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TELENURSING PRACTICE IN THE CARE OF SURGICAL CANCER PATIENTS: A SCOPING REVIEW PROTOCOL

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Manuscripts

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3 **TELENURSING PRACTICE IN THE CARE OF SURGICAL CANCER PATIENTS: A**
4 **SCOPING REVIEW PROTOCOL**
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For peer review only

ABSTRACT

Introduction: Telenursing is an area of health service provision that was highlighted with the COVID-19 pandemic and continues to rise to mediate nursing care. In the surgical area, specifically oncology, telenursing can address unmet care needs. However, the most relevant nursing care for this context has not yet been identified as well as the characteristics of telenursing programs. This scoping review aimed to map existing literature on perioperative oncology telenursing practice. **Methods and analysis:** This scoping review will use the JBI methodology using the PRISMA-ScR checklist. The protocol is registered in the Open Science Framework (OSF) with the link: osf.io/hkzmf. The databases used for the searches will be MEDLINE, EMBASE, CINAHL, SCOPUS, Web of Science, Virtual Health Library, and, for gray literature, Google Scholar, WorldWideScience and Global ETD Search. Eligible studies must be original, with a text for full reading without time and language cut-off. For data selection and extraction, two independent reviewers will read the title, abstract and full text using Rayyan software and a form prepared by the authors. Both the selection process and the data extraction process were previously tested by the research team. If disagreements occur, a third reviewer will mediate resolution. The results will be presented through visual representations and interpreted in light of advances in telenursing in the care of surgical cancer patients in the countries related to the included publications. The scoping review development will take place between February and June 2023, concluding all phases. **Ethics and disclosure:** The study does not require ethical approval. The results will be published in a widely circulated scientific journal and shared at events, in addition to subsidizing the development and implementation of oncology perioperative telenursing programs.

Keywords: Perioperative Care; Surgical Oncology; Telenursing.

Strengths and limitations of this study

- First literature review that will systematize knowledge about perioperative oncology telenursing;
- It will favor perioperative oncology telenursing practice consolidation;
- Studies in any language will be included;
- Research strategy developed by professionals holding a master's and doctoral degree in nursing;
- Although this study identifies indicators of perioperative oncology telenursing, there will be no study and indicator quality assessment.

INTRODUCTION

In health services, information technology and informatics are highly integrated in nursing care provision, providing nurses with a new set of tools in telehealth (1,2). Telehealth platforms are diverse, but all enhance nurses' ability to communicate and receive data about their patients (3). Thus, nurses must participate in the development of procedures and practices that involve telehealth use, such as telenursing (TN) (2,4)

TN practice encompasses nursing consultation, interconsultation, consulting, monitoring, health education and acceptance of spontaneous demand mediated by information and communication technology (5). It has been used globally, especially during the COVID-19 pandemic period to mediate nursing care (4,6).

Among the application areas of TN is surgical nursing, specifically oncology, in which care must meet practical, informational, psychological, social and physical needs during the stages of cancer treatment (7).

It is known that cancer patients throughout the treatment trajectory experience varied unmet care needs, distributed in 15 domains: physical; financial; education/information; personal control (autonomy); health care system; access to resources; emotions/mental health; social support; social (society); communication; relationship with health provider; healing; body image; survivor identity; employment; existential (8).

For instance, in the preoperative phase of cancer treatment, patients may have needs about appearance, pain and postoperative recovery expectations (9). In the postoperative phase of cancer treatment, there may be physical, psychological, and social demands superimposed on the surgery itself, cancer diagnosis, and ongoing cancer treatments (10,11).

With a growing need for health services to find less costly health care methods that can be accessed by a large number of patients, it is opportune to consider the role of cancer support telephone lines, through TN (12).

After a previous search in the first quarter of 2022 in PubMed, Cochrane, JBI Evidence Synthesis, PROSPERO and OSF Registries websites, no consolidated studies were identified that systematize knowledge about how perioperative TN practice occurs in cancer patients as well as program characteristics and the most relevant nursing care for this context.

To fill this gap, a scoping review will be carried out with the objective of mapping existing literature on perioperative oncology TN practice through the: (1) characterization of perioperative oncology TN services regarding their organizational structure, information technologies and theoretical support in nursing used; (2) identification of outcome indicators

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3 used in oncology perioperative TN services; (3) identification of care content in perioperative
4 oncology TN.
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9 **METHODS AND ANALYSIS**

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11 The proposed scoping review will be conducted according to the JBI methodology for scoping
12 review (13) using the PRISMA-ScR checklist (14), an extension adapted for scoping review
13 from the PRISMA checklist (Preferred Reporting Items for Systematic Reviews and Meta-
14 Analyses). The protocol is registered in the Open Science Framework (OSF) with the link:
15 osf.io/hkzmf.
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20 The scoping review survey will take place between February 2023 and June 2023, concluding
21 all stages of the review.
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26 **Review question**

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28 The research question was elaborated based on the mnemonic PCC (Population, Concept and
29 Context):
30

- 31 • P (population) – oncology surgical patients;
- 32 • C (concept) – TN;
- 33 • C (context) – perioperative period.
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39
40 The elements described above allowed the authors to define the scope and focus of this review
41 and the following research question was developed: how does perioperative TN occur practice
42 in surgical cancer patients?
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47 **Inclusion criteria**

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49 The PCC elements mentioned above were used to describe the selection criteria. Furthermore,
50 this scoping review will consider original studies of any research design and language, as long
51 as they are related to the proposed objective and present the text for full reading. There will be
52 no time frame delimitation for publications.
53
54

- 55 • **Participants**

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57 This review will consider studies in adult or older adult patients undergoing surgical
58 treatment for cancer.
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- **Concept**

It will be considered as a concept TN practice between nurse and patient/guardian to assess their health status and propose care related to the surgical context.

Therefore, it will be considered as TN any type of contact that may occur using the internet or telephone network to make a video call, voice call, telephone call, application use and sending text messages or documents.

- **Context**

The review will use elective surgeries in the preoperative period (before hospital admission) and postoperative period (within 1 year after hospital discharge) as a context.

Types of sources of evidence

This scoping review will use white and gray literature sources to carry out the research.

The databases used to carry out the searches will be MEDLINE (PubMed), EMBASE, CINAHL, Scopus, Web of Science and Virtual Health Library (VHL), which provide great scientific research content from reference databases in different fields of health, such as Latin American Health Sciences Literature from Latin America and the Caribbean (LILACS), *Índice Bibliográfico Español en Ciencias de la Salud* (IBECS - Spanish Bibliographic Index on Health Sciences) and Nursing Database (BDENF).

The gray literature search sources will be Google Scholar, WorldWideScience, Global ETD Search e and the reference list of included articles, for performing the reverse search.

Search strategy

The search strategy will aim to locate primary studies, reviews and text and opinion articles published according to the theme.

