Role of nursing in patients receiving chemotherapy
Atuação da enfermagem em pacientes em tratamento quimioterápico
Rol de enfermería en pacientes que reciben quimioterapia

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Abstract
Introduction: Treatment with chemotherapy is the most widely used in almost all types of neoplasms, however, the side effects that it triggers affect the patient’s style and quality of life, for this reason the nursing staff must know what their intervention should be with these patients. Objective: To analyze the role played by the nursing staff in patients receiving chemotherapy. Methodology: A study was carried out with a qualitative, descriptive approach, non-experimental design, the databases used included search engines such as Scopus, PubMed, eJournals, Google Scholar and Trip Database, Scielo, Oroncos. A total of 27 articles are included. Results: Nursing care for patients undergoing cytostatic therapy must be comprehensive from a holistic approach. In which it allows to cope with activities that are of the utmost importance for the patient such as reducing the risk of phlebitis and extravasation, controlling nausea and vomiting, informing about side effects. In this way it provides physical, emotional, psychological, and practical support. Conclusion: The nursing role is one of the most essential pillars when providing the care required by cancer patients, allowing maintaining the integrity of the skin, achieving optimal nutritional status, attending to the emotional spheres of the patient, reducing the degree of duration of diarrhoea, correct medication administration and effective communication.

Keywords: Nursing Staff, Chemotherapy, Nursing care.

Resumo
Introdução: O tratamento com quimioterapia é o mais utilizado em quase todos os tipos de neoplasias, no entanto, os efeitos colaterais que desencadeia afetam o estilo e a qualidade de vida do paciente, por isso a equipe de enfermagem deve saber qual deve ser sua intervenção com esses pacientes. Objetivo: Analisar o papel desempenhado pela equipe de enfermagem em pacientes em tratamento quimioterápico. Metodologia: Realizou-se um estudo de abordagem qualitativa, descritiva, de desenho não experimental, as bases de dados utilizadas incluíram motores de busca como Scopus, PubMed, eJournals, Google Scholar e Trip Database, Scielo, Oroncos). Um total de 27 artigos estão incluídos. Resultados: A assistência de enfermagem ao paciente submetido à terapia citostática deve ser integral a partir de uma abordagem holística. No qual permite lidar com atividades de extrema importância para o paciente como diminuir o risco de flebite e extravasamento, controlar náuseas e vômitos, informar sobre efeitos colaterais. Desta forma, fornece apoio físico, emocional, psicológico e prático. Conclusão: A atuação da enfermagem é um dos pilares mais essenciais na prestação dos cuidados requeridos pelo paciente oncológico, permitindo manter a integridade da pele, atingir um estado nutricional ideal, atender as esferas emocionais do paciente, diminuir o grau de duração da diarreia, a correta administração do medicamento e a comunicação afetiva.

Palavras-chave: Equipe de Enfermagem, Quimioterapia, Cuidados de Enfermagem.

Resumen
Introducción: El tratamiento con quimioterapia es el más utilizado en casi todos los tipos de neoplasias, sin embargo, los efectos secundarios que desencadenan afectan el estilo y calidad de vida del paciente, por ello a equipo de enfermería debe conocer cuál debe ser su intervención con estos pacientes. Objetivo: Analizar el rol que cumple el personal de enfermería en pacientes que reciben quimioterapia. Metodología: Se realizó un estudio con un enfoque cualitativo, descriptivo, diseño no experimental, las bases de datos utilizadas incluyeron motores de búsqueda como Scopus, PubMed, eJournals, Google Scholar y Trip Database, Scielo, Oroncos). Se incluyen un total de 27 artículos. Resultados: El cuidado de enfermería en el paciente sometido a terapia con citostáticos debe ser integral a partir de un enfoque holístico. En la cual permite sobrellevar actividades que son de suma importancia para el paciente como reducir el riesgo de flebites y extravasación, controlar náuseas y vómitos, informar sobre los efectos secundarios. De esta manera brinda apoyo físico, emocional, psicológico y práctico. Conclusión: El rol de enfermería es uno de los pilares más indispensables al momento de brindar los cuidados que requieran los pacientes oncológicos, permitiendo mantener la integridad de la piel, conseguir un estado nutricional óptimo, atender las esferas emocionales del paciente, disminuir el grado duración de la diarrea, la administración correcta del medicamento y comunicación afectiva.

