

# Tele-nursing: Modalities and areas of practice

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## Abstract

**Objective:** The aim of this research is to analyze the uses of telehealth in nursing, referred to as telenursing, seeking to understand how nursing develops telehealth practice. **Method:** The methodology used was an integrative review conducted in the Virtual Health Library (BVS) databases indexed in CINAHL, BDENF, and Lilacs, PubMed, Scopus, SciELO, and Google Scholar. **Result:** A total of 27 articles published between 2014 and 2024 were included. The findings demonstrated three axes of telenursing applicability, namely: Modalities, Purposes, and Care Pathways. The most cited modalities were telemonitoring, teleconsultation, teleconferencing, teleconsulting, and second formative opinion. The purposes identified were assistance, management, and continuing education. Additionally, the most cited lines of care were notifiable diseases and maternal-child health. **Conclusion:** We conclude that nurses use telenursing worldwide, with applicability across various areas and through multiple modalities, facilitating the dissemination of care through the use of tools in patient care, in the professional development of nurses, and in supporting work processes. The limitations of this study include the scarcity of national publications on the practice of telenursing in the Brazilian context, and this gap highlights the need for further studies to consolidate this practice in the field of digital nursing.

**Key-words:** Telehealth, Telenursing, Care pathways, Nursing.

**Telenfermaria: Modalidades y áreas de actuación**

## Resumen

**Objetivo:** El objetivo de esta investigación es analizar los usos de la telesalud por parte de la enfermería, denominada telenfermería, buscando comprender cómo la enfermería desarrolla la práctica de la telesalud. **Método:** La metodología utilizada fue una revisión integrativa realizada en las bases de datos de la Biblioteca Virtual en Salud (BVS) indexadas en CINAHL, BDENF y Lilacs, PubMed, Scopus, SciELO y Google Académico. Se incluyeron 27 artículos publicados entre los años 2014 y 2024. **Resultado:** Los hallazgos demostraron tres ejes de aplicabilidad de la telenfermería: Modalidades, propósitos y vías de atención. Las modalidades más citadas fueron telemonitorización, teleconsulta, teleconferencia, teleconsultoría y segunda opinión formativa. Las finalidades fueron asistenciales, gerenciales y de educación continua. Y las líneas de cuidado más citadas fueron las de enfermedades de notificación obligatoria y salud materno-infantil. **Conclusión:** Concluimos que los enfermeros hacen uso de la telenfermería a nivel mundial, con aplicabilidad en diversas áreas y varias modalidades, facilitando la difusión del cuidado a través del uso de herramientas en la asistencia, en el perfeccionamiento de los profesionales y en la ayuda de los procesos de trabajo. Las limitaciones de este estudio destacan la escasez de publicaciones nacionales que aborden la práctica de la telenfermería en el contexto brasileño, y la existencia de esta laguna evidencia la necesidad de nuevos estudios para consolidar esta práctica en el campo de la enfermería digital.

**Palabras clave:** Telesalud, Telenfermería, Líneas de cuidado, Enfermería.

**Telenfermagem: Modalidades e áreas de atuação**

O **objetivo** desta pesquisa é analisar os usos de telessaúde pela enfermagem, denominado telenfermagem, buscando compreender como a enfermagem desenvolve a prática de telessaúde. A **metodologia** utilizada foi uma revisão integrativa realizada nas bases de dados Biblioteca Virtual em Saúde (BVS) indexados em CINAHL, BDENF e Lilacs, PubMed, Scopus, SciELO, e Google Acadêmico. Foram incluídos 27 artigos publicados entre os anos 2014 e 2024. Os **resultados** demonstraram três eixos de aplicabilidade da telenfermagem: Modalidades, Finalidades e Linhas de Cuidado. As modalidades mais citadas foram telemonitoramento, teleconsulta, teleconferência, teleconsultoria e segunda opinião formativa. As finalidades são as assistenciais, gerenciais e de educação permanente. As linhas de cuidados mais citadas foram doenças de notificação compulsória e saúde da materno-infantil. **Concluímos** que os enfermeiros fazem uso da telenfermagem a nível mundial, com aplicabilidade em diversas áreas e várias modalidades, facilitando a disseminação do cuidado através do uso de ferramentas na assistência, no aprimoramento dos profissionais e no auxílio de processos de trabalho. Às limitações deste estudo, destaca-se a escassez de publicações nacionais que abordem a prática da telenfermagem no contexto brasileiro e a existência desta lacuna evidencia a necessidade de novos estudos para a consolidação dessa prática no campo da enfermagem digital.