An initial search was performed on MEDLINE (PubMed) to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles, were used to develop the search strategies for each indexing language.

Different search strategies were developed by the review team to be used in five databases (MEDLINE (PubMed), EMBASE, CINAHL, SCOPUS, Web of Science), in the VHL and in the gray literature (Google Scholar, WorldWideScience, Global ETD Search, CAPES Catalog of Theses and Dissertations) according to corresponding indexing languages (Chart 1).

DATA SOURCE	SEARCH STRATEGY
MEDLINE/PubMed (via National Library of Medicine)	("Surgical Oncology"[MeSH Terms] OR "neoplasms"[MeSH Terms] OR "Neoplasms/surgery"[All Fields]) AND ("cell phone"[MeSH Terms] OR "telephone"[MeSH Terms] OR "smartphone"[MeSH Terms] OR "telecommunications"[MeSH Terms] OR "telenursing"[MeSH Terms] OR "tele nursing"[All Fields] OR "tele nursing"[All Fields]) AND ("postoperative care"[MeSH Terms] OR "preoperative care"[MeSH Terms] OR "perioperative care"[MeSH Terms] OR "Self-Care"[MeSH Terms] OR "Self-Care"[All Fields] OR "patient education as topic"[MeSH Terms] OR "perioperative nursing"[MeSH Terms])
EMBASE (via Elsevier)	('surgical oncology'/exp OR 'neoplasms'/exp OR 'neoplasms surgery'/exp OR 'neoplasms surgery') AND ('telephone'/exp OR 'smartphone'/exp OR 'telemonitoring'/exp OR 'telecommunication'/exp OR 'telenursing'/exp OR (tele AND ('nursing'/exp OR nursing)) OR 'tele nursing'/exp OR 'tele nursing' OR 'mobile phone'/exp) AND ('postoperative care'/exp OR 'preoperative care'/exp OR 'perioperative period'/exp OR 'patient education'/exp OR 'perioperative nursing'/exp OR 'self care'/exp OR 'self care')
CINAHL (via EBSCO)	'MH "oncologic surgery" OR MH neoplasms OR MH "cancer patients" OR TX "neoplasms surgery" AND MH telephone OR MH Smartphone OR MH telemonitoring OR MH telecommunication OR MH telenursing OR MH "digital nursing" OR MH "tele-nursing" OR TX "tele nursing" OR MH "mobile phone" AND MH "postoperative care" OR MH "preoperative care" OR MH "perioperative care" OR MH "self care" OR MH "patient education as topic" OR MH ("patient education as topic or education or health education") OR MH "perioperative nursing" OR TX "self-care"
Scopus (via Elsevier)	'(TITLE-ABS-KEY ("Oncology Surgery") OR TITLE-ABS-KEY (neoplasms) OR ALL ("neoplasms surgery")) AND (TITLE-ABS-KEY (telephone) OR TITLE-ABS-KEY (smartphone) OR ALL (telemonitoring) OR TITLE-ABS-KEY (telecommunication) OR TITLE-ABS-KEY (telenursing) OR ALL ("Tele nursing") OR ALL ("Tele-nursing") OR TITLE-ABS-KEY ("Mobile phone")) AND (TITLE-ABS-KEY ("postoperative care") OR TITLE-ABS-KEY ("preoperative care") OR TITLE-ABS-KEY ("perioperative period") OR TITLE-ABS-KEY ("self care") OR TITLE-ABS-KEY ("patient education") OR TITLE-ABS-KEY ("perioperative nursing") OR ALL ("self-care"))
Web of Science (via Clarivate Analytics)	"Surgical Oncology" (Topic) or Neoplasms (Topic) or "neoplasms surgery" (Topic) AND 'Telephone (Topic) or Smartphone (Topic) or Telemonitoring (Topic) or Telecommunication (Topic) or "Telenursing" (Topic) or "Tele nursing" (Topic) or "Tele-nursing" (Topic) or "Mobile phone" (Topic) AND "postoperative care" (Topic) or "preoperative care" (Topic) or "perioperative period" (Topic) or "self care" (Topic) or "patient education" (Topic) or "perioperative nursing" (Topic) or "self-care" (Topic)
VHL*	((mh:("oncologia cirúrgica")) OR (mh:("Surgical Oncology")) OR (mh:("Oncología Quirúrgica")) OR (mh:(neoplasias)) OR (mh:(neoplasms)) OR (mh:("Neoplasias/cirurgia")) OR (mh:("Neoplasms/surgery"))) AND ((mh:(telenfermagem)) OR (mh:(telenursing)) OR (mh:(teleenfermería)) OR ("Tele Enfermagem") OR ("Tele Nursing") OR ("Tele Enfermaría") OR ("Tele-Enfermagem") OR ("Tele-Nursing") OR ("Tele-Enfermaría") OR (mh:(telecomunicações)) OR (mh:(telecommunications)) OR (mh:(telecomunicaciones)) OR (mh:(telemonitoramento)) OR (mh:(telemonitoring)) OR (mh:(telemonitorización)) OR (mh:(teleorientação)) OR (mh:(teleorientación)) OR (mh:(teleorientation)) OR (mh:(smartphone)) OR (mh:("Teléfono Inteligente")) OR (mh:(telefone)) OR (mh:(teléfono)) OR (mh:(telephone)))
Google Scholar	("surgical oncology" OR "neoplasms surgery") AND (telenursing OR "tele nursing" OR "tele-nursing") AND (education OR care)

WorldWideScience	# telenursing AND oncology surgery
Global ETD Search	# telenursing # telemonitoring

*Due to the low return of publications arising from the database after including the third search expression containing the descriptors of the Context of the review question, it was decided to search for descriptors addressing only Population and Concept.

Chart 1 - Research Strategy. Vitória, ES, Brazil, 2023

Source: prepared by the authors, 2023.

When necessary, the authors of the studies will be contacted via e-mail for clarification or request for additional data. Furthermore, based on the references of selected articles, a manual search for relevant articles that were not found in the initial search will be performed.

Study selection

Study selection will occur in three steps: exclusion of duplicate publications; selection by title and abstract; and selection by reading full text through the inclusion criteria presented in the PCC elements. These steps will be carried out by two reviewers independently and after applying a pilot test to increase the selection consistency.

First, results obtained from all data sources will be exported and uploaded to Rayyan online software (15), where duplicates will be checked and deleted. After this step, the studies will be automatically classified as “undecided” within Rayan’s “Inclusion Decisions” frame.

The reviewers must include the studies according to the previously agreed eligibility criteria for reading title, abstract and full text. In this way, studies that present “yes” as an answer to five questions, which represent the inclusion criteria, will be included: is the full text available? Does the study address adult or older adult patients? Does the study address surgical oncology patients? Is the study related to nursing? Does the study use TN as an intervention to promote care?