Palabras clave: Personal de Enfermería, Quimioterapia, Atención de enfermería.
INTRODUCTION

The generic definition of cancer is that it is a disease caused by uncontrolled and uncontrolled growth of a cell or a type of cell, and in the late 1920s cancer was one of the top three leading causes of death (Tinoco, 2019). Today, neoplasms continue to be among the leading causes of mortality worldwide. In Latin America, the first cancer patient appeared in Puerto Rico in 1950; in Mexico, cancer mortality rates continue rising (Aldaco et al., 2019), and nationally, stomach cancer was the leading cause of death until 2013 (Corral et al., 2019). Based on this and understanding cancer as a public health problem, several lines of treatment have been developed that seek to control the progression of cancer, increase patient survival and cure the pathology, which is why the treatment is constantly developing and advancing (Wakiuchl et al, 2019).

Currently, there are several types of treatment among them is chemotherapy, which depending on its intention can be curative, neoadjuvant, adjuvant, concomitant and palliative, all this treatment is carried out through the use of cytostatic drugs in order to improve the prognosis and quality of life of the cancer patient (Blanco et al., 2021), However, although this is the fastest-acting treatment, being so aggressive, it produces more side effects (Aldaco et al., 2019). Due to the aggressive nature of the treatment and the effects it has on patients, nurses must support the patient by providing holistic and quality care.

Humanised nursing care is present in every action that the staff performs, valuing the patient fully and seeking to meet the patient’s needs without neglecting ethics and values (Oliva et al., 2022), quality nursing care requires that the nurse works in collaboration with colleagues and other health professionals, so that the approach to the patient is complete, collaboration with psychologists, rehabilitators and logically the doctor is very important, since the total satisfaction of the patient is sought without neglecting any area during their recovery (Hermosilla et al., 2021).

Cancer is a pathology that starts when specific cells in the body begin to replicate in an excessive manner and can cause spread to other parts of the body, it has been shown that patients suffering from some type of neoplasm have a higher rate of hospital mortality (Dardiotis et al., 2019), There are many types of neoplasms, the risk factors associated with the pathology are various and depend on the type of cancer, however it was found that age, overweight, smoking, alcoholism and family history are common factors among cancer patients (Bello et al., 2021).

The diagnosis of a neoplasm is made on the basis of different imaging and laboratory studies relevant to each type of cancer, for example, for the detection of cervical cancer, the Pap smear is the test of choice (Bravo & Román, 2021), while in the case of prostate cancer, PSA levels help in the detection of prostate cancer. (García, Zapata and Sánchez, 2019), This will normally be accompanied by a biopsy of the tissue in question. When a patient is informed about his or her health situation and learns that he or she has cancer, there is usually a feeling of uncertainty, which is shared with his or her family. Due to the seriousness of the situation, the accompaniment provided to the patient and his family is complex, as it is the health personnel who must find ways to help the patient cope with the pathology (Ruyscher et al., 2020).

When cancer is detected early, patient survival is greatly increased because treatment can be started as early as possible to delay the development and decrease the lethality of the pathology, however, more than 50% of cancers are detected when they are already at a fairly advanced stage (Crosby et al., 2022). The treatment is given depending on the type of cancer affecting the organism, chemotherapy is the first line of treatment and is prescribed at different stages of the anticancer treatment, which can have a neoadjuvant, adjuvant or palliative approach (Domínguez, 2019). While chemotherapy aims to restore the patient’s health and help improve quality of life, however, the patient’s prognosis will depend on the degree of involvement.

The side effects of treatment with cytostatics are various, at a systemic level the organism is immunodebilitated, for this reason the patient’s health care must be facilitated, other adverse effects that stand out are those that occur at a gastrointestinal level, patients subjected to chemotherapy report feeling nausea all the time, which can lead to vomiting and diarrhoea, This is explained by the fact that the mucous membranes of the intestine are more prone to present alterations due to radiation and cytostatics (Guzmán and Alvira, 2021), the toxic effects on the skin tissue are also well known and of these the one that generates the greatest conflict in patients is alopecia, which affects the patient’s perception of their body image and can compromise their adherence to treatment (Lesague, Guillot and Sibaud, 2020).

The nursing staff who provide care to oncology patients who are receiving chemotherapy cycles must be aware of the implications of the use of this treatment and logically of the negative effects that it can have on the patient, all of this with a view to reducing the unpleasant symptoms that it generates at a biological, psychological and social level (McKinnon et al., 2019), In these patients, nursing care must also facilitate the patient’s and family’s understanding of the disease, and the nurse’s educational role must be based on open communication between the patient, the family and the direct caregiver (Arias and Cuzme, 2021).