**Palabras-chave:** Telessaúde, Telenfermagem, Linhas de cuidado, Enfermagem.

**INTRODUCTION**

Digital Health in the Unified Health System (SUS-Sistema Único de Saúde) aims to improve and expand access to health for all users. The Ministry of Health (MS) has been developing actions and strategies to provide assistance, guidance, and innovative systems in the health care process, while continuously seeking to realize the right to health and improve the quality of care. Thus, health care cannot be separated from technology<sup>1</sup>.

Healthcare has been strengthened by technological innovations, with telehealth emerging as a standout. This strategy enables the expansion of access to health services, the optimization of resources, and the promotion of continuity of care<sup>2</sup>. Telehealth is characterized as a work process based on the use of information and communication technologies, applied to the health area, with the purpose of reducing distances, guiding and supporting health professionals, and supporting the innovation cycle in health<sup>3</sup>.

Within this context, the applications of the use of Information and Communication Technology in Health (ICTs) are characterized as a complex set of technological processes that include networks, systems, and devices, promoting innovation and access, providing opportunities, and connecting people and content, playing a crucial role in health care at a global level<sup>4</sup>.

The use of ICTs is outlined in the Digital Health Strategy, currently designated as a program of the Ministry of Health. This strategy aims to assist health professionals and patients, thereby improving the quality of care and expanding access to health services. This care format becomes integrated into a more agile, equity-promoting, and patient-centered care<sup>5-6</sup>.

One well-established strategy is Brazil Telehealth Networks (Telessaúde Brasil Redes), a federal government program aimed at promoting the use of telehealth in Primary and Secondary Health Care. The program offers services developed in the formats of teleconsultation,

teleconsulting, telediagnosis, telemanagement, tele-education, telemonitoring, teleregulation, and Second Opinion Formation (SOF). Within telehealth, various professional categories explore their possibilities for action and their work formats<sup>7-8</sup>.

The use of telehealth by nursing is referred to as telenursing, as defined by the Federal Nursing Council (COFEN) in Resolution number 696 of 2020. This resolution provides all the regulations for the application of nursing in the context of Digital Health, offering legal support for nursing practice<sup>9-10</sup>, which describes all the regulations for the application of nursing in the context of Digital Health and offering legal support for nursing practice<sup>9-10</sup>.

In the process of researching the material to be used, an initial search in grey literature publications on Google Scholar using the term "Telenursing" yielded findings that could be segmented into three main publication periods.

Before 2004, only one publication identified the term telenursing. Between 2005 and 2014, 101 publications appeared; in the last period, from 2015 to 2024, the result was significant, with a total of 599 publications.

Moreover, by segmenting the last period from 2015 to 2024 into two distinct phases, we can identify a division between pre-COVID-19 pandemic publications, which spanned from 2015 to 2019 and yielded 163 publications, and post-COVID-19 pandemic publications, covering the years from 2020 to 2024, during which we found 436 publications. This latter figure accounts for 73% of the total recorded in the past decade.

These results highlighted the growing presence of telenursing in scientific publications and the challenging, innovative role it plays in the pandemic context, where nursing has adopted ICTs to maintain continuity of care. The results suggest the need to further explore the possibilities for professionals who develop telenursing, with a focus on understanding its importance.

This article aims to analyze the use of telehealth by nursing worldwide, seeking to understand which telehealth modalities nursing

uses, for what purposes, and their applicability during the period from 2015 to 2024.

## METHODOLOGY

This study conducted a data collection process through an integrative review. The process was divided into four work phases.

In the first phase, searches were carried out on digital platforms from June 9, 2024, to July 19, 2024. The searches were conducted in English, Portuguese, and Spanish, and only articles were selected.

