acquired immunodeficiency syndrome (AIDS)[11].

For each of the mentioned clinical conditions, a score is established based on the relative risk, with weights varying from 1 to 6. The final ICC is the sum of the weights assigned to each of the clinical conditions described in the medical records[11].

NAS is an instrument for measuring the workload directly and stands out because it is widely used, not only in the intensive care setting. It estimates activities and care needs in minutes, which can be converted into hours, establishing reliable parameters for the human resources nursing dimensioning[12].

The instrument is composed of seven categories or domains (basic activity, ventilatory support, cardiovascular support, renal support, neurological support, metabolic support and specific interventions), composed of subcategories or subdomains, subdivided into items of a total of 23, which translate the nursing workload in the last 24 hours[12].

The collected data were inserted in a spreadsheet of the Program Microsoft Excel® 2007 and were processed through statistical software SAS version 9.1.3 by means of descriptive statistics, and the absolute and relative frequencies of the variables were presented.

The study was approved on April 18, 2015 by the Ethics Committee in Research with Human Beings of the Nursing School of the Fluminense Federal University (Opinion No. 1,287,755) and the INCA (Opinion No. 1,504,415). There was a waiver of the Free and Informed Consent Term because it was documentary research, and the patients' electronic records were the sole basis for data collection.

RESULTS

The results showed 55 patients admitted to the oncology ICU during the study period. According to Table 1, there was no predominance with respect to sex. The age ranged from 18 to 80 years, with a mean of 55 years and a standard deviation of 16.

Table 1. Distribution of clients admitted to the Intensive Care Unit according to sex and age. Rio de Janeiro, RJ, Brazil, 2016 (n=55)

Variable	n=55	%
Sex		
Female	28	50,91
Male	27	49,09
Age		
18 to 29 years	06	10,91
30 to 39 years	04	7,27
40 to 49 years	06	10,91
50 to 59 years	12	21,82
60 to 69 years	15	27,27
70 to 79 years	11	20,00
Over 80 years	01	1,82

Source: Own elaboration.

Taking into consideration the clinical characteristics of the patients admitted to the ICU, as shown in Table 2, we found that most of patients with gastrointestinal neoplasms (n=16; 29.09%) (n=10; 18.18%) represent almost half of the patients admitted to the ICU at the time of data collection (n=26; 47,27%).

Regarding the origin, the majority (33/59%) of the admitted patients were in the hospital wards (18/32,73%) and in the postoperative unit (n=15; 27,27%).

Table 2. Distribution of patients admitted to the Intensive Care Unit according to oncological diagnosis and origin. Rio de Janeiro, RJ, Brazil, 2016 (n=55)

Variable	n	%
Oncologic diagnosis		
Bone and connective tissue neoplasms	01	1,82
Gastrointestinal neoplasms	16	29,09
Head and neck neoplasms	04	7,27
Gynecological neoplasms	01	1,82
Hematologic neoplasms	05	9,09
Breastneoplasms	02	3,64
Neurological neoplasms	10	18,18
Neoplasms of the lymphatic system	08	14,55
Neoplasms of the cardiorespiratory system	06	10,91
Urological neoplasms	02	3,64
Origin		
Surgery Center	08	14,55
Emergency	13	23,64
Nursery	18	32,73
Other unit	01	1,82
Post operative unit	15	27,27

Source: Own elaboration.

The main causes of admission of patients with gastrointestinal ICU tumors were sepsis / septic shock (31.25%) and respiratory failure (25%).

According to Table 3, eight (14.55%) patients admitted to the ICU were considered without cure and started palliative therapy and no longer curative. The majority of patients were discharged from the ICU (n=32; 58.18%) and only 4 patients remained hospitalized at the end of the study, making it impossible to calculate length of stay. The remaining patients died (n=19; 34.55%), of which only 4 (21.05%) were in palliative care.

Table 3. Distribution of patients admitted to the Intensive Care Unit according to the treatment adopted and the discharge conditions. Rio de Janeiro, RJ, Brazil, 2016 (n=55)

Variable	n	%
Treatament		
Palliative	08	14,55
Curative	47	85,45
Discharge conditions		
Stay in hospital	04	7,27
Discharge	32	58,18
Death	19	34,55

Source: Own elaboration

The comorbidities presented by the patients, according to the ICC, and the functional capacity, according to the KPS, are described in Table 4.

The lowest rates of comorbidity, between weights two and five, are related to the oncologic disease itself. Indices above 10 points are from patients with metastatic disease or AIDS.Regarding functional capacity, which presented a variation from 20% to 60%, most patients (n=29; 52.73%) presented 30% KPS, as shown in Table 4.

It is also observed in Table 4 that only one patient had KPS greater than 50%, that is, this patient is unable to work, but can be kept at home and take care of his personal needs.

