

NURSING CARE IN THE TREATMENT OF MUCOSITIS IN CANCER PATIENTS UNDERGOING CHEMOTHERAPY

CUIDADOS DE ENFERMAGEM NO TRATAMENTO DE MUCOSITE EM PACIENTES ONCOLÓGICOS SUBMETIDOS À QUIMIOTERAPIA

CUIDADOS DE ENFERMERÍA EN EL TRATAMIENTO DE LA MUCOSITIS EN PACIENTES CON CÁNCER SOMETIDOS A QUIMIOTERAPIA



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ABSTRACT

The object of this study is: the identification of possible nursing care in coping with mucositis in patients undergoing chemotherapy treatment. As a guiding question: what are the possible impacts on the life of cancer patients undergoing chemotherapy? And the objective of the research: to help minimize the occurrence of mucositis through nursing professionals. The study is of the type of integrative review researched in electronic databases (virtual libraries). This theme was chosen because there is a scarcity of it, and care for these individuals is

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essential to reduce the reactions caused by the antineoplastic drugs administered. It can be concluded that the nursing professional is a fundamental part in the orientation of these cancer patients undergoing chemotherapy, as he is the one who will be in contact with these individuals for the longest time together with the multidisciplinary health team.

Keywords: Nursing Care. Stomatitis. Pharmacological Treatment.

RESUMO

O estudo em questão tem como objeto: a identificação dos possíveis cuidados de Enfermagem no enfrentamento da mucosite em pacientes no tratamento de quimioterapia. Como questão norteadora: quais os possíveis impactos ocorreriam na vida do paciente oncológico submetido à quimioterapia. E o objetivo da pesquisa: ajudar na minimização da ocorrência de mucosite por meio dos profissionais de enfermagem. O estudo é do tipo de revisão integrativa pesquisada em bases eletrônicas (bibliotecas virtuais). Esta temática foi escolhida pois nota-se uma escassez sobre a mesma, sendo que os cuidados para com esses indivíduos são primordiais para a diminuição das reações acarretadas pelos antineoplásicos administrados. Pode-se concluir que o profissional de enfermagem é peça fundamental na orientação à esses pacientes oncológicos submetidos à quimioterapia, pois é ele quem estará mais tempo em contato com esses indivíduos juntamente com a equipe multiprofissional de saúde.

Palavras-chave: Cuidados de Enfermagem. Estomatite. Tratamento Farmacológico.

RESUMEN

El objetivo de este estudio es identificar posibles opciones de atención de enfermería para el manejo de la mucositis en pacientes sometidos a quimioterapia. La pregunta clave es: ¿cuáles son los posibles impactos en la vida de los pacientes con cáncer sometidos a quimioterapia? El objetivo de la investigación es ayudar a los profesionales de enfermería a minimizar la incidencia de mucositis. Se trata de un estudio de revisión integrativa realizado en bases de datos electrónicas (bibliotecas virtuales). Se eligió este tema debido a la falta de investigación al respecto, y la atención a estas personas es esencial para reducir las reacciones causadas por los agentes antineoplásicos administrados. Se puede concluir que los profesionales de enfermería son cruciales en la orientación de los pacientes con cáncer sometidos a quimioterapia, ya que son quienes pasarán la mayor parte del tiempo con ellos, junto con el equipo multidisciplinario de atención médica.

Palabras clave: Cuidados de Enfermería. Estomatitis. Tratamiento Farmacológico.



1 INTRODUCTION

Mucositis consists of the inflammatory response of mucous membranes to the action of antitumor drugs. When it occurs in the oral cavity it is called stomatitis, in the esophagus it is called esophagitis, and in the rectum region it is called proctitis (BOARETTO et al., 2023; ANTUNES et al., 2022).

The most frequent mucosal changes after chemotherapy occur in the oral cavity, and it is estimated that 40% of patients receive chemotherapy in conventional doses for solid tumors and in 60% to 70% of patients who receive chemotherapy for hematologic malignancies. In recent years, there has been a significant increase in the incidence of mucositis due to therapies with high doses of new drugs and curative schemes that use concomitant radiotherapy and chemotherapy (BONASSA & GATO, 2012; SAINTS; NEMETALA; BUGARIN JÚNIOR, 2024).

Chemotherapy is a cancer treatment modality that brings benefits and harms to the human body because the cytotoxic treatment reaches the affected cells as well as healthy cells, resulting in drug side effects, such as mucositis (INCA, 1993; ALMEIDA; CARVALHO, 2020).

Therefore, the nursing team has a massive participation in the direct care of patients undergoing chemotherapy treatment, both at the time of administration of the antineoplastic drug and in emotional support at the time of their greatest fragility together with the multidisciplinary health team (ARAÚJO et al., 2013; BOARETTO et al., 2023).