The descriptors used in the search were selected from the vocabulary based on Health Sciences Descriptors (DeCS/Mesh), and the Ovid Medline mechanism: Telenursing, Telehealth/Telemedicine. These descriptors were used in the search using Boolean operators (AND and OR).

CINAHL, BDENF, Lilacs, PubMed, Scopus, SciELO, and Google Scholar were used, employing search strategies related to "Telenursing" and "Telehealth" or related terms such as "Telehealth" and "Telemedicine."

In the second phase, the articles were selected. In the initial search, 691 articles were identified and selected based on the title alone, of which 264 were excluded as duplicates. After reviewing the abstracts, 378 articles were excluded for not meeting the study's objective.

The remaining 49 texts were read in full, resulting in the exclusion of 22 articles that did not answer the research questions, as they did not address either the modalities or the purposes of using telehealth in the context of nursing. In the end, 27 articles were selected to compose the review. Figure 1 describes the detailed quantity by database, with the specific number of articles.

The articles were selected based on the following inclusion criteria:

- Works that addressed telenursing and the different possibilities of using telehealth tools by nursing;
- Scientific articles published in Portuguese, English, or Spanish, between April 2015 and July 2024;
- Original articles and literature reviews.

The following were considered exclusion criteria:

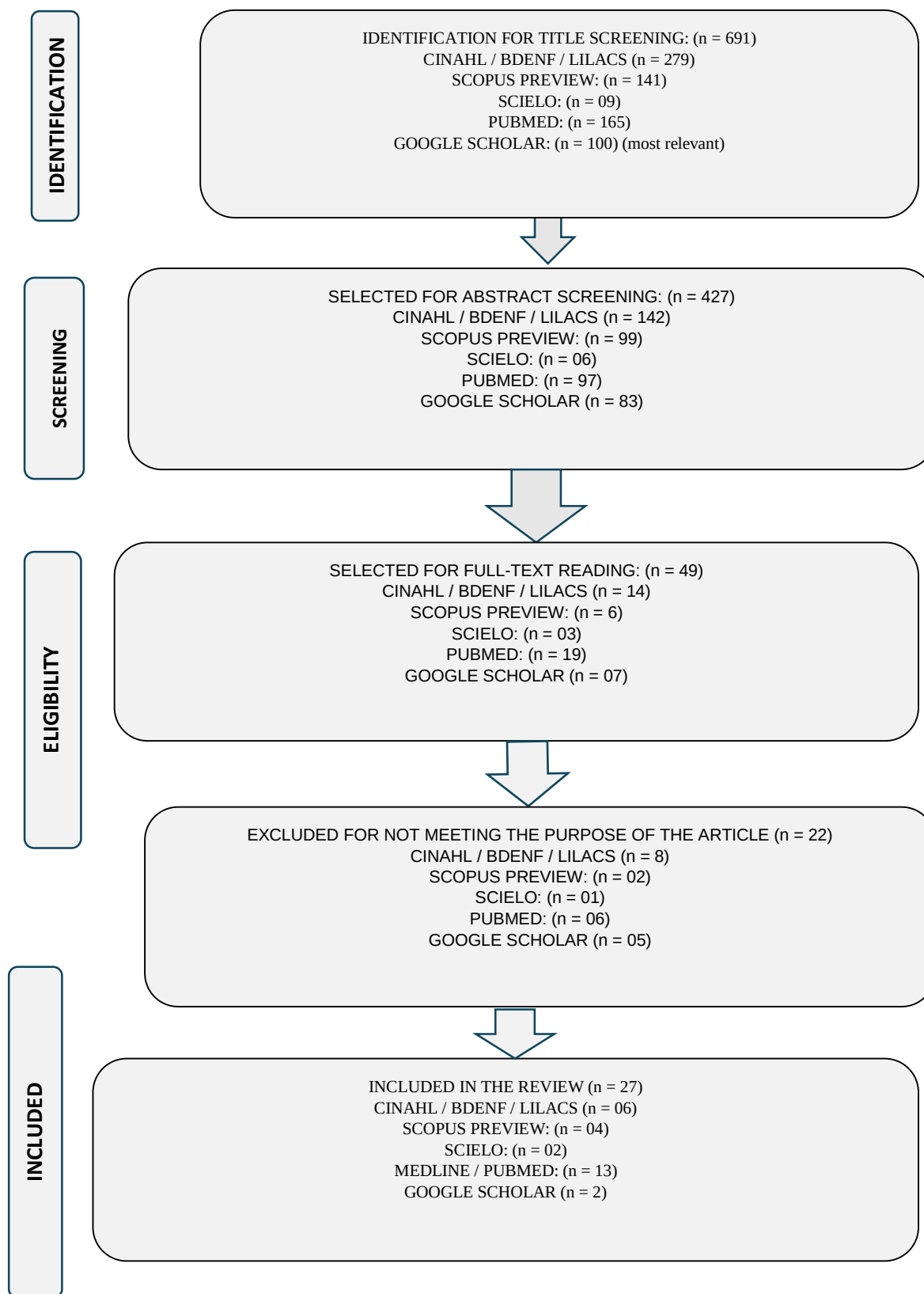
- Materials that were not related to the research objective;
- Duplicate articles and articles not available in full.

