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DEVELOPMENT OF DIAGNOSIS AND NURSING INTERVENTIONS FOR ONCO-HEMATOLOGICAL PATIENTS

Elaboração de diagnósticos e intervenções de enfermagem direcionados à pacientes onco-hematológicos

Desarrollo de diagnósticos e intervenciones de enfermería dirigidos a pacientes onco-hematológicos

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ABSTRACT

Objective: to describe the diagnoses and nursing interventions directed to onco-hematological patients in chemotherapy treatment. **Method:** retrospective, documentary study, carried out in a private institution, located in the city of Belém-Pará. **Results:** We evaluated 76 patient records, and identified 283 nursing diagnoses with an average of 3.7 diagnoses per patient, based on NANDA International's Nursing Diagnostics taxonomy. For each diagnosis, nursing interventions and outcomes were elaborated. Based on this systematization, it was verified that the patient with onco-hematologic disease may present a wide variety of diagnoses, interventions and nursing results which require special attention and targeted care. **Conclusion:** it was observed that the systematization of nursing care is extremely important to direct the care process; and using a standardized language facilitates the work process, contributing to the improvement of patient care.

DESCRIPTORS: Nursing care; Reference standards; Medical oncology; Hematology.

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RESUMO

Objetivo: descrever os diagnósticos e as intervenções de enfermagem direcionados aos pacientes onco-hematológicos em tratamento quimioterápico. **Método:** estudo retrospectivo, documental, realizado em uma instituição privada, localizada na cidade de Belém-Pará. **Resultados:** foram avaliados 76 prontuários e encontrados 283 diagnósticos de Enfermagem, com média de 3,7 diagnósticos por paciente, segundo a taxonomia de Diagnósticos de Enfermagem da NANDA Internacional. Para cada diagnóstico elaborou-se as intervenções e resultados de Enfermagem. A partir dessa sistematização, verificou-se que o paciente com doença onco-hematológica pode apresentar ampla variedade de diagnósticos, intervenções e resultados de Enfermagem, os quais requerem atenção especial e cuidado direcionado. **Conclusão:** observou-se que a sistematização da assistência de enfermagem é extremamente importante para direcionar o processo de cuidado; e usar uma linguagem padronizada facilita o processo de trabalho, contribuindo para a melhoria da assistência aos pacientes.

DESCRITORES: Cuidados de enfermagem; Padrões de referência; Oncologia; Hematologia.

RESUMEN

Objetivo: describir los diagnósticos y las intervenciones de enfermería dirigidas a los pacientes Oncohematológicos en tratamiento quimioterápico. **Método:** estudio retrospectivo, documental, logrado en una institución privada, ubicada en la ciudad de Belém-Pará. **Resultados:** fueron evaluados 76 prontuarios, siendo encontrados 283 diagnósticos de Enfermería con media de 3,7 diagnósticos por paciente, según la taxonomía de Diagnósticos de Enfermería de la NANDA International. Para cada diagnóstico se elaboraron las intervenciones y resultados de Enfermería. A partir de esa sistematización, se verificó que el paciente con enfermedad oncohematológica puede presentar amplia variedad de diagnósticos, intervenciones y resultados de Enfermería, los cuales requieren atención especial y cuidado direccionado. **Conclusión:** se observó que la sistematización de la asistencia de enfermería es extremadamente importante para direccionar el proceso de cuidado; y usar un lenguaje estandarizado facilita el proceso de trabajo, contribuyendo para la mejora de la asistencia a los pacientes.

DESCRIPTORES: Atención de enfermería; Estándares de referencia; Oncología médica; Hematología.

INTRODUCTION

The Systematization of Nursing Care (SAE) is a tool that aids the management of care, and can be used to organize the work of nurses, and the Nursing Process (NP) is one of its main pillars. [1] This organization is associated with the standardization of care and the use of a common language, which reflects in the improvement of communication between the team and the care provided to patients. [2]

The NP was introduced in Brazil in the 1970s by Wanda Horta, but only in 2009 did the Federal Council of Nursing issue Resolution 358/2009 that provides for its implementation in all settings in nursing care. [1] Regarding its use in the care of onco-hematologic patients, a search conducted in the Virtual Health Library, considering the period 2014-2020, found only three studies.

