REVIEW ARTICLE

REVISTA ENFERMAGEM ATUAL IN DERME

NURSING ASSISTANCE TO ONCOLOGICAL PATIENTS WHO CONTRACTED COVID-19 DURING TREATMENT

ASISTENCIA DE ENFERMERÍA A PACIENTES ONCOLÓGICOS QUE CONTRAYERON COVID-19 DURANTE EL TRATAMIENTO

ASSISTÊNCIA DE ENFERMAGEM À PACIENTES ONCOLÓGICOS QUE CONTRAÍRAM COVID-19 DURANTE O TRATAMENTO

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ABSTRACT
Objective: To identify in the national and international literature scientific evidence on nursing care provided to people undergoing cancer treatment who contracted Covid-19. **Method:** Integrative Review where the guiding question was based on the PICO strategy. LILACS, PubMed, Web of Science, Embase, CINAHL databases were used. As inclusion criteria: adult cancer patients (aged 18 and over), published from January 2020 to December 2021 in English, Portuguese, and Spanish. The controlled descriptors will be used: Coronavirus; Nursing care; Cancer; Coronavirus infections; Nursing; Oncology; Pandemic; Covid-19; Chemotherapy; Oncology Nursing; **Results:** The corpus of this IR consisted of 8 articles, which met the inclusion criteria with evidence levels II and IV. The synthesis of knowledge pointed to two categories 1- Postponement of treatment and 2 - Technologies. **Final considerations:** Treatment was interrupted during the pandemic and technological means such as telehealth care and phone calls were used to maintain nursing care. In addition, it was possible to identify gaps such as: few investigations available in full with a deepening on the subject and with strategies to subsidize nursing care and clinical practice and the studies were mostly of low level of evidence.
Keywords: Nursing Care; Neoplasms; Coronavirus Infections; Covid-19; Oncology Nursing.

RESUMEN
Objetivo: Identificar en la literatura nacional e internacional evidencias científicas sobre los cuidados de enfermería brindados a personas en tratamiento oncológico que contrajeron Covid-19. **Método:** Revisión Integrativa donde la pregunta orientadora se basó en la estrategia PICO. Se utilizaron las bases de datos LILACS, PubMed, Web of Science, Embase, CINAHL. Como criterios de inclusión: pacientes oncológicos adultos (mayores de 18 años), publicados de enero de 2020 a diciembre de 2021 en inglés, portugués y español. Se utilizarán los descriptores controlados: Coronavirus; Cuidado de enfermera; Cáncer; infecciones por coronavirus; Enfermería; Oncología; Pandemia; COVID-19; Quimioterapia; Enfermería Oncológica; **Resultados:** El corpus de este RI estuvo compuesto por 8 artículos, que cumplieron los criterios de inclusión con niveles de evidencia II y IV. La síntesis de conocimientos apuntó dos categorías 1- Aplazamiento del tratamiento y 2- Tecnologías. **Consideraciones finales:** El tratamiento fue interrumpido durante la pandemia y se utilizaron medios tecnológicos como la atención de telesalud y llamadas telefónicas para mantener los cuidados de enfermería. Además, fue posible identificar vacíos como: pocas investigaciones disponibles en su totalidad con una profundización sobre el tema y con estrategias para subsidiar el cuidado y la práctica clínica de enfermería y los estudios en su mayoría fueron de bajo nivel de evidencia.
Palabras clave: Atención de Enfermería; Neoplasias; Infecciones por Coronavirus; COVID-19; Enfermería Oncológica.

RESUMO
Resumo: **Objetivo:** Identificar na literatura nacional e internacional evidências científicas sobre assistência de enfermagem prestada às pessoas em tratamento oncológico, que contraíram Covid-19. **Método:** Revisão Integrativa onde a questão norteadora foi baseada na estratégia PICO. Utilizou-se das bases de dados LILACS, PubMed, Web of Science, Embase, CINAHL. Como critérios de inclusão: pacientes oncológicos adultos (maiores e iguais a 18 anos), publicados no período de janeiro de 2020 a dezembro de 2021 nos idiomas inglês, português e espanhol. Foram utilizados os descritores controlados: Coronavírus; Cuidados de Enfermagem; Câncer; Infecções por Coronavírus; Enfermagem; Oncologia; Pandemia; Covid-19; Quimioterapia; Enfermagem Oncológica; **Resultados:** O corpus dessa RI foram 8 artigos, que atenderam aos critérios de inclusão com níveis de evidências II e IV. A síntese do conhecimento apontou para duas categorias 1- Adiamento do tratamento e 2 – Tecnologias. **Considerações finais:** Houve interrupção do tratamento durante a pandemia e foram utilizados meios tecnológicos como atendimento de tele saúde e chamadas telefônicas para manter a assistência de enfermagem. Ademais, foi possível identificar lacunas como: poucas investigações disponíveis na íntegra com um aprofundamento no tema e com estratégias para subsidiar a assistência de enfermagem e a prática clínica e os estudos foram na maioria de nível de evidência baixo.