According to the above criteria, a pilot test will be carried out to assess the agreement between the two reviewers regarding the study selection methodology application. A pilot test will be applied before official selection using the same random sample of 25 publications. Differences that arise will be addressed by the third reviewer in order to resolve conflicts of understanding. The review team can start the official screening of studies only when there is superiority of agreement above 75% in the pilot test (13).

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3 In triage, within Rayyan software, reviewers will classify “undefined” studies as “maybe” or
4 “excluded”. For articles classified as “excluded”, at any stage of selection, the reason for
5 exclusion must be added, namely: full text not available, child/adolescent population, patients
6 undergoing surgical treatment for non-oncological diseases, studies not related to nursing,
7 studies not related to TN.
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11 Studies classified as “perhaps” after reading the title and abstract will move on to the third
12 selection stage: reading the full text. At this stage, the same eligibility criteria described above
13 must be used. The articles that are accepted to compose the present scoping review must be
14 classified as “included”. Articles that are rejected at this stage must be classified as “excluded”,
15 adding the reason for this, as previously determined above.
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19 Articles approved to be included in this review will have their list of bibliographic references
20 assessed. This reverse search will occur through assessment of title, abstract and full text
21 reading, taking into account the inclusion and exclusion criteria already presented.
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25 For each step, in case of disagreement between the reviewers, a third reviewer should be
26 allocated to mediate the discussion of inclusion or exclusion from the study.
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30 The results of each step will be reported in full in the scoping review, being presented in the
31 PRISMA-ScR flowchart (14).
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34 35 **Data extraction**

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37 Data will be extracted from articles included in this scoping review independently by two
38 reviewers. At the end of extraction, the collected information will be assessed and, in case of
39 divergence between the reviewers, a third reviewer will be contacted.
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43 A data extraction tool developed by the review team in Microsoft Excel 365 and previously
44 tested in five publications will be used, ensuring that the following desired characteristics are
45 extracted in detail:
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- 48 • Title;
- 49 • Access link;
- 50 • Main goal;
- 51 • Search method (database or inverse search);
- 52 • Year of publication;
- 53 • Country;
- 54 • Research design;
- 55 • Total number of assessed participants (if any);
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- Result indicators and measurement methods (instrument or scales used);
 - Surgery or surgical specialty;
 - Tools used for TN practice;
 - Perioperative period of application of TN (preoperative or postoperative);
 - Moment of the first TN;
 - Frequency of TN practice;
 - Duration of follow-up of patients by TN;
 - Average duration of a TN session;
 - Content of care in TN;
 - Difficulties/limitations in TN use;
 - Facilities/potentialities in TN use;
 - Main result of the study.

The data extraction tool may be modified as needed during the data extraction process, as long as it is agreed upon by the members of the review team. The changes that occur will be detailed in the scoping review.

Data synthesis

The contents will be synthesized through their characteristics and thematic categories according to the theoretical approach, thus being organized for a better elucidation of information that will compose the perioperative oncology TN (4).

Presentation and interpretation of results

The results found will be related to the research objective and question.

The extracted information will be described in narrative format and tabulated to be visualized through tables and visual representations. Interpretation of results will be conducted in the light of advances in TN in countries related to publications included.

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ETHICS AND DISCLOSURE

As a scoping review methodology consists of reviewing and collecting data from publicly available materials, this study does not require ethical approval.

The results of this scoping review will be published in a widely circulated scientific journal and shared at events to demonstrate the alignment of technology and nursing as a way to expand perioperative nursing activities and improve surgical outcomes. Moreover, the results can be used to guide the development of perioperative oncology TN programs that can be implemented to address unmet care and support needs in the oncology population.

DECLARATION OF FUNDING

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DECLARATION OF COMPETING INTERESTS

None.

AUTHORS STATEMENT

CANM contributed to methodology; writing – review & editing. JCG contributed to methodology; writing – review & editing. LSS contributed to methodology; writing – review & editing. LBF contributed to conceptualisation; methodology; writing – review & editing; funding acquisition. MF contributed to conceptualisation; methodology; writing – review & editing; funding acquisition; supervision.

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	3-4
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	4-5
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	5-6
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	7
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	6-7
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	8
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	-
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	9



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	-
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	-
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	-
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	-
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	-
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	-
Limitations	20	Discuss the limitations of the scoping review process.	-
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	-
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	12

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).



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TELENURSING PRACTICE IN THE CARE OF SURGICAL CANCER PATIENTS: A SCOPING REVIEW PROTOCOL

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TELENURSING PRACTICE IN THE CARE OF SURGICAL CANCER PATIENTS: A SCOPING REVIEW PROTOCOL

ABSTRACT

Introduction: Telenursing is a component of telehealth that in the area of oncology surgery has shown potential to meet the needs of patients at a distance. In order to understand how telenursing services in surgical oncology patients can be better implemented, it is important that successful models are gathered and studied. The purpose is to describe the existing number of evidence on the practice of perioperative oncology telenursing. **Methods and analysis:** The proposed scoping review will be conducted according to the Joanna Briggs Institute [JBI] scoping review guidelines, using the PRISMA-ScR checklist for review report. The protocol is registered in the Open Science Framework [OSF] with the link: osf.io/hkzmf. The databases used for the searches will be MEDLINE, EMBASE, CINAHL, SCOPUS, Web of Science, Virtual Health Library, and, for grey literature, Google Scholar, WorldWideScience and Global ETD Search. Primary studies of any research design and language will be considered, and grey literature such as theses/dissertations, with a text for full reading without time and language cut-off. For data selection and extraction, two independent reviewers will read the title, abstract and full text using Rayyan software and a form prepared by the authors. For the extraction of data from the included search, the content analysis method and the quantitative method of occurrence of concepts and characteristics will be used. The results will be presented through visual representations and interpreted in light of advances in telenursing in the care of surgical cancer patients in the countries related to the included publications. The scoping review development will take place between August and December 2023, concluding all phases. **Ethics and disclosure:** The study does not require ethical approval. The results will be published in a scientific journal and shared at events, in addition to subsidizing the development and implementation of oncology perioperative telenursing programs.

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3 **Keywords:** Perioperative Care; Surgical Oncology; Telenursing.
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10 **Strengths and limitations of this study**

- 11 • First literature review that will systematize knowledge about perioperative oncology
12 telenursing;
- 13 • Research strategy developed by professionals holding a master's and doctoral degree
14 in nursing;
- 15 • Although this study identifies indicators of perioperative oncology telenursing, there will
16 be no study and indicator quality assessment.
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INTRODUCTION

The development of nursing over the years has provided a change in the care needed by patients. Such changes implied, for example, an increase in the level of skills related to communication with the patient, among which is telenursing [TN] [1,2]. The TN is a component of telehealth that occurs when nurses use information and communication technologies to provide nursing care and services at a distance [3]. This communication model proved to be a technological instrument capable of transmitting health data and providing care [2]. And through it, nursing can remotely monitor, educate, collect data, monitor and offer multidisciplinary care [2,4].

