



## **Nursing Care in The Treatment of Mucositis in Oncological Patients Undergoing Chemotherapy**

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**Abstract**

*The aim of this study is to identify possible nursing care in the treatment of mucositis in patients receiving chemotherapy. As a guiding question: what possible impacts would occur in 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 on electronic bases (virtual libraries). This theme was chosen because there is a scarcity about it, and care for these individuals is essential for the reduction of the reactions caused by the antineoplastic drugs administered. It can be concluded that the nursing professional is a key element in the orientation of these oncological patients undergoing chemotherapy, since it is he who will be in contact with these individuals together with the multiprofessional health team.*

**Keywords:** *Nursing Care; Stomatitis; Drug Therapy.*

**Introduction**

Mucositis consists of the inflammatory response of mucous membranes to the action of antineoplastic 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. The most common post-chemotherapy mucosal changes occur in the oral cavity, and it is estimated that 40% of patients who receive conventional dose chemotherapy for solid tumors and 60% to 70% of patients who receive chemotherapy for hematological malignancies. In recent years, a significant increase in the incidence of mucositis has been observed due to therapies with high doses of new drugs and curative schemes that use concomitant radiotherapy and chemotherapy (BONASSA&GATO, 2012).

Chemotherapy is a type of cancer treatment that brings benefits and harms to the human body because the cytotoxic treatment affects affected cells as well as healthy cells, resulting in drug side effects, such as mucositis (INCA, 1993).

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 medication and in the emotional support at the time of their greatest fragility together with the multidisciplinary health team (ARAÚJO et al, 2013).

There are important factors that are involved during chemotherapy treatment, which involve physical and psychological symptoms, the latter being a group of more difficult symptoms and greater human suffering, as physical pain, no matter how long it takes to heal, ends up happening, Emotional pain, if it does not receive special attention, causes the individual to enter a state of deep sadness (SOUZA E GOMES, 2012).

In professional experience, assisting cancer patients undergoing chemotherapy treatment, a high frequency of adverse reactions is observed in these patients. Nursing plays an extremely important role in monitoring and minimizing adverse effects, acting positively on the physical and global adjustment of patients undergoing chemotherapy treatment through systematized nursing care. In this way, we can see the importance of nursing professionals in the face of the problems faced by patients with oncological diseases, from their initial phase to the most critical phase. It is he who will always be closer to both the patient and family members who also share the suffering (GUIMARÃES et al, 2015).

The motivation for creating this theme arose from the scarcity of materials and studies related to it, with the aim of raising awareness and highlighting the importance of these Nursing professionals who are constantly confronting these patients in different phases of treatment in the units. oncology, considering that cancer is a disease that causes major physical, psychological, emotional and social impacts - the latter is of important relevance, as when an individual is affected by an oncological disease, their cycle of friendships may decrease due to the treatment invasive with highly cytotoxic drugs, and this requires more isolation to avoid exposure so as not to harm its weakened immunity.

To better clarify the ideas, it was necessary to carry out extensive qualitative research over the last five years, which also revealed poor scientific production on the topic in question.

It is expected that this study will contribute considerably to postgraduate nursing in Clinical Oncology, bringing a more incisive and serious view of the proper care for mucositis in patients undergoing chemotherapy. It is important to highlight that the number of these professionals is very numerous in health services and that they are those working at the forefront of care, and that this care must be carried out in a planned manner and according to each patient.

The nurse must be aware that care for cancer patients must be planned, and it is essential that they follow the nursing process (NP), which must be based on theoretical support, which guides data collection and the establishment of diagnoses., planning interventions and evaluating the results achieved. (ARAÚJO et al, 2015)

The study aimed to identify possible nursing care in dealing with mucositis in patients undergoing chemotherapy.

We hope with this research to highlight the most significant points to add knowledge and information to the topic, thus bringing more knowledge and aiming for greater recognition about this team that has great relevance in health services.