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Palavras-chave: Cuidados de Enfermagem; Neoplasias; Infecções por Coronavírus; Covid-19; Enfermagem Oncológica.

INTRODUCTION

According to the National Cancer Institute (INCA), cancer is a term that covers more than 100 malignant diseases that have in common the disordered growth of cells. These cells tend to divide rapidly and group together to form tumors, in an uncontrollable and aggressive manner. It is characterized by invading adjacent tissues through the speed of multiplication of the cells or distant organs through metastases.[1]

During the evolution of normal cells to the neoplastic state, the so-called "hallmarks of cancer" occur, where these cells share characteristics that ensure resistance to apoptosis, replicating immortality, activation of invasion and metastasis, inflammation, and reprogramming of metabolism, among others. This occurs due to changes in the structure of the cells, from mutations caused by external (cigarette smoking, eating habits, alcohol consumption, exposure to radiation, viruses, among others) or internal factors (hormones, compromised immune system, or genetic predisposition).[2,3]

According to epidemiology, cancer is characterized as the second leading cause of death worldwide. In the year 2018, 9.6 million deaths from the disease were estimated. In Brazil, between 2020 and 2022, 625,000 new cases are estimated for each year and for 2025, more than 20 million new cases are expected.[4]

According to INCA, in Brazil in 2020, the incidence according to the primary location of the tumor in men stood out in the prostate with 29.2% and in women in the breast with 29.7%. As for mortality, according to the primary location of the tumor, in men the trachea, bronchi and lungs stood out with 13.8% and in women the breast with 16.4%.[5.]

Allied to this is the new coronavirus that causes Covid-19, which is an acute infectious respiratory disease caused by the SARS-CoV-2 virus of the Coronaviridae family. The symptoms can be mild (fever, tiredness, and cough) or more severe (high fever, pneumonia, and dyspnea). There are also asymptomatic carriers of great epidemiological importance because they are potential transmitters.[6]

According to epidemiological data compiled by the Center for Systems Science and Engineering at Johns Hopkins University, more than 402 million cases have been reported worldwide, with 5.7 million deaths being reported by March 2022. Brazil is the country with the second-highest number of infections and deaths, with 29,368,776 cases and 655,078 deaths reported by March 2022.[7,8]

Also, it is worth noting that one of the main risk factors for COVID-19 is immunosuppressed people (low immune responses) with chronic diseases. They are more susceptible to developing more intense symptoms because certain health conditions and

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comorbidities can influence the body's immune response. Because of this, they deserve special attention during a pandemic.[9]

It should be noted, however, that cancer patients are a high-risk group in the pandemic of COVID-19 because their immune system is compromised, making them vulnerable to infection. Furthermore, because they already have an underlying disease, they have an increased risk of developing serious complications if infected with the virus.[10]

According to Coronavirus Disease, 2021, in addition to low immunity triggered by treatment, oncology patients are prone to COVID-19 infection due to the need to attend hospitals for access to cancer diagnosis, treatment and follow-up.[8]

According to epidemiological data, 20% of COVID-19 cases in cancer patients were due to in-hospital infection. And within a sample of 181 followed-up patients admitted to INCA during a certain time, 60 died because of the new coronavirus. Furthermore, during the study, it was also found that the evolution of the virus in tumor patients is faster compared to healthy health professionals. Regarding death by type of cancer, lung cancer stands out in first place, followed by breast cancer, followed by malignant myeloma.[11]

Nursing participates directly in the health-disease process, with actions linked to the patient and family members since the diagnosis, treatment, and prognosis, following each stage. In this context, it has a fundamental role in health care, developing new techniques and strategies that can minimize the impacts generated by the pandemic in oncologic treatment, so that treatment does not become a risk due to the high virulence of SARS-CoV-2 and to provide greater attention to the early intervention of symptoms in infected patients.[10]

Therefore, the aim of this study is to identify in the national and international literature scientific evidence on nursing care provided to people in cancer treatment, who contracted COVID-19.