Different TN programs have been implemented to generate positive results regarding patient experience and institutional metrics. In the perioperative area, studies in various surgical specialties have already been published [5–7]. And among all, one that deserves to be highlighted is oncological surgery. The discipline of surgical oncology nursing is arguably one of the first forms of oncology care. And although human suffering associated with oncological pathology still exists, the work carried out by oncology nursing and surgical oncology has helped to drive efforts to achieve exactly the minimization of this problem [1].

The unmet needs of cancer patients are already the subject of studies, which suggest improvements in communication between health professionals and patients to reduce the discrepancy between information about care, expectations and satisfaction with the results [8,9]. Similarly, studies were found on the practice of TN in these patients, where the need for clarification of doubts and guidance in health are also perceived [10]. So in order to understand the implementation of TN in cancer surgical patients, it is important that the implemented models are gathered and studied. And in the same way, an analysis of the characteristics of these services can provide information for other health organizations to be assertive regarding the efforts to implement nursing interventions in this modality [4].

There is a lack of unified knowledge about the implementation of perioperative TN services, which makes replication in other institutions difficult. Research with this purpose has not yet been identified even after a previous search in the last quarter of 2022 on PubMed, Cochrane, JBI Evidence Synthesis, PROSPERO and OSF Registries websites.

To fill this gap, a scoping review will be carried out with the objective of mapping existing literature on perioperative oncology TN practice through the: [1] characterization of perioperative oncology TN services regarding their organizational structure, information technologies and theoretical support in nursing used; [2] identification of outcome indicators used in oncology perioperative TN services; [3] identification of care content in perioperative oncology TN.

METHODS AND ANALYSIS

The proposed scoping review will be conducted according to the Joanna Briggs Institute [JBI] [11] scoping review recommendations, using the PRISMA-ScR [12] checklist for review report.

The protocol is registered in the Open Science Framework (OSF) with the link: osf.io/hkzmf.

The scoping review will take place between August and December 2023, concluding all stages of the review. Specifically, the analysis of the included studies will take place in October 2023.

Patient and Public Involvement

For the development of this research there will be no involvement of patients or other public.

Review question

The research question was elaborated based on the mnemonic PCC (Population, Concept and Context):

- P (population) – oncology surgical patients;
- C (concept) – TN;
- C (context) – perioperative period.

The elements described above allowed the authors to define the scope and focus of this review and the following research question was developed: how does perioperative TN occur practice in surgical cancer patients?

Inclusion criteria

The PCC elements mentioned above were used to describe the selection criteria. Furthermore, this scoping review will consider primary studies of any research design and language will be considered, and grey literature such as theses/dissertations as long as they are related to the proposed objective and present the text for full reading. There will be no time frame delimitation for publications.

- **Participants**

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3 This review will consider studies in adult or older adult patients undergoing surgical
4 treatment for cancer.
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7 • **Concept**
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9 It will be considered as a concept TN practice between nurse and patient/guardian to
10 assess their health status and propose care related to the surgical context.
11

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13 Therefore, it will be considered as TN any type of contact that may occur using the
14 internet or telephone network to make a video call, voice call, telephone call, application use
15 and sending text messages or documents.
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18 • **Context**
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20 The review will use elective surgeries in the preoperative period [before hospital
21 admission] and postoperative period (within 1 year after hospital discharge) as a context.
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27 **Types of sources of evidence**
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29 This scoping review will use white and grey literature sources to carry out the research.
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31 The databases used to carry out the searches will be MEDLINE [PubMed], EMBASE, CINAHL,
32 Scopus, Web of Science and Virtual Health Library (VHL), which provide great scientific
33 research content from reference databases in different fields of health, such as Latin American
34 Health Sciences Literature from Latin America and the Caribbean (LILACS), *Índice*
35 *Bibliográfico Español en Ciencias de la Salud* (IBECS - Spanish Bibliographic Index on Health
36 Sciences) and Nursing Database (BDENF).
37
38

39 The grey literature search sources will be Google Scholar, WorldWideScience, Global ETD
40 Search e and the reference list of included articles, for performing the reverse search.
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47 **Search strategy**
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49 The search strategy will aim to locate primary studies, reviews and text and opinion articles
50 published according to the theme.
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52
53 An initial search was performed on MEDLINE (PubMed) to identify articles on the topic. The
54 text words contained in the titles and abstracts of relevant articles, and the index terms used
55 to describe the articles, were used to develop the search strategies for each indexing language.
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Different search strategies were developed by the review team to be used in five databases (MEDLINE-PubMed, EMBASE, CINAHL, SCOPUS, Web of Science), in the VHL and in the grey literature (Google Scholar, WorldWideScience, Global ETD Search, CAPES Catalog of Theses and Dissertations) according to corresponding indexing languages (Table 1).