There are important factors that are caused during chemotherapy treatment, which involves physical and psychological symptoms, the latter being a group of more difficult symptoms and greater human suffering, because physical pain, no matter how long it takes to heal, it ends up happening, while emotional pain, if it does not get special attention, causes the individual to enter a state of deep sadness (SOUZA AND GOMES, 2012; ANTUNES et al., 2022; ALMEIDA; CARVALHO, 2020).

The objective of this study was to identify the possible nursing care in coping with mucositis in patients undergoing chemotherapy.

2 METHODOLOGY

This integrative review study aims to verify the publications related to the theme of the study, mainly to evidence knowledge in the scientific field (SOUZA; SILVA; CARVALHO, 2010), with a qualitative approach, we will be able to perceive through the tables the knowledge perceived from the studies.



In the first stage, the research question is elaborated, which is: What is the nursing care in patients with mucositis undergoing chemotherapy treatment?

In the second stage, an intense search for reading begins, and the inclusion criteria are defined, which were: publications in the form of an article available in Portuguese, published in the aforementioned databases, in the period from 2013 to 2023, considering the last five years of publications, with the descriptors, which are: Nursing Care; Stomatitis; Pharmacological Treatment. Thus, the review was carried out through the Virtual Health Library (VHL), in the following databases: LILACS, BDNF and MEDLINE.

I emphasize that the exclusion criteria established were: unavailability of access, publications in more than one database, abstract, texts in the form of projects, in other languages, outside the time frame defined in the inclusion criteria, and all articles that are not articulated with the theme.

This integrative review study aims to verify publications related to the theme.

Table 1

Cross-referencing of descriptors

DESCRIPTORS	TOTAL	FILTER	SELECTION	2013	2014	2015	2016	2017
Nursing Care and Stomatitis and Pharmacological Treatment	58	04	0	0	0	0	0	0
Nursing Care and Stomatitis	221	04	01	0	01	0	0	0
Nursing Care and Pharmacological Treatment	13.134	96	13	01	03	02	03	04
Stomatitis and Pharmacological Treatment	4.018	08	02	01	0	0	01	0
TOTAL	296.152	112	16	02	04	02	04	04

Source: Authors.

When using the descriptors Nursing Care and Stomatitis and Pharmacological Treatment, we obtained a total of 58 studies, in which no article was selected. By crossing the descriptors Nursing Care and Stomatitis, we found 221, when filtering we obtained 04 articles, and 01 article was chosen.

In the descriptors Nursing Care and Pharmacological Treatment, we captured 13,134, with filter 96, selecting 13 for production. But, when crossing Stomatitis and Pharmacological Treatment, we had 4,018, when filtering we had 02 articles selected.

Thus, the study showed 296,152 results, with 112 that met the inclusion criteria, of which 16 were selected in 2012 (02); 2013 (04); 2014 (02); 2015 (04) and 2016 (04).

Related to the time frame from 2012 to 2016, 16 articles were highlighted, all in Portuguese. These articles were related to the theme of the study, of which we perceive the productions in 2012 (02); 2013 (04); 2014 (02); 2015 (04) and 2016 (04).

The journals evidenced from the collected articles, according to the 2014 Qualis are: Anna Nery School (B1 Nurse); UERJ Nursing Journal (B1 Nurse); Electronic Journal of Nursing (B1 Nurse), Revista Gaúcha de Enfermagem (B1 Nurse) and Communication in Health Sciences (B3 Nurse), the rest of the journals did not obtain Qualis because they were not on the Sucupira Platform.

The searches were found in the following databases: BDENF - Nursing (07); LILACS (09). The construction sites of the studies were RJ (04); SP (04); MG (02); PI (02); SC (01); PR (01); RS (01) and DF (01). When describing the authors' professions, we perceive an expressive number for Nursing (15), while the others are Physician (01) and Nutritionist (01).

In the third stage, we used a data collection instrument, which aims to extract the key information from each selected article. The instruments in the table were divided into categories: title, journal, database where the article was found, year of publication, location, profession of the authors, authors, and type of document.

Table 2

Article Data Collection Instrument

Title	Periodic	Databas e	Year	Loca l	Authors' Profession	Authors	Document Type
Best practices applied to patient safety in medication administration	Revista de enfermagem UFPE on line	BDENF	2016	RJ	Nurse/Teacher	PAES, G.O; MESQUITA, M.G.R; MOREIRA, M.B.	Original article.
Stress in patients undergoing antineoplastic treatment	Journal: care is essential	LILACS	2016	SP	Nurse/Teacher	RODRIGUES, A.B. et al.	Original article.
Nursing care for onco-hematological patients undergoing high doses of chemotherapy: an integrative review	Revista de enfermagem UFPE on line	BDENF	2016	SP	Nurse/Teacher	CARLUCCI, V.D.S. et al.	Integrative Review.
Educational action with a nursing team in an outpatient chemotherapy service: an experience report	Revista de enfermagem UFPE on line	BDENF	2016	MG	Nurse	BARBOSA, M.S. et al.	Experience report.
Nursing interventions for children and adolescents with cancer during chemotherapy treatment	Journal: care is essential	LILACS	2015	RJ	Nurse/Teacher	SANTOS, T.R.A; SOUZA, S.R.	Original article.