Oncohematologic diseases are characterized by the involvement of bone marrow cells and lymphoid organs, altering both the production and function of hematopoietic cells, directly interfering with the patient's quality of life. [3-4] In addition to leukemia and lymphomas, oncohematologic diseases include multiple myeloma and other myeloproliferative conditions. [5]

In Brazil, the incidence of 25,480 cases of these diseases is estimated for each year of the triennium 2020-2022, including leukemia, non-Hodgkin's lymphoma (NHL), and Hodgkin's lymphoma (HML). [6] In the North Region, not considering non--melanoma skin cancer, leukemia is the fifth most frequent type in men (4.45/100,000) and the sixth in women (3.55/100,000).

Lymphomas have an average risk of 1.64/100,000 among men and 1.15/100,000 in women. [6]

The diagnosis of onco-hematologic diseases implies several approaches, and the treatment, in turn, involves the use of chemotherapeutic agents, immunosuppressants, immunobiologicals, radiotherapy, and in some cases, hematopoietic stem cell transplantation. [7-8-3] In this context, the patient and his family present several demands, from diagnosis to treatment.

Among the professionals who care for them, the nurse is usually the first contact, either in primary care or in medium and high complexity, where the patient is usually admitted and the first specialized care is provided. [9] Thus, nurses need to develop a targeted care and a tool that can help them in this process is the NP. [1-10]

Thus, the aim is to propose a new look at nursing care for onco-hematologic patients, as well as to understand and improve the particularities of the nursing care process for these patients and their families. Thus, the present study has the following question: what are the nursing diagnoses and interventions for oncohematologic patients undergoing chemotherapy?

Thus, this research aims to answer this question, describing the diagnoses and nursing interventions found during the investigation.

METHODS

This is a retrospective descriptive study, of the documental type, carried out at Clínica Oncológica do Brasil, which is a re-

gional reference in cancer diagnosis and treatment and is located in the city of Belém-PA. Documentary research uses files that have not yet received any analytical treatment and its objective is to extract information from documents in order to understand a given phenomenon.[11-12]

Between 2010 and 2020, about 1918 patients were seen at the clinic, of which approximately 153 had onco-hematologic diseases. Electronic medical records of patients under treatment for oncohematologic diseases, older than 18 years of age and with complete information were included; and excluded were medical records with incomplete information, filed due to discharge for cure, discontinuation of treatment or death, and those that were not available for analysis during the research.

After applying the inclusion and exclusion criteria, the study sample consisted of 76 medical records and data collection was carried out from March to June 2021, after approval by the Ethics Committee on Research with Human Beings of the "Magalhães Barata" Nursing School from the Pará State University (CEP/UEPA) under number CAEE 43232820.9.0000.5170.

Data collection occurred through a previously structured form that contained the socio-epidemiological and clinical profile, the description of nursing activities, diagnostic propositions and nursing interventions for the compilation of information. The data were transcribed in full and collection was performed according to site availability.

For the establishment of the SAE, we used the standardized languages of Nursing Diagnoses of NANDA International (NANDA), Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC) in order to draw the diagnoses, interventions and nursing outcomes from the records found.[13-14-15] Data analysis was performed using descriptive statistics, which is concerned with the organization and description of data, being applicable to any branch of knowledge.

To minimize the risks inherent to the study, such as breaking the secrecy of identity and misuse of information, we used a code system with three alphabetical initials and two numerals to identify each medical record, being identified as COD 01; COD 02; COD 03... and protecting the identity. As for the second risk, the researchers committed themselves to use them only for the research, caring and respecting the medical record as a patient's document.

RESULTS

After the evaluation of the sociodemographic data, the results showed a predominance of females (52.7%) over males (47.3%) and an age range between 63 and 83 years, with 46.1% of the cases. As for the place of residence, the data revealed that 84.3% of patients resided in the city of Belém do Pará, while 11.8% came from other places and 3.9% did not have this information recorded. As for marital status, 48.6% of the patients were married, 35.6% were single, and 10.5% were widowed.