DATA SOURCE	SEARCH STRATEGY
MEDLINE/PubMed [via National Library of Medicine]	("Surgical Oncology"(MeSH Terms) OR "neoplasms"(MeSH Terms) OR "Neoplasms/surgery"(All Fields)) AND ("cell phone"(MeSH Terms) OR "telephone"(MeSH Terms) OR "smartphone"(MeSH Terms) OR "telecommunications"(MeSH Terms) OR "telenursing"(MeSH Terms) OR "tele nursing"(All Fields) OR "tele nursing"(All Fields)) AND ("postoperative care"(MeSH Terms) OR "preoperative care"(MeSH Terms) OR "perioperative care"(MeSH Terms) OR "Self-Care"(MeSH Terms) OR "Self-Care"(All Fields) OR "patient education as topic"(MeSH Terms) OR "perioperative nursing"(MeSH Terms))
EMBASE (via Elsevier)	('surgical oncology'/exp OR 'neoplasms'/exp OR 'neoplasms surgery'/exp OR 'neoplasms surgery') AND ('telephone'/exp OR 'smartphone'/exp OR 'telemonitoring'/exp OR 'telecommunication'/exp OR 'telenursing'/exp OR (tele AND ('nursing'/exp OR nursing)) OR 'tele nursing'/exp OR 'tele nursing' OR 'mobile phone'/exp) AND ('postoperative care'/exp OR 'preoperative care'/exp OR 'perioperative period'/exp OR 'patient education'/exp OR 'perioperative nursing'/exp OR 'self care'/exp OR 'self care')
CINAHL (via EBSCO)	'MH "oncologic surgery" OR MH neoplasms OR MH "cancer patients" OR TX "neoplasms surgery" AND MH telephone OR MH Smartphone OR MH telemonitoring OR MH telecommunication OR MH telenursing OR MH "digital nursing" OR MH "tele-nursing" OR TX "tele nursing" OR MH "mobile phone" AND MH "postoperative care" OR MH "preoperative care" OR MH "perioperative care" OR MH "self care" OR MH "patient education as topic" OR MH ("patient education as topic or education or health education") OR MH "perioperative nursing" OR TX "self-care"
Scopus (via Elsevier)	'(TITLE-ABS-KEY ("Oncology Surgery") OR TITLE-ABS-KEY (neoplasms) OR ALL ("neoplasms surgery")) AND '(TITLE-ABS-KEY (telephone) OR TITLE-ABS-KEY (smartphone) OR ALL (telemonitoring) OR TITLE-ABS-KEY (telecommunication) OR TITLE-ABS-KEY (telenursing) OR ALL ("Tele nursing") OR ALL ("Tele-nursing") OR TITLE-ABS-KEY ("Mobile phone")) AND '(TITLE-ABS-KEY ("postoperative care") OR TITLE-ABS-KEY ("preoperative care") OR TITLE-ABS-KEY ("perioperative period") OR TITLE-ABS-KEY ("self care") OR TITLE-ABS-KEY ("patient education") OR TITLE-ABS-KEY ("perioperative nursing") OR ALL ("self-care"))
Web of Science (via Clarivate Analytics)	"Surgical Oncology" (Topic) or Neoplasms (Topic) or "neoplasms surgery" (Topic) AND 'Telephone (Topic) or Smartphone (Topic) or Telemonitoring (Topic) or Telecommunication (Topic) or "Telenursing" (Topic) or "Tele nursing" (Topic) or "Tele-nursing" (Topic) or "Mobile phone" (Topic) AND "postoperative care" (Topic) or "preoperative care" (Topic) or "perioperative period" (Topic) or "self care" (Topic) or "patient education" (Topic) or "perioperative nursing" (Topic) or "self-care" (Topic)
VHL*	((mh:("oncología cirúrgica")) OR (mh:("Surgical Oncology")) OR (mh:("Oncología Quirúrgica")) OR (mh:(neoplasias)) OR (mh:(neoplasms)) OR (mh:("Neoplasias/cirurgia")) OR (mh:("Neoplasms/surgery"))) AND ((mh:(telenfermagem)) OR (mh:(telenursing)) OR (mh:(teleenfermería)) OR ("Tele Enfermagem") OR ("Tele Nursing") OR ("Tele Enfermaría") OR ("Tele-Enfermagem") OR ("Tele-Nursing") OR ("Tele-Enfermaría") OR (mh:(telecomunicações)) OR (mh:(telecomunicaciones)) OR (mh:(telemonitoramento)) OR

	(mh:(telemonitoring)) OR (mh:(<i>telemonitorización</i>)) OR (mh:(<i>teleorientação</i>)) OR (mh:(<i>teleorientación</i>)) OR (mh:(<i>teleorientation</i>)) OR (mh:(smartphone)) OR (mh:(<i>"Teléfono Inteligente"</i>)) OR (mh:(<i>telefone</i>)) OR (mh:(<i>teléfono</i>)) OR (mh:(telephone))*
Google Scholar	("surgical oncology" OR "neoplasms surgery"] AND (telenursing OR "tele nursing" OR "tele-nursing"] AND (education OR care]
WorldWideScience	# telenursing AND oncology surgery
Global ETD Search	# telenursing # telemonitoring

*Due to the low return of publications arising from the database after including the third search expression containing the descriptors of the Context of the review question, it was decided to search for descriptors addressing only Population and Concept.

Table 1 - Research Strategy. Vitória, ES, Brazil, 2023

Source: prepared by the authors, 2023.

When necessary, the authors of the studies will be contacted via e-mail for clarification or request for additional data. Furthermore, based on the references of selected articles, a manual search for relevant articles that were not found in the initial search will be performed.

Study selection

Study selection will occur in three steps: exclusion of duplicate publications; selection by title and abstract; and selection by reading full text through the inclusion criteria presented in the PCC elements. These steps will be carried out by two reviewers independently and after applying a pilot test to increase the selection consistency.

First, results obtained from all data sources will be exported and uploaded to Rayyan online software [15], where duplicates will be checked and deleted. After this step, the studies will be automatically classified as "undecided" within Rayan's "Inclusion Decisions" frame.

The reviewers must include the studies according to the previously agreed eligibility criteria for reading title, abstract and full text. In this way, studies that present "yes" as an answer to five questions, which represent the inclusion criteria, will be included: is the full text available? Does the study address adult or older adult patients? Does the study address surgical oncology patients? Is the study related to nursing? Does the study use TN as an intervention to promote care?

According to the above criteria, a pilot test will be carried out to assess the agreement between the two reviewers regarding the study selection methodology application. A pilot test will be applied before official selection using the same random sample of 25 publications. Differences

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3 that arise will be addressed by the third reviewer in order to resolve conflicts of understanding.
4 The review team can start the official screening of studies only when there is superiority of
5 agreement above 75% in the pilot test [11].
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8 In triage, within Rayyan software, reviewers will classify “undefined” studies as “maybe” or
9 “excluded”. For articles classified as “excluded”, at any stage of selection, the reason for
10 exclusion must be added, namely: full text not available, child/adolescent population, patients
11 undergoing surgical treatment for non-oncological diseases, studies not related to nursing,
12 studies not related to TN.
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17 Studies classified as “perhaps” after reading the title and abstract will move on to the third
18 selection stage: reading the full text. At this stage, the same eligibility criteria described above
19 must be used. The articles that are accepted to compose the present scoping review must be
20 classified as “included”. Articles that are rejected at this stage must be classified as “excluded”,
21 adding the reason for this, as previously determined above.
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25
26 Articles approved to be included in this review will have their list of bibliographic references
27 assessed. This reverse search will occur through assessment of title, abstract and full text
28 reading, taking into account the inclusion and exclusion criteria already presented.
29
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31 For each step, in case of disagreement between the reviewers, a third reviewer should be
32 allocated to mediate the discussion of inclusion or exclusion from the study.
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35 The results of each step will be reported in full in the scoping review, being presented in the
36 PRISMA-ScR flowchart [12].
37
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41 **Data extraction**

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43 Data will be extracted from articles included in this scoping review independently by two
44 reviewers. At the end of extraction, the collected information will be assessed and, in case of
45 divergence between the reviewers, a third reviewer will be contacted.
46
47

48 A data extraction tool developed by the review team in Microsoft Excel 365 and previously
49 tested in five publications will be used, ensuring that the following desired characteristics are
50 extracted in detail:
51
52

- 53 • Title;
- 54 • Access link;
- 55 • Main goal;
- 56 • Search method (database or inverse search);
- 57
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- Year of publication;
- Country;
- Research design;
- Total number of assessed participants if any);
- Result indicators and measurement methods (instrument or scales used);
- Surgery or surgical specialty;
- Tools used for TN practice;
- Perioperative period of application of TN (preoperative or postoperative);
- Moment of the first TN;
- Frequency of TN practice;
- Duration of follow-up of patients by TN;
- Average duration of a TN session;
- Content of care in TN;
- Difficulties/limitations in TN use;
- Facilities/potentialities in TN use;
- Main result of the study.