In the third phase, the contents of the selected articles were grouped by data familiarity and synthesized into a table of key information and results.

In the fourth phase, the data presented were analyzed using Minayo's Thematic Analysis method<sup>11</sup>, which was conducted systematically.

The themes found were organized and separated sequentially, interpreting the theoretical framework presented. Finally, we identified possible themes or knowledge gaps and suggested priorities for future studies.

**Figure 01.** Compilation of data searches.



Source: The author (2025).

## RESULTS

The results were thoroughly evaluated and, for presentation purposes, were divided into two complementary categories.

The first category presents the articles in a structured way, detailing the findings, including a description of the authors, journal, and year of publication, the design/objectives, as well as the methodology, context of action, and results obtained in telehealth/telenursing. The 27 articles described in Table 1 provide relevant information to help define the scope of telehealth/telenursing in the global context.

The second part contains findings relevant to the format of telehealth use. These results were grouped by similarity, yielding 3 main axes, which are presented in table format for easier interpretation (Table 02).

**Table 01.** Article extraction table

|     | Authors /<br>Year of<br>publication | Origin                                                                      | Study design /<br>Objective                                                                                                                                                                                 | Methodology /<br>Interventions                                                                                                                                                          | Context          | Outcome / Results of use                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|-------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A12 | (JEON;<br>PARK, 2015)               | Stud<br>Health<br>Technol<br>Inform                                         | Calculate the effect size<br>of mobile technology-<br>based nursing<br>interventions.                                                                                                                       | Systematic review in<br>accordance with the<br>Preferred Reporting<br>Items for Systematic<br>Reviews and Meta-<br>Analyses (PRISMA)<br>guidelines.                                     | Care<br>Network  | It describes the use of telemedicine,<br>specifically telemonitoring and<br>teleguidance, via a smartphone.<br>Another item is the objectives each<br>work aims to achieve, such as self-<br>management, self-care, and health<br>promotion.<br>The target problem of each service<br>is diabetes and obesity.                                                                                                                      |
| A13 | (GRADY,<br>2014)                    | American<br>Journal of<br>Nursing                                           | To examine the<br>effectiveness of<br>telehealth in both<br>nursing practice and<br>nursing education, and<br>to explore its trajectory.                                                                    | Literature review, but<br>does not cite the<br>databases.                                                                                                                               | Care<br>Network  | This work describes the use of<br>telehealth in cardiac patients in the<br>form of telemonitoring using various<br>tools such as:<br>- Remote monitoring devices.<br>- Mobile health devices.<br>- Personal health record<br>applications.                                                                                                                                                                                          |