Nursing actions in the face of reactions to chemotherapy drugs in cancer patients	Journal: care is essential	LILACS	2015	MG	Nurse	GUIMARÃES, R.C.R et al.	Original article.
Effect of educational video on student knowledge about oral hygiene of chemotherapy patients	Anna Nery School	BDENF	2015	SP	Nurse	STINA, A.P.N.; ZAMARIOLI, C.M.; CARVALHO, E.C.	Original article.
Characterization of the patient with chemotherapy-induced oral mucositis	UFPI Nursing Journal	BDENF	2015	PI	Nurse	MORAIS, J.R.	Original article.
The safety of nursing workers in the administration of intravenous antineoplastic chemotherapeutic agents	UERJ Nursing Journal	LILACS	2014	SC	Nurse	SENNA, M.H., et al.	Original article.
Quality of life of patients with hematological neoplasia undergoing chemotherapy	Minas Gerais Journal of Nursing	LILACS	2014	PR	Nurse/ Doctor	CALEFI, K.A.C, et al.	Original article.
Comprehensive nursing care for cancer patients and families	UFSM Nursing Journal	BDENF	2013	RS	Nurse	VICENZI, A., et al.	Original article.
Sociodemographic and clinical profile of people undergoing chemotherapy treatment: subsidies for nursing management	Electronic Journal of Nursing	LILACS	2013	RJ	Nurse	SILVA, M. M. et al.	Original article.
Cancer patients and nursing: relationship between the degree of oral mucositis and the therapy implemented	Journal: care is essential	BDENF	2013	PI	Nurse	ARAÚJO, S.N., et al.	Original article.
Feelings shared by family members of cancer patients undergoing chemotherapy treatment: a study of social representations	UERJ Nursing Journal	LILACS	2012	RJ	Nurse	SOUZA, M.G.G.; GOMES, A.M.T.	Original article.

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Nausea, vomiting and quality of life of women with breast cancer undergoing chemotherapy treatment	Gaúcho Journal of Nursing (Printed)	LILACS	2013	SP	Nurse	GOZZO, T.O., et al.	Original article.
Effects of Ginger (Zingiber officinale) in Cancer Patients Treated With Chemotherapy	Health Sciences Communication	LILACS	2012	DF	Nutritionist	BARRETO, A.M.C.; TOSCANO, B.A.F.; FORTES, R.C.	Original article.

Source: Authors.

Related to the time frame from 2012 to 2016, 16 articles were highlighted, all in Portuguese. These articles were related to the theme of the study, of which we perceive the productions in 2012 (02); 2013 (04); 2014 (02); 2015 (04) and 2016 (04).

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To the type of research, we identified: Translational research with a quantitative, descriptive and exploratory approach - evidence-based practice - (01); Descriptive study – exploratory (01); Descriptive study, experience report type (01); Quasi-experimental study (01); This is a descriptive-exploratory study with a quantitative approach (02); Qualitative and quantitative study: (01); Quantitative study (01); This is a descriptive-exploratory qualitative study (01); Non-experimental, descriptive-documental-quantitative study (01), Qualitative approach study (02). Type of document showed 04 review articles and 12 originals.

In the fourth stage, the articles that were selected for integrative review are analyzed to verify their authenticity, methodological quality, importance of information and representativeness, for this reason we build a picture, as follows:

