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ONCOLOGICAL PHARMACY

Pablo da Silva

Pedro V. Miranda Oliveira Ornelas

Alan Souza Santos

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Abstract: Cancer or neoplasm are words used to represent malignant tumors located in different tissues and regions of the body. It represents an important cause of illness and death in Brazil, making it a public health problem. In this sense, given the complexity of care in the field of oncology, we observe that pharmaceutical care must always be focused on offering medications that eliminate or, at least, minimize pain. In view of this, it is up to the pharmaceutical professional to know how to deal with the suffering, anguish and fears that can arise in various situations that involve the practice of caring for an oncological patient. The present study presents a bibliographical research that aims to deal with the complexity and importance of Pharmaceutical Care for cancer patients. The methodology used in this present study is characterized by a bibliographic research, of a qualitative nature, carried out through articles, periodicals and specialized websites regarding the chosen theme.

Keywords: Assistance, pharmaceutical, oncology, patient, cancer.

INTRODUCTION

In view of the complexity of care in the field of oncology, we observe that pharmaceutical care must always be focused on offering medications that eliminate or, at least, minimize pain. In view of this, it is up to the pharmaceutical professional to know how to deal with the suffering, anguish and fears that can arise in various situations that involve the practice of caring for an oncological patient. The assistance to be positive, determines that this professional has knowledge about the pathology. Increasing the quality and quantity of oncological references, research and information is essential for the development of the pharmacy professional, as there is a diversity and complexity of their objectives in relation to cancerology and oncology, since

this disease is associated with suffering, to pain and death (MONTRUCCHIO et al., 2005).

Pharmaceutical Care is today one of the most discussed topics among pharmaceutical professionals in our country, being a practice that highlights as its main purpose to improve the quality of life of patients who make use of prolonged medications. It can be defined as a professional practice, in which “the patient is the main beneficiary of the pharmacist’s actions” (MONTRUCCHIO et al., 2005).

According to Renovato and Trindade (2004), the prescription of drugs to the population seeks definitive results, which can be translated generically as: cure of the patient’s illness; elimination or reduction of a symptomatology of the patient; holding back or slowing the progress of a disease; prevention of a disease or a symptom.

There are several resolutions in the oncological field that deal with the importance of the pharmaceutical professional in the activity of handling anticancer drugs. According to article 1 of Resolution 288, of March 1996, amended by CFF Resolution No. 565 OF 12/06/2012, it states that the pharmacist is solely responsible for exercising the activity of handling antineoplastic and similar drugs in health establishments.

Pharmaceutical care can be found to support these patients with regard to possible side effects, drug interactions and adherence to drug treatment (ANDRADE; SILVA; FREITAS, 2004).

Thus, the subject of the present study is the oncology pharmacy.

The general objective is to address the importance of pharmaceutical care in oncology.

As specific objectives are intended to:

- Conceptualize cancer and cancer pain;
- Address the importance of the Pharmaceutical Professional for the

correct use of medicines, as well as self-medication;

- Analyze pharmaceutical care in oncology.

The present study translates into a bibliographical research, of a qualitative nature, carried out from works and scientific articles published in the Scielo and Google academic databases and in books and magazines that address the descriptors.

CANCER

Cancer is the name given to a set of more than 100 diseases that have in common the disordered, malignant growth of cells that invade tissues and organs, which can spread, metastasize, to other regions of the body.¹

When they divide rapidly, these cells tend to be very aggressive and uncontrollable, determining the formation of tumors, accumulation of cancer cells, or malignant neoplasms. Otherwise, a benign tumor simply means a localized mass of cells that multiply slowly and resemble their original tissue, rarely being life-threatening¹.

The different types of cancer correspond to the different types of cells in the body. As an example, there are different types of skin cancer because the skin is made up of more than one type of cell. If the cancer starts in epithelial tissues such as skin or mucous membranes, it is called carcinoma. If it starts in connective tissues such as bone, muscle or cartilage, it is called a sarcoma.²

Other characteristics that differentiate the different types of cancer from each other are the speed of cell multiplication and the ability to invade neighboring or distant tissues and organs, being classified by metastases.²

Cancer or neoplasm are words used to represent malignant tumors located in different tissues and regions of the body. It represents an important cause of illness and

1 Available in: <http://www1.inca.gov.br/conteudo_view.asp?id=322>.

2 Available in: <http://www1.inca.gov.br/conteudo_view.asp?id=322>.

death in Brazil, making it a public health problem, since since 2003 they are the second leading cause of death in the population, representing almost 17% of deaths from known causes (INCA, 2013).