In relation to profession/occupation, there was a great variety, from driver, seamstress, and housekeeper to civil servant, civil engineer, lawyer, and nurse, with 26.6% retired, consistent with the age range, which pointed to a greater number of elderly patients. Another variable evaluated was the time of treatment onset, in which 81.8% of patients had started treatment more than a year before. Table 1 shows the distribution of these data according to each onco-hematologic disease.

In addition to these variables, others were evaluated, however, the rate of recording the information was quite low, compromising the analysis. Among them are race/color that was absent in 98.6% of the medical records; followed by religion 96%; number of children 93.3% and education 73.3%.

Table 1 – Distribution of sociodemographic data according to onco-hematologic disease. Belém-Pará, 2021.

		Leukemia	Lymphoma	Myeloma Multiple	Vera Polycythemia	Myelofibrosis	Total (%)
N (%) = 76 (100%)		21 (27,6%)	36 (47,3%)	16 (21,1%)	2 (2,6%)	1 (1,4%)	76 (100%)
Gender							
	Male	13 (61,9%)	11 (30,5%)	11 (68,7%)	1 (50%)	-	36 (47,3%)
	Female	8 (38,1%)	25 (69,4%)	5 (31,2%)	1 (50%)	1 (100%)	40 (52,7%)
Age							
	21-41	7 (33,3%)	11 (30,5%)	-	-	-	18 (23,6%)
	42-62	5 (23,8%)	9 (25%)	6 (37,5%)	-	1 (100%)	21 (27,7%)
	63-83	9 (42,8%)	15 (41,6%)	10 (62,5%)	1 (50%)	-	35 (46,1%)
	≥84	-	1 (2,8%)	-	1 (50%)	-	2 (2,6%)
Place of residence							
	Belém	19 (90,5%)	31 (86,1%)	11 (68,7%)	2 (100%)	1 (100%)	64 (84,3%)
	Other	2 (9,5%)	4 (11,1%)	3 (18,7%)	-	-	9 (11,8%)

Table 1 – Cont.

Marital status	NR*	-	1 (2,8%)	2 (12,5%)	-	-	3 (3,9%)
	Single:	8 (38,1%)	14 (38,9%)	4 (25%)	-	1 (100%)	27 (35,6%)
	Married:	10 (47,6%)	15 (41,7%)	11 (68,7%)	1 (50%)	-	37 (48,6%)
	Widower:	1 (4,7%)	5 (13,9%)	1 (6,2%)	1 (50%)	-	8 (10,5%)
	NR*	2 (9,5%)	2 (5,5%)	-	-	-	4 (5,3%)
Treatment Start							
	6 - 12 months	-	1 (2,8%)	1 (6,2%)	-	-	2 (2,6%)
	13 - 60 months	15 (71,4%)	32 (88,9%)	12 (75%)	2 (100%)	1 (100%)	62 (81,6%)
	>5 years old	6 (28,6%)	2 (5,5%)	3 (18,7%)	-	-	11 (14,4%)
	NR*	-	1 (2,8%)	-	-	-	1 (1,4%)

*NR: Data not recorded in medical records.
Source: Medical records.

While the data refers to personal morbid history (PMA) and family history (FMA), the former was absent in 26% of the medical records and the latter in 78%. In the records with this information, 18.2% of the patients had FMA and 67.6% had PMA, with a history of diseases such as hypertension, diabetes mellitus, heart diseases, and some type of cancer. As for the Diagnostic Hypothesis (HD) of the patients, lymphoma was the most prevalent 47.3%, followed by leukemia 27.6% and multiple myeloma 21.1%. Polycythemia vera and myelofibrosis were also found, with percentages of 2.6% and 1.4% respectively.

As for the SAE, based on the data collected, including evolutions of the multiprofessional team and test results, 283 nursing diagnoses were found, with an average of 3.7 diagnoses for each patient. For each diagnosis, the respective nursing interventions and outcomes were plotted using the standardized NIC and NOC languages.

