NURSING DIAGNOSES IN ONCOHEMATOLOGICAL PATIENTS SUBMITTED TO CHEMOTHERAPY TREATMENT

DIAGNÓSTICOS DE ENFERMAGEM EM PACIENTES ONCOHEMATOLÓGICOS SUBMETIDOS A TRATAMENTO QUIMIOTERÁPICO

DIAGNÓSTICOS DE ENFERMERÍA EN PACIENTES ONCOHEMATOLÓGICOS SUBMETIDOS EL TRATAMIENTO QUIMIOTERÁPICO

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ABSTRACT

Objective: to identify the most frequent nursing diagnoses in patients with oncohematological diseases submitted to antineoplastic chemotherapy. **Method**: retrospective, documentary study. Data were collected from 17 patient charts of patients hospitalized at the oncohematology unit of a Public Teaching Hospital in March 2017. Data were analyzed by descriptive statistics. **Results**: most of the medical records were male patients (70.6%); the mean age was 41.2 years. The most frequent types of cancers were non Hodgkin's lymphoma and acute myeloid leukemia, with 4 (23.6%) occurrences. The most frequent nursing diagnoses were: ineffective protection and risk of infection, with 17 (100%) occurrences; risk of impaired oral mucosa and risk of falls, with 12 (70.6%) cases. **Conclusion**: There was a predominance of Nursing diagnoses of ineffective protection and risk of infection, these were related to cancer, chemotherapy, invasive procedures and immunosuppression.

Descriptors: Nursing Diagnosis. Hematology. Oncology Nursing. Nursing Process.

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RESUMO

Objetivo: identificar os diagnósticos de Enfermagem mais frequentes em pacientes com doenças oncohematológicas submetidos a tratamento quimioterápico antineoplásico. **Método**: estudo retrospectivo, documental. Os dados foram coletados de 17 prontuários de pacientes hospitalizados na unidade de oncohematologia de um Hospital Público de Ensino, em março de 2017. Os dados foram analisados por estatística descritiva. **Resultados**: a maioria dos prontuários era de pacientes do sexo masculino (70,6%); a média de idade foi de 41,2 anos. Os tipos de cânceres mais frequentes foram linfoma não Hodgkin e leucemia mieloide aguda, com 4 (23,6%) ocorrências. Os diagnósticos de Enfermagem mais frequentes foram: proteção ineficaz e risco de infecção, com 17 (100%) ocorrências; risco de mucosa oral prejudicada e risco de quedas, com 12 (70,6%) casos. **Conclusão**: Houve predomínio dos diagnósticos de Enfermagem de proteção ineficaz e risco de infecção, estes estiveram relacionados ao câncer, ao tratamento quimioterápico, à realização de procedimentos invasivos e imunossupressão.

Descritores: Diagnóstico de Enfermagem. Hematologia. Enfermagem Oncológica. Processo de Enfermagem.

RESUMEN

Objetivo: identificar los diagnósticos de Enfermería más frecuentes en pacientes con enfermedades oncohematológicas sometidas a tratamiento quimioterápico antineoplásico. **Método**: estudio retrospectivo, documental. Los datos fueron recolectados de 17 prontuarios de pacientes hospitalizados en la unidad de oncohematología de un Hospital Público de Enseñanza, en marzo de 2017. Los datos fueron analizados por estadística descriptiva. **Resultados**: la mayoría de los prontuarios eran de pacientes del sexo masculino (70,6%); el promedio de edad fue de 41,2 años. Los tipos de cáncer más frecuente fueron linfoma no Hodgkin y leucemia mieloide aguda, con 4 (23,6%) ocurrencias. Los diagnósticos de Enfermería más frecuentes fueron: protección ineficaz y riesgo de infección, con 17 (100%) ocurrencias; riesgo de mucosa oral perjudicial y riesgo de caídas, con 12 (70,6%) casos. **Conclusión**: Hubo predominio de los diagnósticos de Enfermería de protección ineficaz y riesgo de infección, estos estuvieron relacionados al cáncer, al tratamiento quimioterápico, a la realización de procedimientos invasivos e inmunosupresión.

Descriptores: Diagnóstico de Enfermería. Hematología. Enfermería Oncológica. Proceso de Enfermería.