Although cancer affects all age groups, its greater susceptibility is related, especially, to extrinsic factors, such as occupation, environment, diet, stress and lifestyle habits. Thus, it is a complex disease, which can be long-lasting and significantly compromises the lives of individuals in the biological, social and affective dimensions, requiring specialized assistance from different professionals (MUNIZ; ZAGO, 2009).

The National Cancer Institute (INCA) cites that cancer risk factors in a given population depend directly on the biological and behavioral characteristics of the people who comprise it, as well as the social, environmental, political and economic conditions that surround these people. , or being, they are highly influenced by the culture of the group to which they belong (MUNIZ; ZAGO, 2009).

The World Health Organization (WHO) estimates for the year 2030, approximately 27 million new cases of cancer, with 17 million deaths from this disease and 75 million people alive, annually, with cancer. It also highlights that this increase will affect low- and middle-income countries. (BRAZIL, 2012).

Since the diagnosis of the disease, the patient is submitted to several procedures in order to identify the disease and its classification. The treatment of choice seeks to promote prolonged survival and contain the growth of malignant cells or alleviate symptoms associated with the tumor. Among the most used therapeutic modalities are surgery, radiotherapy, chemotherapy or bone marrow transplantation. Depending on the situation, the use of more than one combined modality is necessary (BARBOSA; TELLES

FILHO, 2008).

Given this scenario, it is necessary for pharmaceutical professionals to present knowledge and training about this type of care, through a multidisciplinary practice, with the implementation of an interventionist proposal that requires competence, maturity, decision, ability to work as a team and humanitarian commitment. (WORLD HEALTH ORGANIZATION CANCER, 2012).

ONCOLOGICAL PAIN

Pain is an unpleasant sensory and emotional sensation that occurs in tissue damage, real or potential, being the true individual, complex, subjective and multidimensional experience. (SMELTZER, C. S; BARE, 2005).

Pain is frequent in cancer patients, and the most common symptom may be caused by the primary tumor, its metastases, or anti-cancer therapies such as radiotherapy, chemotherapy in addition to the methods of diagnosing the disease. In cancer patients, pain can trigger frustration, a depressive process, social and family isolation, and even fear of the disease getting worse. (CAMARGO, 2000).

It is understood that cancer pain is an awaited and pathophysiological process of the disease, being known as an intolerable and uncontrollable pain, which can be caused directly or indirectly by a tumor and also by cancer therapy, being classified as chronic pain or acute pain. (PIMENTA; ANDRUCIOLI, 2001).

Chronic pain has a continuous duration and the cause is directly related to the tumor, as it can cause persistent tissue inflammation, tissue loss or neuropathic injury, directly reflecting changes in the peripheral or central nervous system and the maintenance of pain mechanism (BYERS; BONICA, 2001).

Acute pain commonly has a limited duration and is easily diagnosed. It occurs

most often after surgical procedures or treatment with chemotherapy or radiation therapy (CHERNY, 2002).

There are no specific exams for pain assessment, depending only on patient reports. It is worth noting that pain is subjective and varies from person to person. The instrument that can help in an assessment of pain is the VAS visual analogue scale, which will help in the assessment of pain intensity (PAIVA et al., 2006).

The prevalence of pain increases with disease progression, with moderate or severe pain occurring in 30% of cancer patients receiving treatment and 60% to 90% of patients with advanced cancer (BRASIL, 2001).

PHARMACEUTICAL ASSISTANCE IN ONCOLOGY

With the publication of the National Pharmaceutical Assistance Policy, the foundations of the National Medicines Policy (PNM) were reaffirmed, with the promotion of the rational use of medicines becoming one of its strategic axes, through actions that discipline the prescription, dispensing and consumption. According to the National Health Council (CNS) of Resolution 338 of 2004, Pharmaceutical Assistance is the set of actions aimed at the promotion, protection and recovery of health, both individual and collective, having the drug as an essential input and aiming at access and to its rational use. This set involves the research, development and production of medicines and supplies, as well as their selection, production of medicines and supplies, as well as their selection, programming, acquisition, distribution, dispensing, quality assurance of products and services, monitoring and evaluation of its use, with a view to obtaining concrete results and improving the population's quality of life.