Within this pathological process, the psychological aspects play a determining role in the patient and his family, as
the affectation at an emotional level can compromise the patient's health, which is why including psychological skills in the medical and nursing procedure is important and helps the recovery of the oncological patient (Campagne, 2019). The nursing care provided throughout the treatment should not only consider the visible signs and symptoms but also assess the patient's emotional component and provide accompaniment (Icaza, et al, 2020).

Within the ethical principles that regulate the professional practice of nursing we find beneficence and non-maleficence, the activities carried out by the nursing professional must adhere to ethics, accompanying the patient in each of the stages of the disease, listening, understanding, supporting, and respecting their decision (Parra y Pino, 2020). Understanding that the nursing care of the oncology patient receiving chemotherapy encompasses several spheres of the patient, and that survival rates improve if care is adequate (Gimeno, 2021), nurses have an obligation to know the importance of their role, whether in the patient's recovery or in the process of reaching a dignified death. Therefore, the aim of this research is to analyze the role of nursing staff in patients receiving chemotherapy.

**METHODS**

The study uses a qualitative, descriptive, non-experimental design approach, responding to the research needs currently demanded by nursing (Moreno, et al, 2021). This research seeks to synthesize and counterbalance information obtained from high impact articles that were published in indexed journals (Secada, 2021). These articles were searched based on health science descriptors such as chemotherapy, nursing care, neoplasia, etc.

Data search: scientific search engines (Scopus, PubMed, ejournals, Scholar Google and Trip Database, Scielo, Ocronos) were used to find the most relevant studies for reliable analysis.

Population, sample, exclusion, and inclusion criteria:

Inclusion and exclusion criteria were employed to ensure that the data attributed to the research and did not contain ambiguous results, duplicates or information that was derived from the main theme. On the other hand, we excluded articles that were derived from the research objectives and did not contribute to the analysis and discussion, as well as studies that were out of date, non-academic articles, such as dissertations or unpublished papers, and paid-for articles.

A total of 460 articles were found which were filtered according to the type of research, title and abstract of the study, after which a total of 35 useful articles were obtained which were reviewed in their entirety until 27 articles fulfilled all the selection criteria and were suitable for the study.

**RESULTS AND DISCUSSION**

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<th>General information on the research.</th>
<th>Methodology</th>
<th>Results and conclusion.</th>
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<td>1 Theme: Adherence to pediatric acute chemotherapy-induced nausea and vomiting guidelines in Canadian hospitals Year: 2019</td>
<td>Multicentre study</td>
<td>Nausea and vomiting are common occurrences in pediatric patients receiving cancer treatment, usually treated with anti-emetic medication. The relationship between unpleasant symptom theory and nursing practice allows for patient assessment and justification of patient care actions (McKinnon, et al, 2019).</td>
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<td>2 Theme: Effect of Self-Efficacy Intervention Combined with Humanistic Nursing on Self-Care Ability and Quality of Life in Patients Receiving Chemotherapy for Malignant Tumors Type: Scientific research Year: 2022</td>
<td>Quantitative Randomized experimental</td>
<td>Before the intervention, no significant differences in psychological state, self-care ability and quality of life were identified between the two groups, but afterwards the experimental group had higher satisfaction. The self-efficacy intervention combined with humanistic nursing can significantly improve patients' self-care capacity, quality of life and nursing satisfaction, and is therefore worthy of promotion in the clinic. (Ling, et al, 2022)</td>
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<td>3 Theme: Experiences and views of nurses about unmet needs of older cancer patients receiving chemotherapy: A qualitative study Type: Scientific research Year: 2022</td>
<td>Qualitative descriptive phenomenological study with convenience sampling.</td>
<td>Nurses providing services in outpatient chemotherapy units should make a holistic assessment of older cancer patients, be aware that these patients may not be able to express their needs, be more sensitive to them and ensure that the voice of older patients is heard (Ayvat and Atli, 2022).</td>
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<td>4 Theme: Managing Chemotherapy Extravasation Across Transitions of Care: A Clinical Nurse Specialist</td>
<td>Quantitative descriptive</td>
<td>With chemotherapy extravasation, the site does not immediately show signs of tissue injury, which creates a false sense of security. Applying this process improves nursing staff management of chemotherapy</td>
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<td>Initiative</td>
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<td>5  Theme: Oral care in cancer nursing: Practice and barriers</td>
<td>Type: Scientific research</td>
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<td>6  Theme: Experiences of People with Cancer from Rural and Remote Areas</td>
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<td>7  Theme: Assessing the lung cancer risk reduction potential of candidate</td>
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<td>12 Theme: Limb Hypothermia for the Prevention of Chemotherapy-Induced</td>
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<td>13 Theme: Constructing a Predictive Model of Depression in Chemotherapy</td>
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<td>14 Theme: Need and demand for nutritional counselling and their association</td>
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<td>16 Theme: Calidad de vida en mujeres con cáncer de mama sometidas a</td>
<td>Observational and cross-sectional analytical study</td>
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Currently, researchers highlight the importance of nursing care in patients receiving chemotherapy at different stages of treatment, either during the administration of the drug or the psychological implications of its side effects and how these nursing interventions influence their recovery.
Cancer is a public health problem, which has a high mortality rate and incapacitates those who suffer from it, giving treatment implies a great expense for the health system and the family nucleus, oncology patients live really complex situations that challenge them on a daily basis (Hermosilla and Sanhueza, 2020), and it is thought that in older adults it is more complicated as caregivers are not able to report their needs well and cannot do their job well because they have multiple needs, associated with treatment and adverse effects (Ayvat y Atlí, 2021).