Table 5 shows the workload in the ICU measured through the NAS.

The overall workload of the ICU was 79.04%, which means a care time of 18.96 hours, or 18 hours and 57 minutes. The greatest workload was generated by the patients who died, generating a care time of approximately 30 hours and 23 minutes on the last day of hospitalization.

Table 4. Distribution of patients admitted to the Intensive Care Unit according to the Charlson Comorbidity Index and the Karnofsky Performance Status. Rio de Janeiro, RJ, Brazil, 2016 (n=55)

Variable	n	%
CCI*		
2 – 5	42	76,36
6 – 10	10	18,18
>10	03	5,46
KPS**		
20%	22	40,00
30%	29	52,73
40%	03	5,45
60%	01	1,82

*ICC: Índice de Comorbidade de *Charlson*; **KPS: *Karnofsky Performance Status*
Source: Own elaboration

Tabela 5. Carga de trabalho na Unidade de Terapia Intensiva segundo o *Nursing Activities Score*. Rio de Janeiro, RJ, Brasil, 2016(n=55)

Variable	Medium	Median	Standard deviation	Minimum	Maximum
NAS* (%)					
Total	79,04	78,04	14,83	47,3	128,9
Admission	93,57	96,7	15,11	52,6	127,5
Discharge	74,19	69,55	11,54	52,6	95,8
Death Exit	126,64	131,5	17,62	88,4	151,6

Source: Own elaboration.
*NAS: Nursing Activities Score *NAS: *Nursing Activities Score*

DISCUSSION

There was no predominance in relation to the sex of the patients. A retrospective study conducted at a university hospital in the city of Marília, SP, Brazil, aimed at analyzing the epidemiological profile of hospitalized patients, showed a predominance of males (57,91%)[13]. However, it corroborates the prevalence of people in the age group above 60 years, which in the present study totaled 27 (49.09%). Of these elderly patients, 18 (66.66%) are survivors.

Patients with gastrointestinal neoplasms constituted the largest proportion among those admitted to the ICU, followed by patients with neurological neoplasms. A study evaluating metastatic abdominal cancer patients treated with cytoreductive surgery and hyperthermic intraperitoneal chemotherapy indicated that of the 122 patients included in the study for a period of one year, 26.2% were transferred to the ICU due to complications. Among them, acute kidney injury and respiratory failure were present in 50% and 47%, respectively, and they were the causes of ICU admission[14]. In the present study, the main causes for admission were sepsis/septic shock (31.25%) and respiratory failure (25%).

Another important result concerns the type of treatment performed during ICU stay, with two possibilities to be adopted: curative or palliative. The proportion of approximately 15% of palliative care patients hospitalized in the ICU can generate an impact on care.

A Brazilian study that evaluated the perception of ICU professionals about patients in palliative care found that, for them, palliative care is a care approach for those close to death[15].

Among the patients in palliative care admitted to the ICU, who left the study until the end of the research, there is a mortality rate of 42.86%, that is, 57.14% were discharged. This data serves to demystify the concept of palliative care associated only with terminality.

There is a real difficulty in establishing therapeutic limits within the ICUs for patients who can no longer benefit from the usual measures and behaviors in this scenario. Therefore, defining which measures should be maintained and which should be suspended, within a palliative approach, is one of the most difficult decisions to be made by the team[16].

Overall gross ICU mortality during the study was 34.55%. A retrospective study carried out in Turkey in a general clinical and surgical ICU with 417 patients showed a 39.8% gross mortality in patients with ventilator-associated pneumonia[17]. This suggests the fact that cancer patients do not present significantly higher mortality when compared to patients admitted to ICUs of different specialties.

The mortality found emphasizes that patients with cancer hospitalized in ICU should not be treated as patients with higher risk of death than patients from other specialties, justifying all the team's commitment to reverse the clinical conditions that led them to be admitted to these units.

The overall workload found (79.04%) corresponded to 18 hours and 57 minutes of assistance per patient in 24 hours. According to resolution 543/2017 of the Federal Nursing Council (COFEN), 18 hours of nursing per client are required in 24 hours of intensive care. That said, the patients evaluated in the study demand a workload higher than that stipulated by the aforementioned resolution[18].

A Brazilian study developed at an ICU with beds of general and cardiological specialties made it possible to identify the nursing workload with a mean daily NAS score of 85.6%. However, the research period was 60 days, and may not reflect the reality since it presents a smaller cut than that of the present study[19].

The characterization of the profile of the users assisted can generate support for the elaboration of strategies that aim at the better preparation of the team to deal with patients who do not present possibilities of cure, but who need care as intensive as the patients still eligible for oncologic treatment after discharge from the ICU.