In most developed countries, Pharmaceutical Care is already a reality and

has been shown to be effective in reducing the aggravation of patients with chronic pathologies and costs for the health system (PEREIRA; FREITAS, 2008).

Currently, the pharmacist is able to take on clinical-assistance activities, which can contribute to a reduction in medication errors, administrative rationalization and a better quality of life for the patient undergoing treatment. The presence of the pharmacist in the multidisciplinary team of chemotherapy must improve and reduce the frequency of medication errors (MICHELENA; FERNÁNDEZ; DELGADO, 2004).

The Pharmacist is part of the multidisciplinary and interdisciplinary team of the service, observing adverse reactions, participating in interdisciplinary consultations and providing pharmaceutical care to patients undergoing treatment (LARA, 2009).

The role of the pharmacist in oncology is related to the handling of chemotherapeutic drugs, with the adequacy of their activities and physical space according to the current ordinances, participating in the waste management plan, qualifying suppliers, acting in stock management, developing scientific works, monitoring prescriptions and technical complaints, having knowledge of the drugs and seeking new information about adverse reactions, infusion time, stability and storage (LARA, 2009, p.13-14).

The effectiveness of pharmaceutical performance in antineoplastic drug preparation centers and the effective need for standardization of prescription are of great value and paramount importance to minimize possible errors and provide safety and proficiency to cancer treatment (LIEKWEG; WESTFELD; JAEHDE, 2004).

According to Almeida (2004), the counseling of patients undergoing chemotherapy must be preceded by all the necessary information to ensure adherence to treatment, in addition to developing trust

between the patient and the pharmacist. This information must preferably be passed on in informative material, of an educational nature and through direct guidance to the patient and caregiver.

It is evident that the pharmaceutical professional is responsible for the efficiency of care for cancer patients, which results in decisions and actions, thus contributing to clinical results, such as: in the progress of pain treatment; in the attenuation of adverse reactions, errors related to drugs, in the reduction of hospitalizations and in the improvement of the quality of life in general. (HAZIN, 2016).

In Oncology, more than one hundred drugs are currently used, differing in their chemical compositions, target cells, purpose of use for specific types of cancers and adverse effects. Given the high complexity of this treatment, the patient requires an interdisciplinary approach that provides comprehensive care and guarantees an effective and safe treatment. The action of the pharmacist is a fundamental part of this patient care, especially in the prevention of medication errors through the review of medical prescriptions. This reflects in resource savings, associated with a more rational pharmacotherapy and contributes to health promotion (REIS et al., 2013).

One of the great challenges of the multidisciplinary team that works in the care of cancer patients is to obtain patient adherence to treatment with oral anticancer drugs. It is important to point out that the implementation of pharmaceutical care can decisively contribute to improving adherence to treatment, optimizing the benefits of pharmacotherapy, identifying individual needs, detecting failures, guiding and monitoring the treatment of patients, solving problems related to medicines, as well as reducing waste and costs for the hospital (MONTRUCCHIO et al., 2005).

Chemotherapy is a form of systemic treatment aimed at eliminating rapidly growing cells, it also ends up affecting healthy cells, are administered at regular intervals, which may vary according to therapeutic regimens. (ANVISA, 2011).

Antineoplastic chemotherapy, that is, the use of chemical agents, alone or in combination, with the aim of treating malignant tumors, has become one of the most important and promising ways to fight cancer (BONASSA; SANTANA apud LUNARDI et al, 2009).

Oral chemotherapy is a tool for oncological treatment, which has been shown to be effective and is becoming increasingly frequent because it is simple, economically viable, non-invasive to the patient, often presenting less toxicity, as well as being more advantageous for the patient, since he can do the treatment at his own home (MARQUES, 2006).

For the success of the treatment, some factors are decisive, because, depending on their intensity, they can determine changes in the clinical conduct performed by the professional, it is known that some occurrences are causes of hospitalization, the increase in the length of hospital stay and even the patient come to death. (MARTINS, et al, 2008).

For Santos (2008), the administration routes are diverse, however, the oral route is simple, economical, non-invasive and, frequently, less toxic, besides being able to be administered at home; however, this very fact can become a huge problem if there is no patient responsibility and adequate pharmaceutical care. To enable its use, it is necessary that the patient is fully conscious, free from vomiting and swallowing difficulties.