Therefore, the Nursing Process for oncology patients undergoing chemotherapy was implemented, allowing the construction of nursing care plans based on scientific evidence and is reliable to the needs of the patient, focusing on helping in a humanized, holistic, qualified and competent manner. In this process, the nursing diagnoses are fundamental, as they are listed based on the clinical reasoning of the nurse and from them the care will be guided in an adequate and individualized manner (Almeida, et al, 2021)

Thus, the nurse educates and accompanies the patient during chemotherapy, offers a support system that prepares them to start treatment, facilitating access to health care, according to the needs that they suggest. It also detects and carries out the initial management of complications. To provide treatment for the pathology, chemotherapy is the procedure of choice in most neoplasms, either alone or in combination with some other type of treatment (Palma, Luchini and Doren, 2022).

In general, the most common signs and symptoms associated with cytostatic treatment are hair loss, decreased sleep quality, insomnia, fatigue, nausea and vomiting (Mejía, Contreras y Hernández, 2020). The pain associated with this pathology and its treatment is also an important factor to keep in mind as it disables the patient and prevents them from carrying on with their daily activities (Almeida, et al, 2021). The nursing staff must have a broad knowledge of the care that can be applied to patients undergoing chemotherapy cycles, the design and application of the nursing care process is carried out based on the patient's assessment and adapted to the patient's context and reality (Collazos, et al, 2021). Some studies recommend implementing interventions to improve quality of life without neglecting the emotional sphere of the patient and family (Mejía, Contreras y Hernández, 2020).

The application of the nursing care process is immersed in each of the activities that staff carry out in their work (Escalante, Montoya and Arias, 2022), the role of nurses in caring for cancer patients is integrative and essential in order to maintain good adherence to treatment and meet the patient's needs (Hermosilla and Sanhueza, 2020), for this purpose, the study of McKinnon, et al (2019) provides a guideline for integrating unpleasant symptom theory into the intervention of the cancers patient.

Once the patient is assessed holistically, activities are prioritized according to the most affected needs and therefore require greater care. In a 2019 study, it was found that the sphere with the greatest need for intervention was the psychological and emotional sphere; lack of motivation, emotional support and poor communication were detrimental to the patient's recovery process, and that the lack of motivation, emotional support and poor communication were detrimental to the patient's recovery process, as well as to the patient's ability to recover (Escalante, Montoya and Arias, 2022), which is related to Yanai's research, in which support groups were created to socialize the problems of cancer patients undergoing treatment and their families, after the creation of these circles, an improvement in the patient's mood and better management of the disease was noted (Yanai, et al, 2022).

Oncology nursing plays perhaps the most important role in the patient's recovery and therapeutic journey, the care it provides is based on pre-planned and individualized goals (Boucher, 2021), the interaction that staff have with the patient and their environment helps to maintain the patient's wellbeing, facilitating emotional support and promoting communication are strategies that nurses can adopt (Chua, et al, 2022). A 2020 study states that in order to create a good therapeutic relationship, it is important for staff to be aware of communication techniques that facilitate the relationship with patients and encourage them to express their needs (Font, Fernandez y Galban, 2020). In addition, nurses have an obligation to listen to the patient's feelings and educate the patient on issues related to their treatment, all of which helps to detect psychological problems such as anxiety and depression at an early stage (Rivero and GozaIes, 2022).