INTRODUCTION

In 2018, estimates of the incidence of oncohematological diseases showed rates of approximately 10,800 cases of leukemia, 10,180 cases of non-Hodgkin lymphoma and 2,530 of Hodgkin lymphoma in both genders in Brazil.[1]

The antineoplastic chemotherapy is the treatment of choice when there is impairment of the hematopoietic system and in cases of acute malignant neoplasias.[2] However, it brings a number of side effects such as nausea, vomiting, fatigue, pain, anorexia, dyspnea, myalgia, fever, alopecia, anemia, neutropenia, cold,

mucositis, diarrhea, susceptibility to infections and anxiety[3], requiring skills and nursing knowledge about the clinical characteristics of oncohematological patients and side effects related to treatment, because nursing care should focus on prevention and control of possible therapeutic complications.[4]

When considering the complexity in assisting the oncohematological patient undergoing chemotherapy, one assumes the need for the nurse to implement the nursing process (NP) effectively using the Evidence-based Practice (EBP), and provide individualized, safe and full care.

NP is in a multifaceted and multidimensional assistance methodology that aims to organize, humanize and qualify the clinical practice of nursing assigning scientific, visibility, recognition and appreciation to the profession and spreading the incorporation of autonomy in the development of clinical reasoning and decision-making.[5]

Knowledge of the clinical profile of patients assisted guides the nurse in understanding the common therapeutic bases, as well as in clinical reasoning out of the focus of the Nursing diagnosis (ND).[6]

ND is understood by the clinical judgment about the responses of the individual, family or community to health conditions, life processes or vulnerabilities.

It forms the basis for the selection of nursing interventions, signaling the achievement of the expected results, which are nurse's responsibility. Its importance comprises the establishment of a standardized language, which enables clear communication among members of the multidisciplinary team and the continuous improvement of individual NP (NANDA, 2015).[7]

Studies on the prevalence and frequency of nursing diagnoses and their indicators in specific populations are fundamental to clinical nursing practice as they faithfully infer a diagnosis and make possible to estimate the chances of an individual to have or not a particular phenomenon.[8] Accurate ND identification directly promotes the effectiveness and NP excellence, providing patient safety and improved quality of care.

Therefore, this study aimed to identify the most frequent nursing diagnoses in patients with oncohematological diseases undergoing antineoplastic chemotherapy treatment.

METHODS

This was a retrospective, documentary study, aiming to analyze medical records of hospitalized patients in the oncohematological unit of a Public Teaching Hospital, located in the southeast interior of Brazil. The oncohematological

unit abovementioned has six beds that assist the oncohematological specialty and has recently started conducting autologous bone marrow transplantation.

Patients with oncohematological diseases, submitted only to chemotherapy and hospitalized from September 2016 to February 2017 were included in the study. Patients on radiotherapy and subjected to other types of treatments and with no medical diagnosis of oncohematological cancer were excluded from the study.

Data collection was conducted in March 2017 and consisted of documentary analysis of secondary sources and records of hospitalized patients who met the inclusion criteria of the study. For data extraction, it designed a structured instrument from the relevant literature[9], comprising: (1) demographic data; (2) clinical data and (3) Profile of nursing diagnoses titles.

The analyzed sociodemographic variables included gender, age, race, occupation and marital status. Clinical variables considered were: cancer, comorbidities, drug allergy and hospital stay. To set the ND, according to NANDA Taxonomy II of International (NANDA-I) 7, data were collected on risk factors or related factors, defining characteristics and nursing diagnoses titles documented in nursing records.

Data of interest raised in the records were stored in the spreadsheet program Excel for Windows XP®, validated by double entry, with the encodings of the study variables and a dictionary (codebook) with the description of each variable. Then, they were exported to the Statistical Package for the Social Sciences® software (SPSS) version 20 for processing and analysis. Statistical analysis was performed by the distribution of absolute frequencies (n) and percentage (%) for categorical variables and mean and standard deviation for numerical variables. The results were presented in tables.

It is emphasized that the ethical and legal aspects recommended in Resolution 466/2012 of the National Health Council have been met. The project was evaluated and approved by Ethics and Research Committee of the Federal University under the Opinion number 1,457,721, in March 2016, with exemption of the Term of Consent.

RESULTS

There were a total of 35 records. Of these, 18 (51%) of the study did not meet the eligibility criteria and were excluded according to criteria described below: oncohematological disease undergoing another treatment modality (n=7); to clarify cytopenias (n=2); immune

thrombocytopenic purpura (n=2); myelodysplastic syndrome (n=2); adenomegaly to be clarified (n=1); prostate cancer (n=1); hematological disease (n=1); febrile neutropenia (n=1); nasal dorsum carcinoma out of treatment (n=1). Eligible records in accordance with the inclusion criteria were 17 (49%).

It was evident that most of the records were male patients 12 (70.6%).