Table 3

Validation of the selected articles and the levels of evidence

TITLE	GOALS	TYPE OF RESEARCH	DATA EVIDENCED	LEVEL OF EVIDENCE
Best practices applied to patient safety in medication administration	To identify how the administration of medications by the nursing team in low and medium complexity hospitalization units is processed, to analyze the practice of medication administration by the nursing team in the light of the best practices aimed at patient safety and to develop protocols directed to the practice of medication administration as a subsidy to the nursing teams.	Translational research with a quantitative, descriptive and exploratory approach - evidence-based practice.	That the optimization of the work process in drug administration mediated by guiding and updated instruments incorporates qualified and appropriate recommendations to the reality investigated, and essentially ensures that the precepts aimed at patient safety are implemented and validated.	04
Stress in patients undergoing antineoplastic treatment	To evaluate the stress level of patients who were receiving antineoplastic treatment, which stressors were related to this situation, and to examine its relationship with sociodemographic variables and oncological disease.	This is a descriptive-exploratory, quantitative study.	A significant proportion of patients suffered from stress. Thus, it is essential for nursing patients to follow up with cancer patients so that they can better cope with the disease and treatment.	04
Nursing care for onco-hematological patients undergoing high doses of chemotherapy: an integrative review	Based on the national and international literature, this study evaluates the nursing care provided to hospitalized adult onco-hematological patients undergoing high doses of chemotherapy.	Literature review.	The synthesized evidence contributes to the nurse selecting and implementing strategies that can prevent or control conditions that are limiting to the patient during treatment	06
Educational action with a nursing team in an outpatient chemotherapy service: an experience report	To report the professional experience of an in-service educational action for nursing technicians and assistants related to oncological care for patients undergoing chemotherapy treatment.	This is a descriptive study, experience report type.	It is expected that this educational action will produce positive effects for the performance of nursing team members in the care of patients undergoing chemotherapy	05
Nursing interventions for children and adolescents with cancer during chemotherapy treatment	To identify, based on scientific production, nursing actions for children and adolescents during chemotherapy treatment; To classify the nursing actions identified	Literature review.	The main focus of the present research is to show that the nursing care provided to children and adolescents with cancer should not be limited to	06



	in the literature according to the domains of the NIC Taxonomy (Nursing Interventions); To compose a reference framework with the main Nursing Interventions, according to the NIC Taxonomy, for children and adolescents during chemotherapy treatment.		attending only to the biological body, but also to consider them as beings in growth and development	
Nursing actions in the face of reactions to chemotherapy drugs in cancer patients	To describe nursing actions in the face of reactions to chemotherapy drugs in cancer patients.	Literature review.	It was found that there is a need to improve nursing records, as well as the implementation of the evaluation process in the construction of indicators to evaluate specific conducts and/or interventions.	06
Effect of educational video on student knowledge about oral hygiene of chemotherapy patients	To verify the effect of the educational video on the cognitive and procedural knowledge of oral hygiene, the degree of importance that the student attributes to the procedure for the oral health of patients undergoing chemotherapy and to evaluate the acceptance of this teaching strategy.	This is a quasi-experimental study.	Educational video improved the cognitive and procedural knowledge of undergraduate nursing students; It was well accepted and can be used in the training of the multidisciplinary team.	03
Characterization of the patient with chemotherapy-induced oral mucositis	To characterize the cancer patient with oral mucositis treated at a private health service.	Descriptive exploratory study with a quantitative approach	Most patients are female, aged 40 to 59 years, with an education of 11 years or more. They have an income of 2 to 4 minimum wages and the most frequent types of cancer were gastrointestinal tract and breast cancer, respectively	04
The safety of nursing workers in the administration of intravenous antineoplastic chemotherapeutic agents	To identify the workers' knowledge about the correct use of PPE, and to analyze the process of administration of chemical agents by nursing workers in a medical clinic unit and chemotherapy outpatient clinic of a university hospital	Field research	The results revealed the need for continuing education to raise awareness of the risk of exposure to antineoplastic drugs.	04
Quality of life of patients with hematological neoplasia	To analyze the quality of life of patients with hematological neoplasia	Quantitative research	Through analysis, it can be inferred that the physical and psychological domains	03

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undergoing chemotherapy	undergoing chemotherapy.		were the ones that suffered the most changes, but without statistically significant difference for all domains. It should be noted that cancer indisputably alters all aspects of the individual's life and causes profound changes in their routine and life habits.	
Comprehensive nursing care for cancer patients and families	To identify the actions promoted by the nursing team in search of comprehensive care for cancer patients and their families	This is a qualitative, descriptive and exploratory study.	It is hoped that this study will contribute to the development of actions that help cancer patients and their families cope with the disease.	04
Sociodemographic and clinical profile of people undergoing chemotherapy treatment: subsidies for nursing management	To characterize the sociodemographic and clinical profile of the people assisted in the chemotherapy outpatient clinic, and to highlight the contributions of their knowledge to the management of nursing actions.	This is a non-experimental, descriptive, documentary, quantitative study.	In nursing care management, they can guide the decision-making and action process, contributing to comprehensive care, in line with the reality of each individual, in a contextualized and humanized way.	04
Cancer patients and nursing: relationship between the degree of oral mucositis and the therapy implemented	To characterize oral mucositis in patients undergoing cancer treatment.	This is an exploratory-descriptive study with a quantitative approach.	It is concluded that there is a need for the inclusion of nursing in the promotion of preventive actions and control of oral mucositis, with a view to maintaining well-being, optimizing the therapeutic response and improving the quality of life of cancer patients.	04
Feelings shared by family members of cancer patients undergoing chemotherapy treatment: a study of social representations	To know the feelings experienced by the family member of the cancer patient who undergoes chemotherapy treatment.	Qualitative research.	Through the study, we learned that these family members express feelings such as fear of death, anguish, sadness and loneliness when coping with the disease.	04
Nausea, vomiting and quality of life of women with breast cancer undergoing chemotherapy treatment	To evaluate the quality of life of women with breast cancer undergoing chemotherapy and to identify the occurrence of nausea and vomiting during treatment	This is a quantitative and prospective study.	The availability of treatment information and guidance on the management of nausea and vomiting is crucial for the proper management of chemotherapy toxicities.	03
Effects of Ginger (Zingiber officinale) in Cancer Patients	To investigate the effects of ginger in cancer	Literature review.	Ginger is able to aid the treatment of cancer patients treated with	06