The data extraction tool may be modified as needed during the data extraction process, as long as it is agreed upon by the members of the review team. The changes that occur will be detailed in the scoping review.

Data synthesis

Data analysis will occur through the Content Analysis method, whose information will be synthesized through its characteristics and theoretical approach. In addition, for the characterization of some data, the quantitative method of occurrence of concepts and characteristics will be used.

The evaluation of the quality of the studies will not be assessed, as the objective of the scoping review is to provide a descriptive view of perioperative oncology TN programs and the evidence will also come from the grey literature.

In this way, the data will be organized for a better elucidation of the information that will compose the existing body of evidence on the practice of perioperative oncology TN.

Presentation and interpretation of results

The results found will be related to the research objective and question.

The extracted information will be described in narrative format and tabulated to be visualized through tables and visual representations. Interpretation of results will be conducted in the light of advances in TN in countries related to publications included.

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12 **ACKNOWLEDGMENTS**

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15 The authors thank the reviewers of the manuscript for their constructive feedback.
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17

18 **ETHICS AND DISCLOSURE**

19
20 As a scoping review methodology consists of reviewing and collecting data from publicly
21 available materials, this study does not require ethical approval.
22
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25 The results of this scoping review will be published in a widely circulated scientific journal and
26 shared at events to demonstrate the alignment of technology and nursing as a way to expand
27 perioperative nursing activities and improve surgical outcomes. Moreover, the results can be
28 used to guide the development of perioperative oncology TN programs that can be
29 implemented to address unmet care and support needs in the oncology population.
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37
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43 **DECLARATION OF COMPETING INTERESTS**

44
45 None.
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49

50 **AUTHORS STATEMENT**

51
52 CANM - Carla Aparecida do Nascimento Mozer: contributed to methodology; collected data;
53 writing – review & editing;
54

55
56 JCG - Juliana do Carmo Gonçalves: contributed to collected data; writing – review & editing;
57

58
59 LSS - Lucyara Silveiras dos Santos: contributed to review & editing;
60

1
2
3 LBF - Lorena Barros Furieri: contributed to conceptualisation; methodology; writing – review &
4 editing; funding acquisition;

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7 MF - Mirian Fioresi: contributed to conceptualisation; methodology; writing – review & editing;
8 funding acquisition; supervision.
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For peer review only

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	3-4
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	4-5
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	5-6
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	7
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	6-7
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	8
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	-
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	9



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	-
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	-
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	-
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	-
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	-
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	-
Limitations	20	Discuss the limitations of the scoping review process.	-
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	-
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	12

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: 10.7326/M18-0850.



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TELENURSING PRACTICE IN THE CARE OF SURGICAL CANCER PATIENTS: A SCOPING REVIEW PROTOCOL

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TELENURSING PRACTICE IN THE CARE OF SURGICAL CANCER PATIENTS: A SCOPING REVIEW PROTOCOL

Abstract

Introduction: Telenursing is a component of telehealth that occurs when nurses use information and communication technologies to provide care and nursing services remotely. To understand how telenursing services in surgical oncology patients can be better implemented and it is important that the success models are collected and studied. Therefore, the general objective is to develop the scope review protocol for the survey of existing evidence on the practice of oncological perioperative telenursing.

Methods and analysis: The scope review will be conducted following the scope review directions of the Joanna Briggs Institute with the use of the PRISMA-ScR checklist for the review report. The databases that will be used for these searches will be: MEDLINE (PubMed), EMBASE, CINAHL, SCOPUS, Web of Science and Virtual Health Library. To search for gray literature, Google Scholar, WorldWideScience and Global ETD Search will be used. Primary studies, observational or experimental, published in any year or language will be considered. For the selection and extraction of data, two independent reviewers will read the title, summary and full text using the Rayyan software and a form prepared by the authors. The data to be extracted is related to the characterization of the study (study design, country, and year of publication) and details of the telenursing program (surgery or surgical specialty, perioperative period, tools used, organization and operation, outcome indicators and treatment methods and content in telenursing). Among others, the difficulties and potentialities for the development or implementation of telenursing will also be extracted, as the main result of the study.

Ethics and dissemination: The study does not require ethical approval as it will use previously published research data. The results will be shared in journals and scientific events and may be used for the development and implementation of oncological perioperative telenursing programs.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- First review of existing literature that will consolidate perioperative oncological telenursing practice;
- Research strategy developed by teachers and doctors in sickness;
- Since this study identifies indicators of oncological perioperative telenursing, it will not have evaluated the quality of the study as well as the quality of two indicators.

INTRODUCTION

The development of the nursing over two years has provided a change in the necessary care for patients. These changes imply, for example, no increase in the level of skills related to communication for the patient, while they are in nursing (1,2). Telenursing is a component of telehealth that occurs when nurses use information and communication technologies to provide remote nursing care and services (3). This communication model is a technological instrument capable of transmitting health data and providing care (2). Nursing remotely, can monitor, educate, collect data, accompany, and offer multidisciplinary care (2,4).

Different telenursing programs have been implemented to generate positive results regarding patient experience and institutional metrics. In the perioperative area, studies in various surgical specialties have been published (5-7). But among all, one that deserves highlighting is oncological surgery. The discipline of surgical oncological disease is indisputably one of the first forms of oncological care. Although the human suffering associated with oncological disease still exists, or the work carried out for oncological disease and surgical oncology is helped to promote efforts to exactly achieve the minimization of this problem (1).

The unmet needs of cancer patients are already the subject of studies, which suggest the need for improvements in communication between health professionals and patients to reduce the discrepancy between information about care, expectations, and satisfaction with results (8,9). In this sense, studies on the practice of telenursing in these patients point to the possibilities of clarifying doubts and providing health guidance (10). Given this, to understand the implementation of telenursing in surgical oncology patients, it is important that the implemented models are gathered and studied. Likewise, an analysis of the characteristics of these services may provide information so that other health organizations can be assertive regarding their efforts to implement nursing interventions in this modality (4).

There is a lack of unified knowledge about the implementation of perioperative telenursing services, which makes replication difficult in other institutions. Research with this purpose has not yet been identified even after a previous search in the last quarter of 2022 on the websites of PubMed, Cochrane, JBI Evidence Synthesis, PROSPERO and OSF Registries.

To fill this gap, a scoping review will be carried out with the objective of identifying the practice of perioperative oncology telenursing in the existing literature through: (1) characterization of perioperative oncology telenursing services; (2) characterization of outcome indicators used in oncology perioperative telenursing services, (3) identification of the content of care in oncology perioperative telenursing. In this article, the scoping review protocol to survey existing evidence on the practice of perioperative oncology telenursing will be detailed.