The diagnoses were classified according to NANDA-I domains and distributed as follows: Domain 1. Health Promotion - six (2.2%) diagnoses; 2. Nutrition 34 (12.1%); 3. Elimination and exchange 26 (9.2%); 4. Activity/rest 41 (14.6%); 9. Coping/tolerance to stress 19 (6.8%); 11. Safety/protection 98 (34.6%); and 12. Comfort 58 (20.5%) of the diagnoses. Table 2 presents a summary of the main diagnoses and their frequency, as well as the nursing interventions and outcomes identified for each patient's responses to the health-illness process and treatment.

Among the diagnoses that stood out were: 1) Risk of Infection; 2) Anxiety related to current health condition; 3) Unbalanced nutrition: less than body needs; 4) Nausea related to chemotherapy; 5) Acute pain; 6) Impaired comfort and 7) Diarrhea. These diagnoses are related to Domains of the NANDA-I taxonomy such as comfort, nutrition and well-being, and form a panorama that demonstrates the human needs most affected by onco-hematologic disease, contributing to the construction of a general care base for these patients, which optimizes and facilitates the Nursing care to be provided, enabling the implementation of the SAE.

As for the nursing interventions and results, these were the most varied, because despite the visible existence of a pattern of signs and symptoms for each type of onco-hematologic disease, there is also the individuality of the patient that requires constant evaluation and implementation of actions by the nursing team, aiming for a humanized care, respecting the patient in his uniqueness.

DISCUSSION

The higher prevalence of onco-hematologic disease in women in this study disagrees with literature data that indicate that men are more affected by cancer. Global statistics and the National Cancer Institute reveal that despite living less than women, men have a greater chance of developing cancer throughout their lives, since half of the male population may have some type of cancer compared to one third of the female population[6,6,16]

As for age, our data show that the most vulnerable populations affected by onco-hematologic diseases are adults and the elderly, corroborating the INCA data, which indicate age as the main risk factor for the development of cancer, since the incidence of this disease increases considerably after the age of 50.[6]

The fact that most patients are married ratifies the importance of support from their spouse and/or partner during the diagnosis and especially the treatment of cancer, because studies show that such support accelerates the healing process of patients and increases their life expectancy.[17]

The prevalence of lymphoma corroborates the information that lymphoma and myeloma are the most frequent types of hematological cancer, presenting more than 10,000 new cases in 2020. [18-6] As for SAE, the diagnoses most identified in our survey corroborate the literature, in which the nursing diagnoses Risk of Infection, Acute Pain, Nausea, and Unbalanced Nutrition appear as the most used terms/diagnoses for hospitalized oncohematologic patients.[19]

Table 2 – Systematization of Nursing Care for onco-hematologic patients.

REGISTERED TERMS	NANDA RANKING		NIC CLASSIFICATION	NOC CLASSIFICATION
DOMAIN				
1. Health Promotion	**DIAGNOSIS**	**N (%)**	**INTERVENTION**	**EXPECTED RESULTS**
Does not come to appointments; does not perform exams Non-adherence to guidelines	Ineffective health control	4 (5,2%)	Counseling; follow up by phone and request family support.	Adherence to guidelines; knowledge about disease control and treatment.
2. Nutrition				
Oral injury	Unbalanced nutrition: less than body needs	13 (17,2%)	Treat oral lesion.	Healing of the lesions.
Inappetence				
Lower than recommended food intake			Nutritional counseling and monitoring.	Improved appetite and nutritional status.
Weight loss			Weight control.	
Dysgeusia			Control of chemotherapy.	Improved intake.
Sensation of postprandial fullness			To manage prescribed medications.	Improvement of abdominal discomfort.
Body mass index greater than 25 kg/m^2	Overweight	9 (11,2%)	Set weight reduction goals with the patient; and encourage healthy habits.	Food portion control and weight reduction.
Body mass index greater than 30 kg/m^2	Obesity	5 (6,5%)	Set weight reduction goals with the patient; and encourage healthy habits.	Food portion control and weight reduction.
Hypohydration/dehydration Xerostomia	Deficient fluid volume	4 (5,2%)	Control and stimulate water intake.	Water balance and hydration.
3. Disposal and Exchange				
Chemotherapy	Diarrhea	12 (15,7%)	Control of diarrhea and chemotherapy, administer prescribed medications.	Bowel continence and satisfactory response to medications.
Treatment regime	Dysfunctional gastrointestinal motility	7 (9,3%)	Perform chemotherapy control and nutritional monitoring.	Resolution of symptoms and fecal elimination with adequate frequency and consistency.
Infection			Treat infection.	Resolution of the infection.
Fatigue and change in bowel pattern	Constipation	5 (6,5%)		Normal bowel elimination.
Hemorrhoid			Exercise: walking; hydric and nutritional control.	
Chemotherapy			Exercise: ambulation and chemotherapy control.	Normal bowel elimination.
4. Activity/Rest				
Onco-hematologic disease and weakness	Fatigue	17 (22,3%)	Perform energy and nutrition control.	Energy conservation and fatigue reduction.
Easy fatigue				
Sleepiness			Promote sleep improvement.	Improved sleep and rest.