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Treated With Chemotherapy	patients treated with chemotherapy.		chemotherapy by reducing nausea and vomiting, constituting a promising adjuvant therapy for cancer.	
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Source: Authors.

To the type of research, we identified: Exploratory, descriptive study with a quantitative approach (02); Translational research with a quantitative, descriptive and exploratory evidence-based approach (01); Descriptive, exploratory and quantitative study (01); Literature review (04); Descriptive study, experience report type (01); Quasi-experimental study (01); Field research (01); Quantitative research (02); Study with a qualitative, descriptive and exploratory approach (01); Non-experimental, descriptive, documentary, quantitative study (01); Quantitative study and prospectus (01). Type of document showed 04 review articles and 12 originals.

The studies showed that the research design, the analysis was based on levels 3: evidence from quasi-experimental studies; 4: evidence from descriptive (non-experimental) studies or studies with a qualitative approach; 5: evidence from case reports or experience; and 6: evidence based on expert opinions.

In the fifth stage, it consisted of the interpretation of the results of the articles related to the research question, in which the analysis was carried out **following the steps of** Bandin's thematic analysis described by Minayo (2010), which is divided into three stages:

The first stage was the reading of all the articles, for the impregnation of the content, allowing the constitution of the corpus, which validates the qualitative approach. Thus, it was possible to delimit the comprehension of the texts, to highlight the units of records, because from the parts that identify with the study of the material, it became possible to form the thematic units, in which we coded and used the theoretical concepts raised to guide the analysis in the stage.

In the second stage, the material was explored, to find the units of registration by significant expressions and words, to classify and aggregate the data in the scope of the core of comprehension of the text in an organized and systematic way.

In the third stage, with the data from the analysis, it was possible to articulate the theoretical framework, which led to the identification of the thematic unit "Nursing Care in the Treatment of Mucositis in Cancer Patients Undergoing Chemotherapy".

Table 5

Gray Reading Productions for Data Discussion

Year	Non-scientific or commercial publishers	Authors	Title	Document type
2010	Brazil	MAYAN; WARLEY OLIVEIRA	Mucositis and oral complications in patients undergoing chemotherapy and radiotherapy	Monograph.
2012	Brazil	COREN SP	Nurse's competence to apply laser therapy in oral mucositis and existence of specialization in the area.	Opinion COREN-SP 024/2012 – CT PRCI No. 99.400/2012.
2007	Brazil	GREEN; SARA MARIA MOREIRA LIMA	Impact of chemotherapy treatment on the nutritional status and eating behavior of patients with breast cancer and its consequences on quality of life.	Master's thesis.
2015	Brazil	NORONHA; VLADIMIR REIMAR AUGUSTO DE SOUZA NORONHA	Propolis Mucoadhesive Gel Versus Benzydamine Hydrochloride Solution in the Prevention of Oral Mucositis in Patients Irradiated in Head and Neck Region. Blinded, randomized clinical trial – Phase II.	Thesis

Source: Authors.

In the fourth stage, through all the search, as shown in the table above, it was necessary to search for articles outside the inclusion and exclusion criteria, to support the discussion about the theme. The scientific productions analyzed in table 05 were: 01 monograph, 01 opinion of Coren de SP, 01 master's dissertation and 01 thesis.