The age range was between 15 and 68 years, averaging 41.2 years and standard deviation of 18.5. Noteworthy is the prevalence of white color with eight (47.1%) patients. Regarding marital status, the majority (52.9%) patients were single. Regarding occupation, in five (29.4%) records there was no registration. Data relating to socio-demographic profile were gathered in Table 1, below.

Table 1- Distribution of sociodemographic characteristics identified in the records of oncohematological patients undergoing chemotherapy. Uberaba, Minas Gerais, Brazil, 2017. (n=17)

Sociodemographic profile	n	%
Gender		
Male	12	70.6
Female	5	29.4
Age Group		
15-29	5	29.4
30-39	2	17.6
40-59	4	23.6%
60-68	6	29.4%
Color		
White	8	47.1
Brown	6	35.3
Black	3	17.6
Marital status		
Not married	9	52.9
Married	6	35.3
Stable union	1	5.9
No record of this variable	1	5.9
Occupation		
No record of this variable	5	29.4
Student	4	23.5
Machine operator	1	5.9
Driver	1	5.9
General services in rural areas	1	5.9
Cooker	1	5.9
Bricklayer	1	5.9
Photography Assistant	1	5.9
Household professional	1	5.9
Merchant	1	5.9

Source: Author, 2017.

Among the major types of cancer, non-Hodgkin's Lymphoma and Acute Myeloid Leukemia stood out, with four (23.6%) events, respectively. Regarding comorbidities, eight (47.1%) patients did not present it; however, it should be emphasized that hypertension was the most frequent associated comorbidities in five (29.4%) patients. Regarding the presence of drug allergy, 14 (82.4%) patients did not have it (Table 2).

In terms of hospital stay, there was a range of, at least, four to 94 days of hospitalization, with a mean of 25.1 days and a standard deviation of 24.6 days.

Table 2- Clinical profile identified in the records of oncohematological patients undergoing chemotherapy. Uberaba, Minas Gerais, Brazil, 2017 (n=17)

Clinical profile	n	%
Type of Cancer		
Non-Hodgkin Lymphoma	4	23.6
Acute Myeloid Leukemia	4	23.6
B-lineage acute lymphoblastic leukemia	2	11.8
multiple myeloma	2	11.8
T-cell acute lymphoblastic leukemia	2	11.8
Hodgkin's Lymphoma	1	5.9
Burkitt's Lymphoma and B-lineage acute lymphoblastic leukemia	1	5.9
Mediastinal Plasmacytoma and multiple myeloma	1	5.9
Comorbidities		
No comorbidities	8	47.1
Hypertension	5	29.4
Epilepsy	2	11.8
Deep vein thrombosis	2	11.8
Periodontitis	1	5.9
Syphilis	1	5.9
Hypothyroidism	1	5.9
Acquired Immunodeficiency Syndrome	1	5.9
Chronic Hepatitis B	1	5.9
Drug allergy		
No	14	82.4
Yes		
dipyrone	1	5.9
diclofenac Potassium	1	5.9
Metoclopramide Hydrochloride	1	5.9

Source: Author, 2017.

Present in the 17 oncohematological patients, while in antineoplastic chemotherapy treatment, 30 real diagnoses and 10 of risk were identified.

The main ND identified were: ineffective protection and risk of infection in 17 cases (100%); risk of impaired oral mucosa and risk of falls in 12 cases (70.6%); acute pain, Hyperthermia, constipation and unbalanced nutrition - lower than the body requirements in 11 cases (64.7%) (Table 3).

Other ND, identified in the files analyzed, were less frequent. Among them, there is: fluid volume deficit; Impaired mobility in bed; impaired walking; risk of imbalance in the body temperature; diarrhea, with three cases (17.6%); risk of impaired liver function; acute confusion; impaired dentition; chronic sadness; activity intolerance; risk of ineffective renal perfusion in two cases (11.8%); hopelessness; risk of allergic response; risk of suicide; hypothermia and low situational self-esteem in one case (5.9%).