| A14 | (ALLEN et<br>al.,2015)              | Stud<br>Health<br>Technol<br>Inform                                         | This text addresses the<br>aspects, perceptions,<br>and challenges of<br>telenursing while also<br>examining additional<br>opportunities for nurses<br>to incorporate telehealth<br>into clinical practice. | The article does not<br>describe its<br>methodology;<br>however, when<br>analyzing the<br>document's<br>references, there is<br>information about the<br>interview and the<br>database. | Care<br>Network  | The use of telemedicine, including<br>teleconsultation and telenursing, in<br>the telemonitoring modality.<br><br>For both patients with chronic and<br>acute diseases, through monitoring<br>of vital signs, image evaluation, care<br>guidance, and clarification of<br>doubts.                                                                                                                                                   |
| A15 | (BOE<br>DANBJØRG<br>et al.,2015)    | Internatio<br>nal<br>Journal of<br>Telemedi<br>cine and<br>Applicatio<br>ns | To explore how the use<br>of an app in nursing<br>practice affects nurses'<br>ability to provide<br>support and information<br>to postpartum mothers<br>and their families who<br>are discharged early.     | A combination of<br>qualitative methods<br>and intervention,<br>based on<br>collaboration with<br>users.                                                                                | Hospital<br>Care | The use of Telemonitoring and<br>Teleconsultations, including<br>teleconferences and asynchronous<br>messages containing text and<br>images.<br>The nurses in the postnatal ward<br>consider that the application gives<br>families easier access to timely<br>information and support.<br>Conclusions: The application gives<br>nurses the opportunity to provide<br>support and information to parents<br>being discharged early. |
| A16 | (GUIMARÃES<br>et al.,2015)          | Cogitare<br>Enfermag<br>em                                                  | To assess the<br>relationship between<br>thematic areas in<br>teleconsulting.                                                                                                                               | Exploratory data<br>study, using a<br>qualitative approach.                                                                                                                             | Care<br>Network  | The use of Teleconsultation with<br>videoconferencing and Tele-<br>education, and Second Opinion<br>Training as a method of application<br>in Distance Education, specifically<br>applied to Primary Health Care<br>within Family Health Strategies.                                                                                                                                                                                |
| A17 | (HONEY;<br>WESTBROO<br>KE, 2016)    | Stud<br>Health<br>Technol<br>Inform                                         | Describe the<br>implementation of a<br>new computerized<br>health system in New<br>Zealand.                                                                                                                 | Exploratory study with<br>analysis and the aid<br>of instruments.                                                                                                                       | Care<br>Network  | The study presents several ways<br>technology can be used in nursing,<br>such as smartphone applications for<br>prevention and health promotion,<br>information sharing with patients or                                                                                                                                                                                                                                            |