## **Methodology**

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

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

In the second stage, an intense reading search begins, defining the inclusion criteria, which were: publications in the form of articles available in Portuguese, published in the aforementioned databases, in the period from 2012 to 2016, considering the last five years of publications, with the descriptors, which are: Nursing Care; Stomatitis; Pharmacological Treatment. Therefore, the review was carried out through the Virtual Health Library (VHL), in the following databases: LILACS, BDENF 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 to the theme.

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

DESCRIPTORS	TOTAL	F I L T R O	S E L E Ç T O T H E	2012	2013	2014	2015	2016
Nursing Care and Stomatitis	58	04	0	0	0	0	0	0
and Pharmacological Treatment	221	04	01	0	01	0	0	0
Nursing Care and Stomatitis	13.134	96	13	01	03	02	03	04
Nursing Care and Treatment	4.018	08	02	01	0	0	01	0
TOTAL	296.152	112	16	02	04	02	04	04

**Table 01:** Crossing of descriptors

When using the descriptors Nursing Care and Stomatitis and Pharmacological Treatment, we obtained a total of 58 studies, from which no articles were selected. By crossing the descriptors Nursing Care and Stomatitis, we highlighted 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 the 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 revealed 296,152 results, with 112 that met the inclusion criteria, of which 16 were selected, in the years 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, from which we noticed the productions in 2012 (02); 2013 (04); 2014 (02); 2015 (04) and 2016 (04). The magazines highlighted by the collected articles, according to Qualis de 2014 are: Anna Nery School (B1 Nurse); UERJ Nursing Magazine (B1 Nurse); Electronic Nursing Magazine (B1 Enf.), Revista Gaúcha de Enfermagem (B1 Enf.) and Communication in Health Sciences (B3 Enf.), the rest of the magazines 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 study construction sites were RJ (04); SP (04); MG (02); PI (02); SC (01); PR (01); RS (01) and DF (01). When describing the Professions of the authors we see a significant number in Nursing (15), of the others we find Doctor (01) and Nutritionist (01).

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

#### Table 2

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, from which we noticed the productions in 2012 (02); 2013 (04); 2014 (02); 2015 (04) and 2016 (04). The magazines highlighted by the collected articles, according to Qualis de 2014 are: Anna Nery School (B1 Nurse); UERJ Nursing Magazine (B1 Nurse); Electronic Nursing Magazine (B1 Enf.), Revista Gaúcha de Enfermagem (B1 Enf.) and Communication in Health Sciences (B3 Enf.), the rest of the magazines did not obtain Qualis because they were not on the Sucupira Platform.

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Regarding 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); Descriptive-exploratory study, with a quantitative approach (02); Qualiquantitative study: (01); Quantitative study (01); Qualitative descriptive-exploratory study (01); Non-experimental, descriptive-documentary-quantitative study (01), Qualitative study (02). Document type 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 table, as follows:

#### Table 3

Regarding the type of research, we identified: Exploratory, descriptive study with a quantitative approach (02); Translational research with a quantitative, descriptive and exploratory approach based on evidence (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). Document type showed 04 review articles and 12 originals.

The studies showed that the research design and analysis were based on levels 3: evidence from quasi-experimental studies; 4: evidence from descriptive studies (non-experimental) or 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 interpreting 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 involved reading all the articles, to absorb the content, allowing the creation of the corpus, which validates the qualitative approach. Thus, it was possible to delimit the understanding of the texts, to highlight the units of records, as starting from the parts that identify with the study of the material made it possible to form thematic units, in which we codified and used the theoretical concepts raised for guidance. of the analysis in the stage.

In the second stage, the material was explored, to find the recording units for significant expressions and words, to classify and aggregate the data to reach the core understanding of the text in an organized and systematic way, as shown in the following table:

Table 4

In the third stage, with the analysis data, 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 Oncology Patients Submitted to

Chemotherapy” and the following categories: 1. “Nursing care in assisting cancer patients with mucositis undergoing chemotherapy”; and 2. “Nursing care in the quality of life and family environment of patients with mucositis undergoing chemotherapy”.

Table 5

In the fourth stage, throughout 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 on the topic. The scientific productions analyzed in table 05 were: 01 monograph, 01 opinion from Coren de Sp, 01 master's dissertation and 01 thesis.