METHODS

The research method used in this study was an Integrative Review, based on EBP, which allows for the synthesis of knowledge through a systematic and rigorous process. We opted for the proposal addressed by Mendes, Silveira and Galvão (2019), which goes through six steps: 1) Preparation of the review question; 2) Search and selection of primary studies; 3) Extraction of data from the studies; 4) Critical appraisal of the primary studies included in the review; 5) Synthesis of the review results and 6) Presentation of the method.[12]

First Stage: Preparation of the Review Question:

The guiding question of this present study was formulated according to the PICO strategy, where P=oncology patients in treatment, I= COVID- 19 C=not applicable, O=Nursing care, thus the question of this IR is: How has been the

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nursing care provided to cancer patients who contracted COVID- 19 during treatment?

Second phase: Search and selection of primary studies:

Therefore, as inclusion criteria, the following were defined: Primary studies that address the theme Nursing care in cancer patients who contracted the COVID-19 virus during treatment, in adult patients (greater than and equal to 18 years old), published in the period from January 2020 to December 2021 in the languages, Portuguese, English and Spanish indexed in the databases:

- LILACS (Latin American and Caribbean Health Science Literature Database), site: http://lilacs.bvsalud.org/.

- Pub Med (Public Medline or Publisher Medline), site: https://www.ncbi.nlm.nih.gov/pubmed/.

- WEB OF SCIENCE, site: apps-webofknowledge.ez37.periodicos.capes.gov.br.

- EMBASE, site: https://www.embase.com/landing?status=grey

- CINAHL: https://www.sciencedirect.com/topics/nursing-and-health-professions/cinahl

And the exclusion criteria were letters, comments, editorials, opinion articles, and review articles.

For the search of the articles, the Descriptors in Health Sciences (DECS) described below were used:

Coronavirus; Nursing Care; Cancer; Coronavirus Infections; Nursing; Oncology; Pandemic; Covid-19; Chemotherapy; Oncology Nursing.

And the Medical Subject Headings (MESH) descriptors: Coronavirus; Nursing care; Cancer; Coronavirus infections; Nursing; Oncology; Pandemic; Covid-19; Chemotherapy; Oncology Nursing.

The Boolean operator represented by the AND connector was used and all descriptors, crossings were made with all descriptors and every time that more than 200 results came in, one more descriptor was added.

Third phase: Data extraction from the primary studies:

The Endnote software was used to organize the articles resulting from the search, excluding duplicates. After that, it was exported to the Rayyan software, which contains variables such as title of the article, journal, authors, year, country of publication, and language, for selection of the articles from readings by titles and abstracts and after that, selection by reading in full. The analysis of the inclusion of the articles was made by two reviewers in a blinded fashion.

Fourth phase: Critical appraisal of the primary studies:

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To perform this step, an instrument constructed by the authors was used and level of evidence according to Melhink & Fineout 2019, which advocates levels according to the research question and design for Intervention/Treatment or Diagnostic/Testing studies. Apparent and content validation of this instrument was performed by 3 expert judges.[13]

Fifth phase: **Synthesis of the review results**

In this next step, the discussion of results is performed, where the reviewer can make a critical evaluation of the studies by comparing them with the theoretical knowledge, identifying gaps that allow the identification of factors that affect nursing policy and care. From this, it is possible to point out pertinent suggestions for future research on improving health care.[12]

Sixth phase: Presentation of the review

This phase is the last step in the development of an integrative review, and simply consists of a document containing the description of the steps taken by the reviewer and the main results obtained from the included articles. It is significant, as it produces an impact generated by the accumulation of knowledge on the theme and the dissemination of results that contemplate health professionals in different places and at different times, keeping them updated and facilitating changes in clinical practice because of the research.[12]