Table 3 - Titles nursing diagnoses, related factors and risk factors identified in the records of oncohematological patients undergoing chemotherapy. Uberaba, Minas Gerais, Brazil, 2017 (n = 17)

Titles Diagnostics/ Factor Related/ Risk Factor n%		
Ineffective protection	17	100
Cancer	14	82.4
Treatment Regimen	2	11.8
Cancer / Treatment Regimen	1	5.9
Infection Risk	17	100
Invasive procedure	10	58.8
Immunosuppression	4	23.5
Invasive procedure / Immunosuppression	3	17.6
Risk of Impaired oral mucosa	12	70.6
Chemotherapy	12	70.6
Risk of falls	12	70.6
Other (Morse moderate to high)	11	64.7
Anemia (Morse moderate to high)	1	5.9
Acute pain	11	64.7
Harmful biological agent	11	64.7
Hyperthermia	11	64.7
Disease	5	29.4
Sepsis	3	17.6
Other (febrile neutropenia)	2	11.8
Disease/Sepsis	1	5.9
Constipation	11	64.7
Irregular Evacuation habits	9	52.9
Recent Environmental Change	1	5.9
Other (dry stools)	1	5.9

Imbalanced nutrition: lower than the body requirements	11	64.7
Insufficient Food intake	10	58.8
Inability to ingest foods/Insufficient Food Intake	1	5.9
Nausea	10	58.8
Treatment Regimen	10	58.8
Impaired oral mucosa	9	52.9
Immunosuppression	2	11.8
Treatment Regimen	7	41.2
Anxiety	9	52.9
Threat to Current Condition	4	23.5
Substance Abuse	1	5.9
Important change	3	17.7
Situational crisis	1	5.9
Fluid Volume Excess	9	52.9
Regulatory Mechanism committed	9	52.9
Bleeding Risk	8	47.1
Inherent Coagulopathy (thrombocytopenia)	8	47.1
Fatigue	8	47.1
Physiological condition	8	47.1
Impaired Skin Integrity	7	41.2
Mechanical factor	1	5.9
Immunodeficiency	1	5.9
Other (surgical incision, anal fissure)	5	29.4
Decreased cardiac output	6	35.3
Altered afterload	6	35.3
Ineffective airway clearance	6	35.3
Retained secretions	5	29.4
Excessive mucus	1	5.9
Bathing self-care intimate hygiene/Dressing *Deficit*	6	35.3
Other (fatigue)	3	17.6
Weakness	3	17.6
Ineffective Breathing Patterns	5	29.4
Other (dyspnea, tachypnea)	4	23.5
Respiratory Muscle Fatigue/Dyspnea	1	5.9
Disturbed sleep pattern	5	29.4
Environmental barrier	5	29.4
Impaired Spontaneous Ventilation	4	23.5
Respiratory Muscle Fatigue	4	23.5
Blood glucose Unstable Risk	4	23.5
Physical Health Condition Committed	4	23.5

Source: Author, 2017.

DISCUSSION

From the documentary analysis of 17 records of patients hospitalized in oncohematological unit, it was observed that males (70.6%) stand out over the female (29.4%). Furthermore, there was a predominance of acute myeloid leukemia and non-Hodgkin lymphoma, and most patients did not have associated comorbidities or drug allergy.

According to estimates by INCA, to Brazil, there will be 5,940 new cases of

leukemia in men and 4,860 in women for each year of the biennium 2018-2019. Therefore, these values correspond to an estimated risk of five new cases per 100,000 men and four new cases per 100,000 women. INCA describes the highest incidence of non-Hodgkin's lymphoma for males (5,370 cases) compared to women (4,810 cases).[1] Based on that, it is observed that the male has a representative potential for the development of a type of oncohematological cancer.

Among the diagnoses, 30 real and 10 of risk were identified. Among them, the most frequent were: ineffective protection; risk of infection; risk of impaired oral mucosa; risk of falls; acute pain; hyperthermia; constipation and unbalanced nutrition: lower than the body requirements.

Other studies also showed the occurrence of these diagnoses in oncohematological patients, highlighting the inefficient protection, risk of infection, impaired oral mucosa, hyperthermia, bleeding risk, fatigue, acute pain and unbalanced nutrition: lower than the body requirements.[9] A integrative review study identified the ND according to NANDA-I among patients with cancer hospitalized, revealing the most common ones: anxiety, deficient knowledge, bathing/hygiene self-care deficit, body image disorder, acute and chronic pain, fear, altered sleep pattern, infection risk and fluid volume deficit risk.[10]

ND identified in this study and recommended by the scientific literature[9,10], for patients with oncohematological disease, corroborate the results achieved. The use of a standardized taxonomy provides subsidies for Evidence-Based Nursing (EBE) and the standardization of oncohematological patients care.

Ineffective protection diagnosis is defined as the decrease in the ability to protect themselves from internal or external threats such as diseases or lesions.[7] In this study antineoplastic chemotherapy was related to cancer diagnosis and the treatment regimen, specifically.