METHODS AND ANALYSIS

The proposed scoping review protocol will be conducted according to the Joanna Briggs Institute scoping review guidelines (11) and the review will be presented using the PRISMA-ScR checklist (12), for reporting the review. The scoping review protocol will be registered in the Open Science Framework (OSF) with the link: osf.io/hkzmf. The scope review will take place following all of the following steps: definition of the research question and objectives; search for relevant studies; selection of eligible studies; synthesis of information; and analysis of results (11).

Patient and public involvement

There will be no involvement of patients or other public for the development of this research.

Review Question

The research question was created based on the PCC mnemonic (Population, Concept and Context), being:

- P (population) – surgical oncology patients;
- C (concept) – telenursing;
- C (context) – perioperative period.

The elements described above allowed the authors to define the scope and focus of this review, so that the following central research question could be developed: “How does perioperative telenursing occur in surgical oncology patients?”

Inclusion criteria

The PCC elements mentioned above will be used to describe the selection criteria. Furthermore, the scoping review will consider primary, observational, and experimental studies, and gray literature published in any language or year, as long as they are related to the proposed objective.

- **Participants**

This review will consider studies in adult or elderly patients undergoing surgical treatment for cancer.

- **Concept**

The practice of telenursing between nurses and patients/guardians will be considered as a concept to assess their health status and propose care related to the surgical context.

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3 Therefore, telenursing will be considered as any type of contact that may occur using
4 the internet or telephone network to make video calls, voice calls, telephone calls, use of
5 applications and sending text messages or documents.
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9 • **Context**

10 The review will use elective surgeries in the preoperative period (before hospital
11 admission) and postoperatively (within 1 year after hospital discharge) as a context.
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17 **Types of evidence sources**

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19 This scoping review will use white and gray literature sources to carry out the research. The
20 databases used to carry out the searches will be: MEDLINE (PubMed), EMBASE, CINAHL,
21 SCOPUS, Web of Science and Virtual Health Library (VHL), which provides extensive scientific
22 research content from reference databases in different health fields, such as: Latin American
23 Health Sciences Literature of Latin America and the Caribbean (LILACS), Spanish
24 Bibliographic Index of Health Sciences (IBECS) and Nursing Database (BDENF). The gray
25 literature search sources will be: Google Scholar, WorldWideScience, Global ETD Search and
26 the list of references of the included articles, to carry out the reverse search.
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33 **Search strategy**

34 The search strategy will aim to locate primary studies, reviews and text and opinion articles
35 published according to the theme. An initial search was carried out on MEDLINE (PubMed) to
36 identify articles on the topic. The text words contained in the titles and abstracts of the relevant
37 articles, and the index terms used to describe the articles were used to develop the search
38 strategies for each indexing language. Different search strategies were developed by the team
39 of reviewers to be used in five databases (MEDLINE (PubMed), EMBASE, CINAHL, SCOPUS,
40 Web of Science), the VHL and gray literature (Google Scholar, World Wide Science, Global
41 ETD Search) according to the corresponding indexing languages (Table 1).
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DATA SOURCE	SEARCH STRATEGY
MEDLINE via PubMed	("Surgical Oncology"[MeSH Terms] OR "neoplasms"[MeSH Terms] OR "Neoplasms/surgery"[All Fields]) AND ("cell phone"[MeSH Terms] OR "telephone"[MeSH Terms] OR "smartphone"[MeSH Terms] OR "telecommunications"[MeSH Terms] OR "telenursing"[MeSH Terms] OR "tele nursing"[All Fields] OR "tele nursing"[All Fields]) AND ("postoperative care"[MeSH Terms] OR "preoperative care"[MeSH Terms] OR "perioperative care"[MeSH Terms] OR "Self-Care"[MeSH Terms] OR "Self-Care"[All Fields] OR "patient education as topic"[MeSH Terms] OR "perioperative nursing"[MeSH Terms])
EMBASE	('surgical oncology'/exp OR 'neoplasms'/exp OR 'neoplasms surgery'/exp OR 'neoplasms surgery') AND ('telephone'/exp OR 'smartphone'/exp OR 'telemonitoring'/exp OR 'telecommunication'/exp OR 'telenursing'/exp OR (tele AND ('nursing'/exp OR nursing)) OR 'tele nursing'/exp OR 'tele nursing' OR 'mobile phone'/exp) AND ('postoperative care'/exp OR 'preoperative care'/exp OR 'perioperative period'/exp OR 'patient education'/exp OR 'perioperative nursing'/exp OR 'self care'/exp OR 'self care')
CINAHL	'MH "oncologic surgery" OR MH neoplasms OR MH "cancer patients" OR TX "neoplasms surgery" AND MH telephone OR MH Smartphone OR MH telemonitoring OR MH telecommunication OR MH telenursing OR MH "digital nursing" OR MH "tele-nursing" OR TX "tele nursing" OR MH "mobile phone" AND MH "postoperative care" OR MH "preoperative care" OR MH "perioperative care" OR MH "self care" OR MH "patient education as topic" OR MH ("patient education as topic or education or health education") OR MH "perioperative nursing" OR TX "self-care"
SCOPUS	'(TITLE-ABS-KEY ("Oncology Surgery") OR TITLE-ABS-KEY (neoplasms) OR ALL ("neoplasms surgery")) AND '(TITLE-ABS-KEY (telephone) OR TITLE-ABS-KEY (smartphone) OR ALL (telemonitoring) OR TITLE-ABS-KEY (telecommunication) OR TITLE-ABS-KEY (telenursing) OR ALL ("Tele nursing") OR ALL ("Tele-nursing") OR TITLE-ABS-KEY ("Mobile phone")) AND '(TITLE-ABS-KEY ("postoperative care") OR TITLE-ABS-KEY ("preoperative care") OR TITLE-ABS-KEY ("perioperative period") OR TITLE-ABS-KEY ("self care") OR TITLE-ABS-KEY ("patient education") OR TITLE-ABS-KEY ("perioperative nursing") OR ALL ("self-care"))

Web of Science	"Surgical Oncology" (Tópico) or Neoplasms (Tópico) or "neoplasms surgery" (Tópico) AND 'Telephone (Tópico) or Smartphone (Tópico) or Telemonitoring (Tópico) or Telecommunication (Tópico) or "Telenursing" (Tópico) or "Tele nursing" (Tópico) or "Tele-nursing" (Tópico) or "Mobile phone" (Tópico) AND "postoperative care" (Tópico) or "preoperative care" (Tópico) or "perioperative period" (Tópico) or "self care" (Tópico) or "patient education" (Tópico) or "perioperative nursing" (Tópico) or "self-care" (Tópico)
Virtual Health Library (VHL)	((mh:("oncologia cirúrgica")) OR (mh:("Surgical Oncology")) OR (mh:("Oncología Quirúrgica"))) OR (mh:(neoplasias)) OR (mh:(neoplasms)) OR (mh:("Neoplasias/cirurgia")) OR (mh:("Neoplasms/surgery"))) AND ((mh:(telenfermagem)) OR (mh:(telenursing)) OR (mh:(teleenfermeria)) OR ("Tele Enfermagem") OR ("Tele Nursing") OR ("Tele Enfermaria") OR ("Tele-Enfermagem") OR ("Tele-Nursing") OR ("Tele-Enfermaria")) OR (mh:(telecomunicações)) OR (mh:(telecommunications)) OR (mh:(telecomunicaciones)) OR (mh:(telemonitoramento)) OR (mh:(telemonitoring)) OR (mh:(telemonitorización)) OR (mh:(teleorientação)) OR (mh:(teleorientación)) OR (mh:(teleorientation)) OR (mh:(smartphone)) OR (mh:("Teléfono Inteligente")) OR (mh:(telephone)) OR (mh:(teléfono)) OR (mh:(telephone)))*
Google Scholar	("surgical oncology" OR "neoplasms surgery") AND (telenursing OR "tele nursing" OR "tele-nursing") AND (education OR care)
World Wide Science	# telenursing AND oncology surgery
Global ETD Search	# telenursing # telemonitoring