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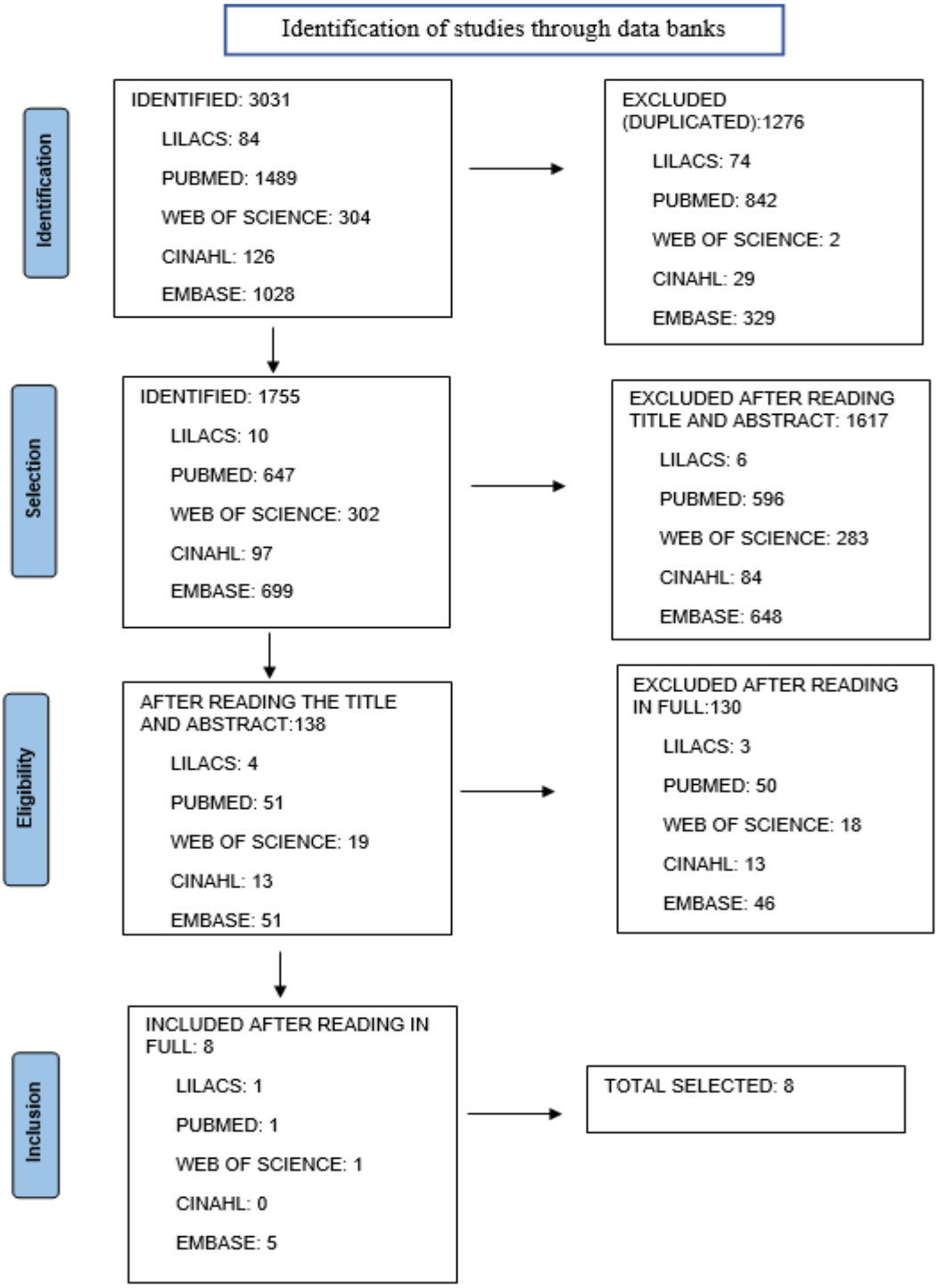
RESULTS

Figure 1 - Flowchart prepared according to the Identification of studies through database, selection, eligibility, and inclusion of studies in the Integrative Review



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Source: Elaborated by the author - according to Page [14]

Chart1 - Description of the studies included in the Integrative Review according to author(s), titles, and database where they were located

No.	AUTHOR(S)	TITLE	DATABASES
1	Cavanna L. et al.	Prevalence of COVID-19 infecion in asymptomatic câncer patients in a district with high prevalence of SARS-CoV-2 in Italy.[15]	WEB OF SCIENCE
2	Elkin E. et al.	A covid-19 screening tool for oncology telefone triage.[16]	EMBASE
3	Ferrua M. et al.	Nurse navigators' letemonitoring for câncer patients with COVID-19: a French case study.[17]	PUBMED
4	Miaskowshi C.	Oncology patients' perceptions of and experiences with COVID-19.[18]	EMBASE
5	Pritchett JC. et al.	Association of a remote patient monitoring (RPM) program with reduced hospitalizations in câncer patients with COVID-19.[19]	EMBASE
6	Sampaio SGSM. et al.	Evaluation of the criteria adopted to identify suspected cases of COVID-19 in the Emergency Department Service of a Referral Palliative Oncology Care Unit.[20]	EMBASE
7	Santiago FB, Silva ALA.	First case of COVID-19 in an Oncological Palliative Care Unit: Experience Report.[21]	LILACS
8	Strang P. et al.	Dying from cancer with COVID-19: age, sex.[22]	EMBASE