The use of antineoplastic drugs cause neutropenia and increases the risk of sepsis.[11] Febrile neutropenia is a potentially fatal consequence of myelosuppressive effects of chemotherapy, leading to hospitalization, administration of antibiotics intravenously, dose reductions and delays in treatment, which impact the quality of life and the outcome of overall survival of patients.[12]

The ND risk of infection was associated with invasive procedures. Among these, are the following: a catheter puncture fully deployed that, given the

complexity related to its handling, is essential to the implementation of nursing interventions aimed at safe puncture using aseptic technique; maintenance and dressing change and maintenance of the closed system to prevent infection.[13] These actions aim at the prevention of adverse events in order to promote safe care for cancer patients.

In the diagnosis of impaired oral mucosa risk, this presents as main complication, mucositis, which is often observed in patients undergoing chemotherapy and consists of ulcerative lesions of the mouth and/or gastrointestinal resulting in pain, difficulty eating, talking and sleeping, directly impacting the quality of life.[14] Nursing interventions, against the real diagnosis and impaired oral mucosa risk, are indispensable and must be implemented in order to prevent the evolution of the injury, because this diagnosis can present negative implications related to other ND such as risk of infection, acute pain and imbalanced nutrition: lower than the body requirements.[9]

The risk of falls was identified from daily record of nurses during patient hospitalization. It is estimated that one in five cancer patients develop a new risk factor for falls in the presence of chemotherapy and, in the elderly, the risk is 17% higher compared to young adults.[15]

Chemotherapy boosts the risk of falls in oncohematological patient and, before that, measures for its prevention must be implemented.

The cancer-related pain often generates negative consequences for cancer patients, which interferes with their activities of daily living, emotional state, activity level, sleep quality and nutrition. Moreover, it is noteworthy that they demonstrate inadequate knowledge and attitude regarding the use of painkillers.[16]

In this scenario, educational interventions directed at patients, can reduce the intensity of cancer pain by at least one of the seven main components: improving knowledge about the nature of cancer-related pain; help in communication about pain; improve the assessment of pain; improve the prescription of painkillers; addressing the non-analgesic adhesion barriers; raise awareness of non-pharmacological strategies for pain management and promote the re-evaluation. The effective management of cancer pain results in increased quality of life for cancer patients and decreased hospitalization period.[17]

The diagnosis of constipation is commonly presented by cancer patients. If constipation is not treated properly, patients may experience adverse effects such as anorexia, nausea, bowel impaction or intestinal perforation. In this way, its

prevention and treatment consist of an essential component of oncology nursing practice and should include evidence-based interventions.[18]

The ND imbalanced nutrition: lower than the body requirements demands nurse's attention. It is extremely important the nursing staff to engage in stimulating the oral intake of the patient, guidance on the preparation of food and the strengthening of the feeding need for recovery.[9]

During chemotherapy cycles, patients have significant food rejection. Full meals, such as lunch and dinner, are less well tolerated by patients, however, faster meals, such as snacks, have better acceptance. In this regard, a wide variety of foods can be offered to patients to improve their nutrition during antineoplastic chemotherapy treatment.[19]

Side effects of treatment, such as nausea, vomiting, diarrhea, mucositis, constipation and loss of appetite, contribute to the low acceptance of the diet, impact the patient's general condition and signal for establishing the diagnosis of imbalanced nutrition: lower than the body requirements.[20]

The identification of nursing diagnoses evidenced in this study contributes to the care planning and implementation of NP in clinical nursing practice, as it guides the diagnostic reasoning and the consequent decision making about the care plan. Qualified oncohematological nursing care, based on evidences, provides interventions that are more effective, the promotion of a humanized care, safety and patient satisfaction.

It is considered the relevance of the NP incorporation, as healthcare quality tool and systematization of nursing care in oncohematological units, since the complexity and magnitude of oncohematological diseases demands on nurses increasingly effective tools to ensure quality of health care.

CONCLUSION

The most frequent nursing diagnoses were ineffective protection; risk of infection; risk of impaired oral mucosa; risk of falls; acute pain; hyperthermia; constipation and unbalanced nutrition: lower than the body requirements. These diagnoses were related to the cancer itself, the performance of invasive procedures, to chemotherapy, the risk of falls identified from daily record of the nurses' evaluation, irregular bowel movement habits and insufficient food intake, characterized by the rejection of food.

It highlights the importance of summarizing the frequent nursing diagnoses in oncohematological patients because they guide the nurse regarding

clinical reasoning/diagnosis and substantiate the implementation of the individualized nursing process.

As limitations of the study, there was a small sample size of patients undergoing chemotherapy in the data collection period. It is noteworthy that, in the medical records analyzed incompleteness regarding sociodemographic characteristics, such as lack of information about the occupation and marital status were found.

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