Regarding the limitations of the study, the 90-day data collection cut-off may not reflect the reality of the service; in addition, the retrospective strategy presents limitations of its own design.

Future research may include different research perspectives in order to broaden the discussion regarding the critical oncology patient, since the profile of patients hospitalized during the study period demystifies or, at least, leaves gaps to be clarified with regard to the care provided in ICUs for patients in palliative care, thus being a clientele that may require a differentiated look at the care and treatment provided.

However, the study presents relevant tangent contributions to the knowledge of the critical oncology patients profile, being the basis for clinical and research decision making for Brazilian Nursing, mainly due to the lack of results in the literature.

CONCLUSION

The study found that the profile of critical oncology patients was the proportion of 50.91% female and 49.09% male. There was a higher prevalence of patients aged 60 years or older and patients from the hospital ward predominated. Overall mortality was 34.55%. The patients who were discharged from the unit formed 58.18% of the sample, of whom 12.50% were patients in palliative care.The daily average of the workload was 79.04%, which, translating into hours of care, presents a time superior to that recommended for patients in intensive care by COFEN.

Therefore, it is suggested that the elaboration of the profile of patients treated at the oncology ICU presents relevant characteristics because it is a scenario that presents a work load above the standards for general intensive care units. Further studies may emphasize other issues to be discussed with a view to better management of oncological ICU care.

PERFIL DOS PACIENTES ADMITIDOS EM UMA UNIDADE DE TERAPIA INTENSIVA ONCOLÓGICA

RESUMO

Este estudo objetiva analisar o perfil dos pacientes admitidos em uma unidade de terapia intensiva oncológica. Trata-se de um estudo descritivo de abordagem quantitativa. A coleta de dados foi realizada no período de setembro a dezembro de 2016, através de sistema informatizado utilizado pela instituição. Foram admitidos 55 pacientes durante o período da coleta. A idade variou entre 18 e 80 anos, com média de 55 anos. Em sua maioria, são pacientes com neoplasias gastrointestinais (29,09%), provenientes das enfermarias do hospital (32,73%). No geral, 14,55% receberam cuidados paliativos e a mortalidade total no período foi de 34,55%. A carga de trabalho apresentada foi de 79,04%, traduzida em uma demanda de trabalho de 18 horas e 57 minutos. Houve predomínio do Karnofsky Performance Status 30% (52,73%) e de pacientes com Índice de Comorbidade de Charlson entre 2 e 5 pontos (76,36%). As unidades de terapia intensiva oncológica devem estar

preparadas para atuar com pacientes sem possibilidades de cura. A mortalidade não é superior quando comparada a unidades de terapia intensiva de outras especialidades, desmistificando a admissão de pacientes oncológicos em unidades de terapia intensiva.

Palavras-chave: Cuidados críticos. Unidades de terapia intensiva. Enfermagem oncológica. Cuidados intensivos. Gestão em saúde.

PERFIL DE LOS PACIENTES INGRESADOS EN UNA UNIDAD DE CUIDADOS INTENSIVOS ONCOLÓGICOS

RESUMEN

Este estudio tuvo el objetivo de analizar el perfil de los pacientes ingresados en una unidad de cuidados intensivos oncológicos. Se trata de un estudio descriptivo de abordaje cuantitativo. La recolección de datos fue realizada en el período de septiembre a diciembre de 2016, a través de sistema informatizado utilizado por la institución. Fueron ingresados 55 pacientes durante el período de la recolección. La edad varió entre 18 y 80 años, con promedio de 55 años. En su mayoría, son pacientes con neoplasias gastrointestinales (29,09%), provenientes de las enfermerías del hospital (32,73%). En general, 14,55% recibieron cuidados paliativos y la mortalidad total en el período fue de 34,55%. La carga de trabajo presentada fue de 79,04%, traducida en una demanda de trabajo de 18 horas y 57 minutos. Hubo predominio del Karnofsky Performance Status 30% (52,73%) y de pacientes con Índice de Comorbilidad de Charlson entre 2 y 5 puntos (76,36%). Las unidades de cuidados intensivos oncológicos deben estar preparadas para actuar con pacientes sin posibilidades de cura. La mortalidad no es superior cuando comparada a unidades de cuidados intensivos de otras especialidades, desmitificando el ingreso de pacientes oncológicos en unidades de cuidados intensivos.

Palabras clave: Cuidados críticos. Unidades de cuidados intensivos. Enfermería oncológica. Cuidados intensivos. Gestión en salud.

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Corresponding author: Daianny Arrais de Oliveira da Cunha. Rua Ituverava, 744, apto 207. Anil. Rio de Janeiro, RJ, Brasil. (21) 3936-8411. E-mail: daianny.oliveira@rocketmail.com

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