Table 2 – Cont.

Asthenia/weakness	Impaired ambulation	10 (13,2%)	Prevent falls; carry out prescribed medication.	Improvement of asthenia.
Fatigue			Exercises: for muscle strengthening.	Reduced fatigue.
Lack of balance				Performing coordinated movement.
Wheelchair/mule			Promote body mechanics and prevent falls.	Free roam.
Inappetence			Control nutrition.	Recovery of muscular endurance.
Edema in the lower limbs			Perform a massage on the lower limbs.	Reduction of edema.
Pain			Perform prescribed medication.	Reduction of pain level.
Pathological fracture			Prevent falls; carry out prescribed medication.	Performing coordinated movement.
Peripheral Neuropathy			Perform lower limb massage and prescribed medication.	Improved peripheral sensitivity.
Decreased muscle strength	Physical mobility impaired	6 (7,8%)	Exercise for muscle strengthening and control.	Activity tolerance and recovery of muscle strength.
Low back pain			Pain and pressure control in areas with the highest risk of injury.	Reduction of pain level and prevention of pressure injuries.
Verbal report of insomnia	Insomnia	5 (6,5%)	Control the environment (comfort) and medications; relaxation therapy.	Improved sleep and personal well-being.
9. Coping/tolerance to stress				
Fear	Anxiety	16 (21,1%)	Early guidance on treatment.	Improved coping, reduced anxiety level, and self-control.
Insecurity				
Seizure				
Nervousness			Perform relaxation therapy and active listening.	
Insomnia and worry				
Anguish			Provide emotional support and active listening.	
Nausea and weakness			Symptom control and relaxation therapy.	
11. Safety/Security				
Chemotherapy	Risk of Infection	58 (76,3%)	Control medications and medication infusion; evaluate and manage reactions.	Detect and control infection risks; and assist the patient in a safe manner.
Radiotherapy			Supervise and care for the radiation therapy application site; evaluate and manage reactions.	
Venous access			Assess puncture site and prevent infection.	
Biopsy			Evaluate site and perform simple dressing.	
Bone Marrow Transplant			Supervise and care for the transfusion site.	
Hospitalization			Control medications/procedures performed; protect against infection.	
Decreased hemoglobina			Protect against infection.	

Table 2 – Cont.