* Due to the low return of the database after including the third search expression containing the descriptors of the Context of the review question, it was decided to search for descriptors addressing only the Population and the Concept.

Table 1 - Research Strategy. Vitória, ES, Brazil, 2023

Source: Prepared by the authors, 2023

Additionally, gray literature will be researched to include texts and opinion articles, as well as dissertations and theses. Likewise, study authors will be contacted via email for clarification, if necessary. Furthermore, based on the references of the selected articles, a manual search will be carried out for relevant articles that were not found in the initial search.

Study selection

The selection of studies will occur in 3 stages: exclusion of duplicate publications, selection by title and abstract, and selection by reading the full text. These steps will be carried out by two reviewers independently and after applying a pilot test to increase the consistency of the selection. Firstly, the results obtained from all data sources will be exported and uploaded to the Rayyan online software (13) where duplicates will be checked and excluded. After this step, the studies will automatically be classified as “Undecided” within Rayyan’s “Inclusion Decisions” chart.

The pilot test will be applied before the official selection of studies. Reviewers must include studies according to previously agreed eligibility criteria for reading the title, abstract and full text. Therefore, studies that provide “yes” as an answer to five questions will be included: Is the full text available? Does the study address adult or elderly patients? Does the study cover surgical oncology patients? Is the study related to nursing? Does the study use telenursing as an intervention to promote care?

The test will be carried out by two reviewers, using the same random sample containing 25 publications. Any discrepancies that arose were handled by the third reviewer in order to resolve conflicts of understanding. The team of reviewers was only able to start screening when there was agreement superiority above 75% (11). In screening, within Rayyan software, reviewers will classify “Undefined” studies as “Maybe” or “Excluded”. For articles classified as “Excluded”, the reason for exclusion must be added: “Not related to the topic” or “Text not available”. Studies classified as “Maybe” after reading the title and abstract will move on to the third selection stage: reading the full text. At this stage, the same eligibility criteria previously described must be used. Articles that are accepted to compose this scoping review must be classified as “Included”. Articles that are rejected at this stage must be classified as “Excluded”, adding the reason for this.

Articles approved to be included in this review will have their list of bibliographic references evaluated. This reverse search will occur by evaluating the title, summary, and full reading of the text, taking into account the inclusion and exclusion criteria. For each stage, if there are disagreements between the reviewers, a third reviewer must be allocated to mediate the discussion of inclusion or exclusion from the study. The results of each stage were fully reported in the scoping review and were presented in the PRISMA-ScR flowchart (12).

Data extraction

Data will be extracted from the articles included in the scoping review independently by two reviewers. At the end of the extraction, the information collected will be evaluated and if there is a discrepancy between the reviewers, a third reviewer will be contacted. A data extraction tool developed by the team of reviewers in Microsoft Excel 365 and previously tested on five publications will be used, ensuring that the following desired characteristics are extracted in detail:

- Title;
- Authors;
- Type of publication (scientific article, editorial, others)
- Main goal;
- Search method (database, gray literature, reverse search);
- Year of publication;
- Geographic location (country and continent);
- Research design and total number of participants evaluated (if any);
- Result indicators and measurement methods (instrument or scales used);
- Surgery or surgical specialty;
- Tools used to practice telenursing;
- Perioperative period of telenursing application (preoperative or postoperative);
- Time of the first telenursing;
- Frequency of telenursing practice;
- Duration of patient follow-up via telenursing;
- Average duration of the telenursing session;
- Content of telenursing care;
- Difficulties/limitations and facilities/potential for the development or implementation of telenursing;
- Main result of the study.

The data extraction tool may be modified as necessary during the data extraction process, as long as it is mutually agreed upon by the review team members. Any changes that occur will be detailed in the scope review. When necessary, the authors of the works will be contacted to request additional data.

Synthesis of results

Data analysis will occur using the Content Analysis method, whose information will be synthesized through its characteristics and theoretical approach. Furthermore, to characterize

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2
3 some data, the quantitative method of occurrence of concepts and characteristics will be used.
4 Assessment of the quality of studies will not be evaluated, as the objective of the scoping
5 review is to provide a descriptive overview of oncology perioperative telenursing programs and
6 evidence will also come from the gray literature. In this way, the data will be organized to better
7 elucidate the information that will form the existing body of evidence on the practice of
8 perioperative oncology telenursing.
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13 **ETHICS AND DISSEMINATION**

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15 As the scoping review methodology consists of reviewing and collecting data from publicly
16 available studies, this study does not require ethical approval. The results of this scoping
17 review will be shared in journals and scientific events to demonstrate the use of communication
18 technologies by nursing. Furthermore, the results could be used to guide the development and
19 implementation of oncology perioperative telenursing programs.
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52 **COMPETING INTERESTS STATEMENT**

53 None declared.
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CONTRIBUTORSHIP STATEMENT

- CANM - Carla Aparecida do Nascimento Mozer: acquisition, analysis and interpretation of data for the work; drafting the work; final approval of the version to be published; accountable for all aspects of the work.
- JCG - Juliana do Carmo Gonçalves: acquisition, analysis and interpretation of data for the work; drafting the work; final approval of the version to be published; accountable for all aspects of the work.
- LSS - Lucyara Silveiras dos Santos: interpretation of data for the work; drafting the work; final approval of the version to be published; accountable for all aspects of the work.
- LBF - Lorena Barros Furieri: contributions to the conception and design of the work; revision critically for intellectual content; supervision; final approval of the version to be published; accountable for all aspects of the work.
- MF - Mirian Fioresi: contributions to the conception and design of the work; revision critically for intellectual content; supervision; final approval of the version to be published; accountable for all aspects of the work.

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	4-5
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	4
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	5-7
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	8
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	7-8
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	9
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	10



SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	9-10
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	-
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	-
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	-
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	-
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	-
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	-
Limitations	20	Discuss the limitations of the scoping review process.	-
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	-
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	11

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

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