Table 6

Commercial and scientific literature to support the discussion of data

Year	Periodical, Publisher	Authors	Title	Document Type
2011	MARTINARI	MALAGUTTI; WILLIAM et al.	Pediatric Oncology – A Multiprofessional Approach.	Book
2012	ATHENEU	BONASSA; EDVA MORENO AGUILAR; GATO, MARIA INÊS RODRIGUES.	Oncology Therapeutics for Nurses and Pharmacists	Book
2015	Rev. Latino-Am. Nursing	LEITE, MARÍLIA APARECIDA CARVALHO et al.	Evaluation of self-esteem in patients undergoing chemotherapy treatment	Original Article
2014	Acta Paul Nursing.	WAKIUCHI, JULIA et al.	Life expectancy of cancer patients undergoing chemotherapy	Original Article
2014	C&D-Fainor Electronic Magazine	PÚBLIO, GLEICINARA BOTELHO et al.	Quality of life of cancer patients undergoing chemotherapy.	Original Article
2015	Brazilian Journal of Cancerology	CRUZ, FERNANDA STRAPAZZON DA; ROSSATO, LUCIANA GRAZZIOTIN	Care for cancer patients undergoing chemotherapy treatment: the knowledge of Family Health Strategy Nurses.	Original Article



Source: Authors.

In the fifth stage, for a greater strengthening of the scientific bases already found previously, there was a need to search the commercial literatures, with details of title, periodium/publisher, authors, title and type of document: 02 research books and 04 original articles.

Data analysis was carried out based on the selected articles, in which it was possible to observe, count and add, describe and qualify the data, in order to agglomerate the knowledge produced through the theme in this review (SOUZA; SILVA; CARVALHO, 2010).

In the sixth stage, the review and synthesis of the knowledge that was seen in articles analyzed on the subject was demonstrated (SOARES, 2014).

3 DISCUSSION

3.1 NURSING CARE IN THE TREATMENT OF MUCOSITIS IN CANCER PATIENTS UNDERGOING CHEMOTHERAPY

Understanding the cancer patient, according to Morais et al. (2015, p.27), is instigating for its peculiarities, both from the therapeutic perspective and in the psychosocial aspects. This assertion is based on the fact that cancer patients are susceptible not only to the aggressiveness of the disease, but also to the complications inherent to the treatment, such as oral mucositis.

Patients undergoing chemotherapy are individuals who have their immunity compromised due to the drug therapies administered during cancer treatment. (GUIMARÃES et al. 2015; ANTUNES et al., 2022).

The conceptualizes cancer as a chronic degenerative pathology currently considered a public health problem, which leads to the thought of an alarming fact that plagues the population (SANTOS; NEMETALA; BUGARIN JÚNIOR, 2024).

According to Bonassa; Gato (2012, p.330), it is believed that chemotherapy drugs have a direct and indirect stomatotoxic effect. The direct effect occurs at the cellular level.

The lining epithelium of the oral and gastrointestinal mucous membranes is formed by rapidly dividing cells: they last from three to five days and the complete replacement of the entire epithelial line is completed every seven/fourteen days.

This constant process of cell renewal makes the mucous membranes extremely sensitive to the action of chemotherapy drugs. Many of these drugs cause destruction of cells that are in the process of active division, through interference in the synthesis of DNA, RNA and proteins (SANTOS; NEMETALA; BUGARIN JÚNIOR, 2024).



The occurrence of oral mucositis varies from 40% to 76% in patients undergoing antineoplastic chemotherapy. In patients under conditioning for bone marrow transplantation, this value can reach 75%, in head and neck radiotherapy treatment, the percentage is around 90% for the development of some degree of mucositis, and when chemotherapy treatment is associated with radiotherapy, this value can reach 90% of the participants. In a chemotherapy regimen, frequency and intensity are determined by the type and dose of the agents used. (MORAIS, et al., 2015; ALMEIDA; CARVALHO, 2020).

Risk factors for the development of oral mucositis include inadequate oral hygiene, ill-fitting oral prostheses, nutritional status, type of malignancy, specific chemotherapy drugs, preexisting oral abnormalities (periodontal disease, cavities), smoking, and location of the disease and alcohol intake. (BONASSA & GATO, 2012; ANTUNES et al., 2022).