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**Table 6**

In the fifth stage, to further strengthen the scientific bases already found previously, there was a need to search commercial literature, detailing the title, periodical/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, to gather the knowledge produced through the theme in this review (SOUZA; SILVA; CARVALHO, 2010).

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

## **Discussion**

### **Nursing Care in the Treatment of Mucositis in Oncological Patients Undergoing Chemotherapy**

**Category 1:** Nursing care in assisting cancer patients with mucositis undergoing chemotherapy.

**Category 2:** Nursing care in the quality of life and family environment of patients with mucositis undergoing chemotherapy.

#### **1. Nursing care in assisting cancer patients with mucositis undergoing chemotherapy**

Understanding the oncology patient, for MORAIS and others (MORAIS et al., 2015, p.27), is intriguing due to its peculiarities, both from a therapeutic perspective and from 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 complications inherent to the treatment, as is the case with oral mucositis.

Patients undergoing chemotherapy are individuals whose immunity is compromised due to drug therapies administered during cancer treatment. GUIMARÃES and others (GUIMARÃES et al., 2015, p.2441), conceptualize cancer as a chronic degenerative pathology currently considered a public health problem, which leads to the thought of an alarming fact that devastates the population.

According to BONASSA & GATO (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 epithelium covering the oral and gastrointestinal mucosa is formed by rapidly dividing cells: they last three to five days and the complete exchange of the entire epithelial line is completed every seven to fourteen days. This constant process of cell renewal makes 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 with the synthesis of DNA, RNA and proteins.

The occurrence of oral mucositis varies from 40% to 76% in patients undergoing antineoplastic chemotherapy. In patients undergoing bone marrow transplantation this value can reach 75%, in head and neck radiotherapy treatment the percentage is around 90% for development of some degree of mucositis and when chemotherapy treatment is associated with radiotherapy this value can reach 90% of participants. In a chemotherapy regimen, frequency and intensity are determined by the type and dose of agents used. (MORAIS, et al., 2015, p. 27).

Risk factors for developing oral mucositis include inadequate oral hygiene, poorly fitting oral prostheses, nutritional status, type of malignancy, specific chemotherapy drugs, pre-existing oral changes (periodontal disease, cavities), smoking, location of the disease, and alcohol intake. (BONASSA & GATO, 2012, p. 330).

**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	Fluída, 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, 1996.  
 Tenenbaum L. Cancer chemotherapy. W.B. Saunders Company, 1989.

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

SANTOS and SOUZA (SANTOS;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 outcome of the treatment, because in addition to confronting a serious diagnosis, pain, and possible death, the patient has to deal with more or less lasting separation from the family, school and social environment, with the loss of the feeling of identity, with the transformations in your body, with the physical sequelae, with issues related to your history, your family, society and many other subjective elements that constitute this experience, leading the patient to face new and complex issues.

With all these factors that affect the individual undergoing this type of treatment, the body also suffers from stress, which is a set of specific responses for the human body in the external and internal sphere, concrete or imaginary, which destabilizes its homeostasis, which requires the entry of additive mechanisms with the capacity to reorganize and rebalance the integrity of the organism. 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 project executors, but also in the evolution of effective stress reduction. (RODRIGUES et al, 2016, p.4494/4497).

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

There is also a fragility experienced by the Nursing team, since the professional thinks they have enough knowledge to take care of themselves and others, without suffering accidents. However, there was greater concern for personal and collective safety in the chemotherapy outpatient clinic, as it is a service specialized in Qt administration.

Following this line of thought, the experience report by BARBOSA and others (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, improvement of direct assistance to these patients.

The breadth of nursing care management actions, which include planning, organization, supervision, execution and evaluation of All activities carried out in providing care to people require a broader vision on the part of the nurse, the development of multiple skills and abilities that value communication, as well as work from an interdisciplinary perspective, therefore, knowledge of people's sociodemographic and clinical profile. assisted subsidize the nurse's actions in the main dimensions of their work process, that is, managerial and care (SILVA, et al., 2013, p. 711) Therefore, MORAIS and others (MORAIS et al., 2015, p. 27 ) adds, highlighting that the characterization of the profile of this clientele creates support for understanding the subjects involved in this problem, the conditions for the occurrence of mucositis and associated factors. This information aims to provide better customer service, 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, being present in patients' routine oncological diseases and negatively affect their treatment, constitutes a challenge for adequate and specialized Nursing care regarding their repercussions and care.