|     |                              |                                         |                                                                                                                                                                                                                |                                                                                                                                                                       |                             |                                                                                                                                                                                                                                                                                                         |
|-----|------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                              |                                         |                                                                                                                                                                                                                |                                                                                                                                                                       |                             | other professionals, and alternative service delivery models.                                                                                                                                                                                                                                           |
| A18 | (MERAJI et al., 2016)        | Stud Health Technol Inform              | The aim of this study is to provide evidence on the applications of information technology in Iranian nursing.                                                                                                 | Systematic review of articles.                                                                                                                                        | Care Network                | The study provides an overview of the uses of technologies in general, without specifying which types of technologies were used in the articles. However, it mentions telenursing, telemonitoring, and tele-education as forms of work.                                                                 |
| A19 | (ASIRI; HOUSEH, 2016)        | Stud Health Technol Inform              | To understand the impact of telenursing on nursing practice and education.                                                                                                                                     | Systematic review of articles.                                                                                                                                        | Care Network                | The results describe the applications of ICTs by nurses in Iran, citing four themes addressed in the literature: Videoconferencing, Telemonitoring, Telenursing, and Tele-education.                                                                                                                    |
| A20 | (WRIGHT; HONEY, 2016)        | Nursing Practice in Aotearoa            | Explore nurses' experience in using teleconsultations                                                                                                                                                          | Exploratory qualitative research.<br>Semi-structured interview.                                                                                                       | Secondary and tertiary care | This paper presents nurses' accounts of telehealth in secondary and tertiary care, focusing on the provision, management, and coordination of care.                                                                                                                                                     |
| A21 | (NAGEL; PENNER, 2016)        | Journal of Holistic Nursing             | To present a comprehensive review of conceptual models and frameworks for nursing practice in telehealth.                                                                                                      | Literature review focusing on qualitative studies.                                                                                                                    | Care Network                | It demonstrated practical application in telehealth, specifically in the telenursing modality, through telemonitoring, teleconsultation, and teleeducation.                                                                                                                                             |
| A22 | (RAPHAEL; et al, 2017)       | Journal Telemedicine and Telecare       | To identify the scope of telenursing in primary health care for the elderly.                                                                                                                                   | Systematic literature search in databases                                                                                                                             | PHC                         | This paper presents the use of telehealth, including telemonitoring, and ICTs for guidance and interventions between nurses and elderly patients with long-term conditions.                                                                                                                             |
| A23 | (BALENTON; CHIAPPELLI, 2017) | Biomedical Informatics                  | To provide insight into the application of telenursing in healthcare.                                                                                                                                          | It is not described in the work, but based on the analysis, it can be said to have been a literature review, given the article's scope.                               | Care Network                | This demonstrates that telenursing is applied in practice, including monitoring vital signs, collecting and analyzing biometric data, and prescribing care. Teleconsultations, teleguidance, and telemonitoring.                                                                                        |
| A24 | (BARBOSA; SILVA, 2017)       | Revista Brasileira de Enfermagem        | To assess the nurse's perception of interpersonal communication in telehealth care.                                                                                                                            | Qualitative research, conducted with seven nurses working in telehealth in Brazil.                                                                                    | Hospital Care               | No specific telehealth modality is described at any point; however, four categories emerged: Understanding the importance of communication; Interpersonal relationships interfering with communication; Communicating through technology; and Learning the communication process.                       |
| A25 | (KOIVUNEN; SARANTO, 2018)    | Scand J Caring Sci                      | The aim of the study was to synthesize the best available research evidence on nursing professionals' experiences with facilitators and barriers to the use of online telehealth services in nursing practice. | A systematic review of qualitative studies was conducted using thematic synthesis.                                                                                    | Care Network                | The study describes the use of telehealth and teleassistance by nurses, but does not clearly define the terms for tele-education and telecommunication between professionals. However, the interpretation of the data suggests the application of telemonitoring, teleconsultation, and tele-education. |
| A26 | (SANTOS ALVES et al., 2018)  | Enfermagem Brasil                       | To describe the experience of telehealth in the area of obstetrics nursing carried out                                                                                                                         | This descriptive, quantitative, and cross-sectional study analyzed the databases of teleconsultations in obstetrics conducted by the Telehealth Center of Pernambuco. | Hospital Care               | The study demonstrated that telehealth has the potential to support the ongoing professional development of the primary care team, especially nurses, improving quality and problem-solving capacity.<br><br>The modalities mentioned were teleconsultation and its results, and telehealth.            |
| A27 | (YLILUOMA; PALONEN, 2020)    | Scandinavian Journal of Caring Sciences | Describe how telenurses experience interactions with callers.                                                                                                                                                  | Qualitative study using open-ended interviews.                                                                                                                        | Hospital Care               | It provides nurses' perspectives on telenursing, including the positive and negative aspects that influence the process's effectiveness. Regarding telenursing, the article mentions telecare and                                                                                                       |