Figure 1

Tabela 6.6
Avaliação da Cavidade Oral

Local	Grau de disfunção			
	1	2	3	4
Lábios	Lisos, macios, rosados, flexíveis, úmidos, íntegros	Levemente enrugados, secos, com áreas avermelhadas	Enrugados, secos, edemaciados, com ou sem vesículas, inflamados na linha de demarcação	Muito secos, inflamados, rachados, com ulceração e/ou sangramento e/ou vesículas
Língua	Lisa, rosada, úmida, sem fissuras ou papilas proeminentes, íntegra	Papilas proeminentes na base, seca, rosada com áreas avermelhadas, aprofundamento do sulco mediano	Edemaciada, papilas proeminentes, avermelhada, principalmente na ponta e papilas (aparência de pimenta), muito seca, com película na base, rachaduras	Muito seca, grossa e espessa, fissuras e películas, ponta muito vermelha e demarcada, laterais com vesículas, rachaduras profundas, muito edemaciada
Mucosa oral	Lisa, rosada, íntegra, úmida	Pálida, levemente seca, com áreas avermelhadas ou com pústulas	Avermelhada, seca, inflamada, edemaciada, com ulcerações	Muito avermelhada, brilhante, edemaciada, com vesículas e ulcerações
Dentes e dentaduras	Brilhantes sem membranas Bom ajuste	Levemente opacos, com discretas membranas Discretamente solta	Opacos com membrana aderida a aproximadamente 50% do esmalte dentário Solta e ocasionando áreas de irritação	Muito opaco, coberto por membrana Impossibilidade de usar devido à irritação
Saliva	Fluida, aquosa, quantidade adequada	Aumento da quantidade	Saliva escassa, boca seca	Grossa, espessa, viscosa
Voz e deglutição	Tonalidade e qualidade normal Normal, sem dificuldades	Discreta alteração, voz mais baixa Desconfortável	Grossa, áspera e dissonante Com dificuldade e/ou dor	Dificuldade para articular as palavras Quase impossível ou impossível

Grau de disfunção oral: de 7 a 24
• Leve: 7 a 12
• Moderada: 13 a 18
• Severa: 19 a 24
Ref.: Brown MH. Standards of oncology nursing practice. John Wiley & Sons, 1986.
Tenenbaum L. Cancer chemotherapy. W.B. Saunders Company, 1989.

Ref.: Oncological Therapeutics for Nurses and Pharmacists (BONASSA & GATO, 2012)

Saints; Souza (2015, p. 2860) report that the experience for an individual with cancer is difficult, regardless of the patient's age, the nature of the disease, its prognosis, the development and the result of the treatment, because in addition to the confrontation with a serious diagnosis, pain, and possible death.



The patient has to deal with the more or less lasting withdrawal from the family, school and social environment, with the loss of the feeling of identity, with the transformations in his body, with the physical sequelae, with issues related to his history, his family, society and also with so many other subjective elements that constitute this experience, leading the patient to face new and complex issues (BOARETTO et al., 2023).

With all these factors that affect the individual submitted to this type of treatment, the organism also suffers from stress, which is a set of specific responses for the human body in the external and internal, concrete or imaginary spheres, which destabilizes its homeostasis, which requires the entry of additive mechanisms with the ability to reorganize and rebalance the integrity of the organism (ALMEIDA; CARVALHO, 2020; ANTUNES et al., 2022).

Therefore, Nursing, together with other professionals such as psychologists, can be facilitators in the stress process using complementary therapies in health services, participating not only as executors of the project, but also in the evolution of effective stress reduction. (RODRIGUES et al., 2016; SAINTS; NEMETALA; BUGARIN JÚNIOR, 2024).

For Senna et al. (2014, p.654), the biosafety of the patient in the face of harmful agents as well as the safety of the worker is unanimous, thus comprising individual, collective and environmental safety, respecting ethical principles and universal rights. Worldwide, there are measures that ensure the health of the worker, through the use of PPE.

There is also a fragility experienced by the nursing team, since the professional thinks he has enough knowledge to take care of himself and others, without suffering accidents. However, there was greater concern with personal and collective safety in the chemotherapy outpatient clinic, as it is a service specialized in the administration of chemotherapy (ALMEIDA; CARVALHO, 2020).

Following this line of thought, the experience report by Barbosa et al. (2016, p.679) showed that there is a need to implement continuing education in the nursing team for better knowledge and, consequently, the improvement of direct care for these patients.

The breadth of nursing care management actions, which include the planning, organization, supervision, execution, and evaluation of all activities developed in the care of the person, demand a broader view on the part of nurses, the development of multiple competencies and skills that value communication (ANTUNES et al., 2022).

As well as work from an interdisciplinary perspective, therefore, knowledge of the sociodemographic and clinical profile of the people assisted subsidize nurses' actions in the main dimensions of their work process, that is, managerial and care (SILVA, et al., 2013).



Therefore, Morais et al. (2015, p. 27) complement by emphasizing that the characterization of the profile of this clientele creates subsidies to know the subjects involved in this problem, conditions of the occurrence of mucositis and associated factors.

This information aims at better customer care at all levels of health care, expanding the role and professional commitment of nurses from prevention to the client's rehabilitation process, as oral mucositis, as it is present in the routine of cancer patients and negatively affects their treatment, constitutes a challenge for adequate and specialized nursing care in terms of its repercussions and care (BOARETTO et al., 2023).

It is the role of the oncology specialist nurse to provide guidance on the importance of food intake even during inappetence and to clarify about physical activities that can increase appetite, as well as to act as an intermediary with nutritionists. In the most severe cases, the nurse, together with the nutritionist, should evaluate alternative measures, such as the use of food supplements, enteral and parenteral nutrition. (GUIMARÃES et al., 2015; SAINTS; NEMETALA; BUGARIN JÚNIOR, 2024).