Oral injury			Treat injuries.	Recovery of oral integrity.
Immunosuppression			Evaluate response to medications and laboratory parameters.	Improved immunity.
Odynophagia/Dysgeusia/ageusia	Impaired oral mucous membrane integrity	14 (18,42%)	Perform water and nutritional control; restore oral health.	Improved discomfort in swallowing food and liquids.
Pallor of the oral mucosa			Hydric and nutritional control and laboratory parameters.	Improvement of the symptom.
Dry mouth				Improved hydration.
Gingival Bleeding			Stop bleeding.	Recovery of oral integrity.
Pharyngitis			Perform prescribed medication.	
Skin lesion			Treat injury.	
Invasive procedure			Take care of the procedure site; protect against infection.	Recovery of skin integrity and improvement of discomfort.
Acute pain after venipuncture	Impaired skin integrity	9 (11,8%)	Control pain and perform prescribed medication.	
Pyodermitis			Treat injury.	
Vascular trauma (necrosis)				
Decreased muscle strength/paresthesia/neuropathy			Massage and strengthening exercises.	
Impaired balance/mobility			Perform area restraint and provide orientation (fall hazards).	Safe home environment; risk control; knowledge for fall prevention; and improved symptoms.
Vision impaired	Risk of falling	9 (11,8%)	Improve communication and assist in self-care.	
Arthrosis/arthralgia			Exercise (joint mobility) and pain assessment.	
Older Age (Above 65)			Provide guidance on the risks of falling.	
Elevated body temperature (38°C- 39.9°C)	Hyperthermia	4 (5,2%)	Monitor vital signs; treat fever; prevent convulsions and control the environment.	Stable vital signs and thermoregulation.
12. Comfort				
Pain in the pelvic and abdominal region				
Tendon rupture				
Epigastralgy				
Pain in oral cavity				
Abdominal pain (VAS 8)				
Back pain	Acute pain	25 (32,8%)	Perform pain control; administer analgesics as prescribed; and perform relaxation therapy.	Improvement of pain and discomfort level.
Bone pain				
Shoulder pain				
Headache				
Pain in upper and lower limbs				
Polyarthralgia and headache				
Whole-body pain				
Chemotherapy-related nausea	Nausea	21 (27,6%)	Control of nausea and chemotherapy; water and nutritional monitoring.	Control of nausea and improvement of discomfort.

Table 2 – Cont.

Fatigue			Guiding rest.	Physical well-being and fatigue reduction.
Pain			Perform prescribed medication and pain control.	Physical well-being and controlled pain.
Discomfort	Comfort impaired	8 (10,5%)	Carry out prescribed medication and give instructions for rest.	Physical well-being and improvement of discomfort/discomfort.
Dyspnea on exertion			Assisting in self-care.	Physical well-being and adequate SpO2.
Asthenia			Guiding rest.	Physical well-being and reduction of asthenia.
Chronic hip pain				
Refers to chronic back pain	Chronic pain	4 (5,2%)	Perform pain control; administer prescribed analgesic; and perform relaxation therapy.	Improvement of pain and discomfort level.
Pain refractory to tramal				
Fatigue				

Abbreviations: VAS: visual analog scale of pain; SpO2: oxygen saturation.
Source: medical records.

In this sense, another study ratifies the standardization of Nursing Diagnoses in onco-hematology, since it presents terms such as Acute Pain, Unbalanced Nutrition, and Risk of Infection, also bringing the importance of the use of a proper language within the nursing team and the methodical structuring of the care process, aiming at higher quality in the care to the client and his family.[20]

Considering the complexity of the pathophysiology, the disease process, and the specific care in onco-hematology, it is essential to adopt the NP, which is a systematic way to promote care, guiding the actions of the nursing team and enabling the implementation of a specific care plan for each individual.[21]

However, despite the large number of publications on the importance of SAE and the legal support for its realization within the laws and resolutions on the professional exercise of nursing, it is notable that in many health institutions, its implementation is not yet a routine.

A study that evaluated the implementation of SAE in a blood center from the perspective of nurses, identified that there are deficiencies in the knowledge of professionals about the importance of SAE in the outpatient context, being somewhat distanced from their daily practice, because they claim that they do not observe it on a daily basis.[22]

CONCLUSION

A wide variety of nursing diagnoses, interventions and outcomes were found for onco-hematologic patients. Among the most frequent diagnoses are Risk of Infection, common to practically all health services; however, Anxiety, Unbalanced nutrition: lower than body needs, Nausea, Acute pain, and Diarrhea are more specific to patients with onco-hematologic disease, since they are more focused on aspects of the disease and/or treatment itself.

Regarding nursing interventions and results, because they are closely related to the signs, symptoms and individuality of each patient, it is recommended that nursing professionals consult the taxonomies whenever necessary to define their conducts in a directed way. This is because the SNA shows itself as an important tool to direct the care process and its use facilitates the work process, communication between the team, contributing to the improvement of patient care.

The limitations found in this research are focused on the deficiency of sociodemographic data in the analyzed records, and to minimize it, it is suggested that further research use methodological approaches that involve direct communication with patients.

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