It is the role of the nurse specializing in oncology to advise on the importance of food intake even during inappetence and to clarify physical activities that can increase appetite, as well as acting as intermediary

with professional nutritionists. In more serious cases, the nurse, together with the nutritionist, must evaluate alternative measures, such as the use of dietary supplements, enteral and parenteral nutrition. (GUIMARÃES et al., 2015, P.2449).

MALAGUTTI (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 tooth decay and periodontal disease.

The study by GUIMARÃES and others (GUIMARÃES et al., 2015, P.2450), found that nursing guidance on maintaining oral hygiene is the most effective form of prevention and the treatment that currently stands out most is laser low potency, followed by 0.12% chlorhexidine gluconate.

But for CARLUCCI and others (CARLUCCI et al., 2016, p.1552), the use of cryotherapy in the oral cavity decreases blood flow through vasoconstriction, which in turn, reduces the chance of cytotoxic drugs reaching the oral mucosa, preventing it. Then, nurses must classify patients' oral conditions daily 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 assessment protocols and routines with the team.

Dental brushing 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 must be performed three times, after main meals, daily ( MALAGUTTI, 2011, p. 138).

BONASSA & GATO (BONASSA & GATO, 2012, p. 333), reports that brushing teeth and gums should be done with a narrow brush, with soft bristles and with the 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 focus on the junction between the tooth and the gums at an angle of 45°, where the greatest accumulation of plaque occurs. waste. It is recommended that very short horizontal movements be made, 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 debris. Toothpaste should be non-abrasive, preferably with sodium bicarbonate, which reduces acidity in the inflammatory

process, and fluoride, which prevents tooth decay. It should be performed 30 minutes after meals and at night, before going to bed.

Nursing care aimed at the patient's psychosocial needs must be included during and after chemotherapy sessions, as the effects can have a negative effect on self-esteem, especially sexuality and well-being. Providing care to cancer patients requires nurses to have a multiplicity of knowledge and versatility in their work; 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, P.2450).

## **2. Nursing care in the quality of life and family environment of patients with mucositis undergoing chemotherapy**

In view of the above, we cannot forget the family when supporting this patient's fragility. VICENZI and others (VICENZI et al, 2013, P.409), it is necessary to provide adequate guidance to caring families, with the aim of qualifying the assistance provided and from this, it is believed in the importance of the nursing team being qualified to direct educational actions to patients and their families, also integrating other professionals, such as psychologists, nutritionists, social workers and doctors. That is, bringing together different specialties with the intention of providing assistance that aims at comprehensiveness.

The feelings experienced by family members must be understood so that the nursing team can act effectively, enter the other's world and identify them as human beings who are inserted in a social context, with their feelings, their doubts, their uncertainties and your fears. It is necessary to learn to look at others beyond a body, and see them in their entirety. (SOUZA and GOMES, 2012, p.153).

## **Conclusion**

The nursing professional is a fundamental player in the guidance of these cancer patients undergoing chemotherapy, as they are the ones who will spend the most time in contact with these individuals together with the multidisciplinary health team.

It is noted that during the research carried out, continuing education for professionals in the field was something that was frequently highlighted as something that should be implemented to improve care for a higher quality for the population affected by this inflammatory reaction, with the aim of adding more

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knowledge to teach/share with individuals and their families.

Research has shown that oral hygiene with a soft-bristled toothbrush is essential for removing bacterial plaque, but not everyone is aware of these simple hygiene measures, which can prevent or alleviate mucositis in the oral region.

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

It is expected that, with this study, the nurse specializing in Oncology can be prepared to resolve possible doubts and provide clarifications on oral hygiene as a way of preventing mucositis and bringing the patient's family members into the treatment to continue care at home. when you are no longer in the health service, so that adequate assistance is provided in full.

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