That is why, according to Collazos, et al (2021) state that nursing staff should develop care before and after treatment. Comprehensive nursing care and emotional support leads to a higher success rate and decreased side effects of cytostatic treatment, and decreases treatment costs (Hoeng, et al, 2019), This is related to an experimental study in which patients and their family were intervened, after this intervention patients had a better coping with the side effects of chemotherapy, also the family relationship was strengthened (Ling, et al, 2022).

Prior to the administration of chemotherapy, the nursing staff must take into account the following care, such as taking weight and height, as chemotherapy can cause the person to gain weight due to fluid retention, decrease their metabolism and cause problems in the digestive system, therefore, another nursing care is to inform the patient about the treatment and the protocol. It is also important that before treatment, the vascular access is properly selected to avoid skin
lesions. About the onset of nausea, it is important to inform the patient of the onset of nausea, which may occur 2-3 hours after administration, and antiemetics should be administered before, during and after treatment.

Among the nursing care provided to patients during chemotherapy treatment is the preparation of chemotherapy drugs, for which the staff must use safe preparation areas, the preparation of the medication is sterile and seeks to reduce the greatest number of adverse events associated with the use of cytotoxic drugs. It is important to point out that personnel who are in contact with this type of drug should take appropriate biosafety measures, and by the end of the assistance, the leftover medication should be inactivated with chlorine and in a well-labelled red container (Karius and Colvin, 2021).

Similarly, during the administration of cytostatics, nausea and vomiting must be controlled, so, if vomiting occurs during treatment, dehydration and electrolyte balance must be monitored, and if vomiting is repetitive, the doctor must be informed so that nutritional intake can be evaluated.

Preventing extravasation during drug administration is the most important because when cytostatics extravasate they cause serious harm to patients and nurses working with cancer patients (Karius and Colvin, 2021), this extravasation is considered an emergency because it can cause irreparable tissue damage, the main interventions that are implemented in the event of such a situation are immediate detection of the infusion, aspiration of the drug and administration of the appropriate antidote (Pereda and Meneses, 2022), This can be compared with Vokurka, et al, (2020) in their study in which they indicate that the application of hyaluronidase and dexrazoxane, as well as the application of heat or cold depending on the cytostatic helps to decrease the negative effects of extravasation.

The oncology patient is at risk of suffering nutritional disorders, which with the progression of the disease and the treatment can compromise the patient’s life, so the nursing staff must monitor the patient’s nutritional intake (Koshimoto, et al, 2019). Chemotherapy also causes skin and mucosal toxicity reactions (Bandla, et al, 2020), however, these needs are the most overlooked by direct care staff. (Pai, Ongole and Banerjee, 2019), This generates the need to protocolize nursing activities in relation to this type of user, highlighting the importance of constant updating of personnel to provide holistic nursing care of quality and warmth (Parra, et al ,2020).

CONCLUSIONS

In conclusion, the role of nurses in patients undergoing cancer treatment is multifaceted and vitally important, valuing the patient being benefits recovery by identifying the patient's needs and addressing all affected areas. Empathy and communication with patients improve the patient’s emotional situation and increases the positive results of treatment, holistic nursing care helps to develop greater adherence to pharmacological treatment and emotionally helps patients and their families to better manage the situation (Karius and Colvin, 2021).

During chemotherapy cycles, there are some precautions that the staff must take, for example, during the preparation of the medication they must take into consideration that the infrastructure where the drug is prepared must comply with specific isolation characteristics, and for the preparation and administration the staff must have the appropriate clothing. The most common adverse effect is extravasation, which must be prevented in every possible way; however, if such an event should occur, the staff must be trained to solve the problem by applying the protocol (Hoeng, et al, 2019).

Before, during and after the administration of the treatment, the main emphasis of nursing action should be on the psychological state of the patient, assessing the patient allows the diagnosis of their needs and how these affect or limit their ability to recover, these patients require a lot of emotional support, motivating the users helps to improve their mood and in turn, this helps to reduce the side effects that occur in relation to the treatment, the care of the patient’s mental health is just as important as the care of physical health (Gimeno, 2021).

REFERENCES


Contribution of each author to the manuscript:

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