Malagutti (2011, p. 138) reports that maintaining correct and adequate oral health in these patients is extremely important, since several late effects, behavioral changes, physical sequelae and other factors associated or not lead to an increase in the risk of caries in the immediate post-treatment and in the medium and long term. Therefore, oral hygiene should have as its initial objective the removal of bacterial plaque that accumulates daily on the tooth surface and is the main causative agent of dental caries and periodontal disease.

The study by Guimarães et al. (2015, p. 2450), found that nursing guidance on the maintenance of oral hygiene is the most effective form of prevention and the treatment that stands out the most today is low-level laser, followed by 0.12% chlorhexidine gluconate.

But for Carlucci et al. (2016, p.1552), the use of cryotherapy in the oral cavity decreases blood flow through vasoconstriction, which in turn decreases the chance of cytotoxic drugs reaching the oral mucosa, preventing it.

Then, nurses should classify patients' oral conditions on a daily basis and report the characteristics, signs, and symptoms of mucositis using their tools and record the signs and symptoms, in order to establish criteria for managing the condition and define protocols and evaluation routines with the team (ALMEIDA; CARVALHO, 2020).

Toothbrushing is the most effective method of removing bacterial plaque and some elements are directly involved: brushing technique, toothbrush, dental floss/tape, toothpaste and mouthwash and should be performed three times, after the main meals, daily (MALAGUTTI, 2011, p. 138).



Bonassa; Gato (2012, p. 333), reports that brushing teeth and gums should be done with a narrow brush, with soft bristles and correct technique.

The toothbrush is the most efficient instrument for mechanical cleaning and plaque removal, and for proper brushing, it is recommended that the bristles fall on the junction between the tooth and the gums at an angle of 45°, where the greatest accumulation of residues occurs (SANTOS; NEMETALA; BUGARIN JÚNIOR, 2024).

It is recommended that very short horizontal movements be performed, vibrating the bristles, at least ten movements in each region, which should cover a maximum of two teeth. Tongue brushing should be gentle and included to stimulate circulation and remove residue. Toothpaste should be non-abrasive, preferably with baking soda that reduces acidity in the inflammatory process, and fluoride that prevents tooth decay. It should be performed 30 minutes after meals and at night, before bedtime (BOARETTO et al., 2023).

Nursing care focused on the patient's psychosocial needs should be included during and after chemotherapy sessions, as the effects can act negatively on self-esteem, especially sexuality and well-being. The provision of care to cancer patients requires from the nurse a multiplicity of knowledge and versatility in the performance; when combined with a systematized and well-implemented care plan, nursing interventions with the patient are determining factors for quality management (GUIMARÃES et al., 2015; BOARETTO et al., 2023).

In view of the above, one cannot forget the family at the time of support for the frailty of this patient. Vicenzi et al. (2013, P.409), it is necessary to provide adequate guidance to the caregiver families, in order to qualify the care provided.

Based on this, it is believed that it is important for the nursing team to be able to direct educational actions to patients and family members, also integrating other professionals, such as psychologists, nutritionists, social workers and physicians. That is, bringing together several specialties with the intention of providing care aimed at comprehensiveness (BOARETTO et al., 2023).

The feelings experienced by family members must be understood so that the nursing team can act effectively, enter the world of the other and identify them as human beings who are inserted in a social context, with their feelings, doubts, uncertainties and fears. It is necessary to learn to look at the other beyond a body, and see it in its entirety. (SOUZA; GOMES, 2012; ALMEIDA; CARVALHO, 2020).



4 CONCLUSION

The nursing professional is a fundamental part in the orientation of these cancer patients undergoing chemotherapy, as he is the one who will be in contact with these individuals for the longest time together with the multidisciplinary health team.

It is noted that during the research carried out, continuing education for professionals in the area was often pointed out as something that should be implemented to improve care for a higher quality of care for the population affected by this inflammatory reaction, in order to add more knowledge to teach/share with individuals and their families.

Research has pointed out that oral hygiene with a soft-bristled toothbrush is essential for the removal of bacterial plaque, but not all people are aware of this simple hygiene gesture but that it can avoid or attenuate mucositis in the oral region.

Therefore, there is a need for greater investment in the team's knowledge so that the guidelines are correctly taught to this population undergoing antineoplastic treatment.

It is expected that with this study, the nurse specialist in Oncology can be prepared to solve possible doubts and provide clarifications about oral hygiene as a way to prevent mucositis and add the patient's family members to the treatment to continue the care at home when they are no longer in the health service, so that they can continue their care at home. appropriate assistance is provided in a complete manner.

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