According to Bisson (2007), in the selection of chemotherapeutic agents it is important to follow the following principles: each drug must be active when used alone for a certain type of cancer; drugs must have different mechanism of action; cross-resistance must

be minimal; drugs must have different toxic effects. Pharmacists are increasingly tasked with ensuring that the patient's drug therapy is properly indicated and that it is the most effective, safe and convenient for patients.

According to Resolution No. 288, of March 1996, with the changes made by Resolution CFF No. 565 of 12/06/2012 in the exercise of chemotherapy activity in health establishments, it will be up to the pharmacist to prepare anticancer drugs and other drugs that may cause occupational risk to the handler (teratogenicity, carcinogenicity and/or mutagenicity) in public or private health facilities.

Pharmaceutical intervention, with continuous pharmacotherapeutic monitoring, is capable of reducing drug-related problems, increasing effectiveness and minimizing the risks of pharmacotherapy (AMARAL; AMARAL; PROVIN, 2008).

This practice is regulated by the Federal Council of Pharmacy, which has as one of the pharmacist's private attributions to evaluate the medical prescription in terms of quantity, quality, compatibility, stability and interactions. Medication errors in hospitals entail significant costs, making it relevant to identify their nature and determinants, as a way of directing prevention actions, especially for potentially dangerous drugs (MS, 2013).

CONCLUSION

Since the diagnosis of cancer, the patient is submitted to several procedures in order to identify the disease and its classification. The treatment of choice seeks to promote prolonged survival and contain the growth of malignant cells or alleviate symptoms associated with the tumor. Among the most used therapeutic modalities are surgery, radiotherapy, chemotherapy or bone marrow transplantation. Depending on the situation, the use of more than one combined modality

is necessary.

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REFERENCES

ALMEIDA, Chamhum Ricardo José. *Farmacêuticos em oncologia. Uma nova realidade*. São Paulo: Atheneu, 2004.

AMARAL MF, AMARAL RG, PROVIN MP. [The action of pharmacist in process of pharmacist-intervention: one review]. *Rev Eletronica Farm*. 2008.

ANDRADE, M. A.; SILVA, M. V. S.; FREITAS, O. *Assistência Farmacêutica como Estratégia para o Uso Racional de Medicamentos em Idosos*. *Semina: Ciências Biológicas e da Saúde*, v. 25, n. 1, 2004.

BARBOSA, Ludmila Gonçalves; TELLES FILHO, Paulo Celso Prado. *Conhecimento de pacientes oncológicos sobre a quimioterapia*. *Cienc Cuid Saude* 2008 Jul/Set. Disponível em: [file:///C:/Users/usu%C3%A1rio/Downloads/6510-Texto%20do%20artigo-20342-1-10-20090306%20\(1\).pdf](file:///C:/Users/usu%C3%A1rio/Downloads/6510-Texto%20do%20artigo-20342-1-10-20090306%20(1).pdf)

BISSON, M. P. *Farmácia Clínica & Atenção Farmacêutica*, 2ª Edição. Brasil. Editora Manole. 2007.

BONASSA, Aguilar Moreno Edva; SANTANA, Rocha Tatiana. *Enfermagem em terapêutica oncológica*. 3º Ed. São Paulo: Atheneu, 2005

BRASIL. Ministério da Saúde. Instituto Nacional do Câncer. *Cuidados Paliativos oncológicos: controle da dor*. Rio de Janeiro: INCA, 2001. Disponível em: www1.inca.gov.br.

BYERS M.R.; BONICA J.J. *Peripheral pain mechanisms and nociceptor plasticity*. In: Loeser, J.D.; Butler, S.H.; Chapman, R.; Turk, D.C. (eds). *Bonica's management of pain*, Lippincott Williams & Wilkins, p . 26-72, 2001.

CAMARGO. TC. *O ex-sistir feminino enfrentando a quimioterapia para o câncer de mama: um estudo de enfermagem na ótica de Martin Heidegger*. [tese]. Rio de Janeiro: Escola de Enfermagem Anna Nery/UFRJ; 2000.

CHERNY, N. I. *Câncer pain: principles of assessment and syndromes*. In: BERGER, A.; PORTENOY, R.; WEISSMAN, D. *Principles & Practice of Palliative Care & Supportive Oncology*. 2ª Ed., Philadelphia: Lippincott Williams & Wilkins, 2002.

HAZIN, A. N. et al. *Computed Tomographic Findings in Microcephaly Associated with Zika Virus*. *The New England Journal of Medicine*, [S.l.], v. 374, 2016.