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Source: Elaborated by the author

No.	Journal	Year of publication	Country of origin	Type of study	Level of evidence
1	Cureus	2021	Brazil	Retrospective analytical	II
2	Supportive Care in Cancer	2020	United States	Methodological	IV
3	Supportive Care in Cancer	2021	France	Cross-sectional	IV
4	Supportive Care in Cancer	2020	United States	Cross-sectional	IV
5	JCO Oncology Practice	2021	United States	Cross-sectional	IV
6	American Journal of Hospice & Palliative Medicine	2021	Brazil	Cross-sectional	IV
7	Enfermagem foco	2020	Brazil	Experience report, descriptive	IV
8	Acta Oncologia	2021	Sweden	Descriptive and retrospective	IV

Chart 2 - Description of the studies included in the Integrative Review according to: journals, year of publication, country of origin, type of study and level of evidence

Chart 3 - Description of the studies included in the Integrative Review according to: sample characteristics and main results.

No.	Sample characteristics	Main results
1	In a 2-month period in the outpatient clinic of a general hospital, 260 cancer patients were tested for Covid-19, with 10 patients testing positive.[15]	Cancer treatments are being postponed due to contamination by sars-cov-2. This is configured in the limitation of the assistance provided to cancer patients, along with the continuity of treatment, which may constitute a risk to the life of this population.[15]
2	Cancer patients from an Integrated Cancer Center, tested by a screening tool to identify possible symptoms of covid-19.[16]	A telephone screening feature covering cancer-related questions and covid-19-related symptoms has been implemented, so that they can refer affected patients and appropriate treatments, without affecting oncology treatment. Nursing care is limited to phone calls or care regarding prevention of covid-19.[16]
3	Data were collected from 130 cancer patients with COVID-19 diagnosed from	Using a system called CAPRI-COVID that keeps COVID-19 patients at home as much as possible while

	March 23 to June 5, 2020. (median age: 59 years, female).[17]	remotely monitor the daily evolution of related illnesses such as symptoms to limit irrelevant hospital visits and anticipate hospital visits when necessary. In addition, RNs supervise the discharge of patients from an inpatient unit to their homes with primary care providers to promote continuity of care. Symptom monitoring was performed on patients via telephone interaction (with RNs) or via CAPRI cell phone app. This method is justified in the safest way for providers to continue care.[17]
4	Sample of 174 cancer patients, age > 18 years, 12.2% tested positive for covid-19 and 0.6% were hospitalized for covid-19.[18]	Health professionals are finding it difficult to understand and differentiate cancer symptoms from covid symptoms, so that they can follow the evolution of patients through telehealth and provide the necessary assistance. Thus, it is important that these professionals study the difference between these two conditions and efficient methods of assistance.[18]
5	Adult patients receiving targeted cancer therapy or in recent remission on active surveillance with SARS-CoV-2 infection confirmed by polymerase chain reaction between March 18 and July 31, 2020.[19]	The use of a new RPM program and centralized virtual care team, associated with a significant reduction in hospital admission rate and lower overall utilization of acute care resources among cancer patients with COVID-19. Throughout the COVID-19 pandemic, innovative care delivery methods have proven to be essential to ensure continuous care for many of our vulnerable populations, as due to the high transmission rate of the virus nursing care is limited.[19]
6	All patients admitted to an oncology palliative care unit and emergency department between April and June 2020.[20]	Nurses have used technology to maintain contact between the patient and family members during the last time of life. This helps the patient to face this process with less impact and aids in the care process provided by nurses.[20]
7	First patient with positive result for COVID 19 in the oncology palliative care unit and Nursing team of a Federal Institute of reference for palliative care, in the city of Rio de Janeiro.[21]	Technology is being used to reduce psychic symptoms (pain, suffering and anguish), since due to the pandemic patients cannot be in contact with family and friends and furthermore, nursing care becomes limited, increasing the patient's suffering.[21]
8	All cancer patients who died during March-May 2020 in the Stockholm region, n ¼ 1467 of whom 278 died with a diagnosis of COVID-19, compared to deaths in 2016-2019.[22]	Patients with covid-19 could not palliative care (this issue has an impact on care) due to the impact on care) due to the pandemic, as they have experienced several changes of location including emergency care, hospital admissions and hospital wards which causes discomfort and suffering; Studies show that patients who go through palliative care had fewer acute admissions and hospital deaths.[22]

Source: Elaborated by the author

Chart 4 - Organization of the studies according to: categories, subcategories and number of articles.