INSTITUTO NACIONAL DE CÂNCER JOSÉ ALENCAR GOMES DA SILVA. *Atlas on-line de mortalidade. RELATÓRIO DE GESTÃO DO EXERCÍCIO DE 2013*. Disponível em: <https://www.inca.gov.br/sites/ufu.sti.inca.local/files//media/document//relatorio-gestao-inca-2013.pdf>

LARA, Fernanda Costa. *O papel da farmácia no âmbito hospitalar: desenvolvimento da assistência farmacêutica oncológica*. Rio de Janeiro, 2009.

LIEKWEG, A; WESTFELD, M; JAEHDE, U. *From oncology pharmacy to pharmaceutical care: new contributions to multidisciplinary cancer care*. *Support Care Cancer*, v. 12, n.1, 2004.

- LUNARDI, Dircelene et al. Atenção Farmacêutica para pacientes em uso de Capecitabina Rev. Bras. Farm., 90(3), 2009.
- MARQUES, Patrícia Andréa Crippa. Pacientes com câncer e tratamento ambulatorial em um hospital privado: atitudes frente a terapia com antineoplásico orais e lócus de controle em saúde. 2006. 144 f. Dissertação (Mestrado em Enfermagem) – Escola de Enfermagem, Universidade de São Paulo, São Paulo, 2006.
- MARTINS, J.J. et al. Idosos com necessidades de cuidado domiciliar. Rev. enferm. v.16, n.03, p.319-25. 2008. Disponível em <<http://www.facenf.uerj.br/v16n3/v16n3a04.pdf> >
- MICHELENA MAA, FERNÁNDEZ MR, DELGADO FA. Pilotaje en la detección de errores de prescripción de citostáticos. Rev Cub Farm. 2004.
- MINISTÉRIO DA SAÚDE. Protocolo de Segurança na Prescrição, Uso e Administração de Medicamentos. Jul. 2013. Disponível em:<http://www20.anvisa.gov.br/segurancadopaciente/index.php/publicacoes/item/segurancana-prescricao-uso-administracao-de-medicamentos>
- MONTRUCCHIO, D. P. et al. Obstáculos da atenção farmacêutica no Brasil. Braz J PharmSci., v. 41, n. 4, p. 409-13, 2005.
- MUNIZ R, ZAGO M. A experiência da radioterapia oncológica para os pacientes: um remédio-veneno. Rev. Latino-Am. Enfermagem. 2009.
- PAIVA, E. S. et al. Manejo da Dor. Revista Brasileira de Reumatologia, v. 46, n. 4, p. 292- 296 jul/ago, 2006. Disponível em: www.scielo.org.br/florence Florence Nightingale e as irmãs de caridade: revisitando a história.[br/pdf](http://www.scielo.org.br/pdf) –
- PEREIRA, Leonardo Régis Leira; FREITAS, Osvaldo. A evolução da Atenção Farmacêutica e a perspectiva para o Brasil. Revista Brasileira de Ciências Farmacêuticas Brazilian Journal of Pharmaceutical Sciences vol. 44, n. 4, out./dez., 2008
- PIMENTA, C.; ANDRUCIOLLI, M. Dor: Manual Clínico De Enfermagem/ São Paulo: Escola de Enfermagem Universidade de São Paulo; (s.n.),2001.
- REIS W.C.T., SCOPEL C.T., CORRER C.J., ANDRZEJEVSKI V.M.S. Análise das intervenções de farmacêuticos clínicos em um hospital de ensino terciário do Brasil. Einstein. v. 11, 2013.
- RENOVATO, R. D.; TRINDADE, M. F. Atenção Farmacêutica na hipertensão arterial em uma farmácia de Dourados, Mato Grosso do Sul. Revista Infarma,v.16, nº 11-12, 2004.
- SANTOS S. S. C. et al. Promoção da saúde da pessoa idosa: compromisso da enfermagem gerontogeriatrica. ACTA PAULISTA DE ENFERMAGEM. v.21, n.04, 2008.
- SMELTZER, C. S; BARE, G. B; Brunner e Suddarth. Tratado de Enfermagem médico – cirúrgica. 10 edição. Rio de Janeiro: Guanabara Koogan, 2005.
- WORLD HEALTH ORGANIZATION CANCER. Definition of palliative care. Geneva: WHO; 2012. Disponível em: <http://www.who.int/cancer/palliative/definition/en>