Categories	Subcategories	No. of articles	%
Treatment postponement		1	12.5

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Technology	Telehealth	5	62.5
	Telephone Monitoring	2	25
TOTAL		11	100

Source: Elaborated by the author

DISCUSSION

According to the category, postponement of treatment, cited by 1 (12.5%) article, it is possible to identify that facing the high transmission rate of Sars-CoV-2 health professionals chose to interrupt the cancer treatment of infected patients to maintain the safety of other patients, reducing the flow inside hospitals and using these spaces to receive severe patients infected by the virus. In addition, the lack of supplies has negatively influenced the health of oncology patients who need drugs for cancer control, and for COVID-19 control for infected people. [23]

The interruption in treatment is distressing for the health and well-being of these patients, who need treatment to control and/or fight cancer along with its symptoms. Parallel to this, there was also the interruption of diagnostic services in this period, which may bring as a consequence, a higher incidence of discoveries of malignant tumors in advanced stages, with impact on prognosis and survival time of patients.[23]

According to the Technology category, addressed by 7 (87.5%) studies, it is possible to identify issues related to physical and emotional well-being. In this context, technology contributes to the continuity of treatment, which can occur at home, guided by the professional through a telephone call or video call. It is also possible to perform the triage process of this patient, through questions for monitoring the symptoms, helping the professional to help effectively and, if necessary, referring him/her to a specialized center.[24]

The telehealth subcategory, addressed by 5 (62.5%) articles, has been very efficient to control symptoms, being possible to differentiate the symptoms caused by cancer and its treatment, from the symptoms caused by Covid-19. In addition, this system contributes to patient follow-up, bringing the patient closer to the oncology professional so that no complications occur.[24]

Furthermore, 2 (25%) articles mention the subcategory telephone monitoring, which in addition to bringing the patient closer to the professional, can be effective in bringing the patient closer to family members, in cases of hospitalization. It is noteworthy the importance that this method brings in the continuity of treatment and control of symptoms, and for the emotional health of patients, especially those in palliative care, reducing stress, anxiety, and

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other psychological changes, which can intensify during social isolation.[24]

Moreover, the knowledge that cancer patients are more susceptible to contracting the virus and developing severe sequels, amplifies the feelings of anxiety, boredom, and fear, generated by the social isolation necessary for people who have contracted COVID-19. Such feelings affect the quality of life of individuals and can cause changes in sleep patterns, changes in physical, occupational, cognitive, and social functioning.[23]

FINAL CONSIDERATIONS

The Integrative Review is one of the most used methods in nursing because it has results systematically, obtained from reliable and relevant databases, and selected through reading in twice, by two independent reviewers. It is ordered, by the extraction of data through organized instruments. And comprehensive, by the junction of several studies that end up in a final document. This becomes an ally to nurses who have little time to study all the scientific knowledge available, making research results more accessible, since in a single IR the reader has access to several studies conducted.

After analyzing the studies selected for this Integrative Review, it is concluded that COVID-19 has had a significant impact on cancer treatment. In some cases, there was interruption of treatment, in other cases, technological means were used as telehealth care and phone calls to maintain nursing care to patients who contracted the virus during treatment, to ensure a qualified care and free of damage.

One of the most used ways by the professionals was telehealth care, with which it is possible to maintain oncology treatment and monitor COVID-19 symptoms. Moreover, with this method employed, it is possible to bring the patient closer to the nurse and family members, thus minimizing the emotional impact caused by social isolation, especially to patients in palliative care in their last time of life.

Finally, regarding the design of the studies, there is a predominance of cross-sectional studies, which have advantages such as cheap, simple, fast, no one is exposed to a causal agent due to the study, or denied a therapy of potential benefit and are useful for long-term diseases. Most of them are classified with levels of evidence IV, in other words, they have low level of evidence for clinical practice, and are characterized as low clinical recommendation.

Given the presentation of this Integrative Review, which aimed to assess how has been the nursing care for cancer patients who contracted the COVID-19 virus during treatment, it raised the following limitations: few investigations available in full of a deepening of the subject and with strategies to support nursing care and clinical practice and many studies with low level of evidence.

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This study allows the gathering and synthesizing of research results contributing to Evidence-Based Practice (EBP), allowing the nursing professional to have access to a synthesis of multiple published studies, providing support for decision-making and improving clinical practice.

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