|     |                                                    |                                         |                                                                                                                                                                                 |                                                                                                                                              |               |                                                                                                                                                                                                                                                                                                                                        |
|-----|----------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                    |                                         |                                                                                                                                                                                 |                                                                                                                                              |               | telecommunication as activities performed by telenurses.                                                                                                                                                                                                                                                                               |
| A28 | (SCARCELLA ; LAGO, 2020)                           | Nursing Ed. Bras. Imprensa              | The objective is to report on the experience of developing remote work by the nursing team, its systematization and challenges, during the COVID-19 pandemic.                   | Descriptive, exploratory study with a qualitative approach.                                                                                  | Hospital Care | It offers a vision of remote assistance and professional development through teleconferencing and video lessons, equipping learners for success in the face of a pandemic.                                                                                                                                                             |
| A29 | (SANDELIUS; WAHLBERG, 2020)                        | Scandinavian Journal of Caring Sciences | To describe the experiences of telenurses in monitoring calls during telephone nursing counseling for parents of children with gastroenteritis.                                 | Qualitative interview with inductive qualitative content analysis.                                                                           | Care Network  | Telemonitoring was conducted to assist parents in caring for children with gastroenteritis, providing guidance, clarifying doubts, and monitoring signs and symptoms, proving effective and yielding good results.                                                                                                                     |
| A30 | (KINALSKI et al.,2021)                             | Rev. Enfermag em em foco                | To report on the use of synchronous teleconsultation in nursing as a tool to support clinical practice in Primary Health Care in Brazil.                                        | This is a type of experience report study.                                                                                                   | PHC           | It presents the application of telenursing in the synchronous teleconsultation modality and its particularities on the Telessaúde RGS platform.                                                                                                                                                                                        |
| A31 | (VAN MUNSTER et al.,2022)                          | Journal of Personalized Medicine        | It is about identifying the competencies of Parkinson's Disease Nurses who operate within a personalized care model.                                                            | Qualitative study using semi-structured interviews                                                                                           | Care Network  | The article does not explicitly describe any specific modality, but it does mention some types of services, such as monitoring and video conferencing.                                                                                                                                                                                 |
| A32 | (RODRIGUES et al.,2022)                            | Enfermag em em Foco                     | To identify in the literature the use of Telemedicine as a resource in promoting mental health care in Primary Health Care.                                                     | Integrative review based on experience reports.                                                                                              | PHC           | The activities described using digital platforms were assistance and psychotherapy. Some telehealth application processes that were mentioned in the article included videoconferences, telephone conferences, phone calls, and message exchange.<br><br>For professional training purposes, the Tele-education service was mentioned. |
| A33 | (SESTREM et al.,2023)                              | Enfermag em em Foco                     | To understand nurses' perspectives on the use of telenursing during the COVID-19 pandemic.                                                                                      | Exploratory and qualitative study                                                                                                            | PHC           | The work discusses telehealth in telenursing, but does not describe the types. However, it does describe formats of applied assistance tools such as telephone calls, video conferences, and the exchange of text and image messages.                                                                                                  |
| A34 | (MUN; CHOI; WOO, 2024)                             | Telemed J E Health                      | The objective was to identify the types and effectiveness of telenursing in home care (HHC) compared to conventional HHC.                                                       | Systematic Review and Meta-Analysis.                                                                                                         | PHC           | Telemonitoring was considered the most common technology, followed by synchronous technologies using video or telephone. The results of telenursing included the utilization of care.                                                                                                                                                  |
| A35 | (DE ARAÚJO et al.,2024)                            | Frontiers and Sociology                 | To analyze the alignment of arguments from Brazilian and international organizations for the adoption of digital health in Primary Health Care following the COVID-19 pandemic. | This is a qualitative documentary study, of the rhetorical analysis type, based on the Argumentation Theory of Perelman and Obrechts Tyteca. | Care Network  | This work addresses several aspects of telehealth, and regarding telenursing, it presents the modalities of teleconsultations and monitoring.                                                                                                                                                                                          |
| A36 | (NAVARRO-MARTÍNEZ; MARTÍNEZ-MILLANA; TRAVER, 2024) | Atenção Primária                        | To analyze the opinions of nursing professionals regarding the current limitations and future potential of digital tools in healthcare.                                         | Qualitative and descriptive study.                                                                                                           | PHC           | When describing telenursing, the article reports actions such as monitoring, follow-up, health education, and psychological support. Nurses positively value the usefulness of digital tools and identify a wide range of benefits of telenursing in daily practice.                                                                   |

|     |                      |                                              |                                                                                                 |                                                                                                          |              |                                                                                                                                                                                                                        |
|-----|----------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A37 | (DIAS et al.,2024)   | <i>Contribuições A Las Ciencias Sociales</i> | To map the telemonitoring strategies used for the care of skin lesions in the home environment. | Literature review and meta-analysis, guided by the recommendations of the Joanna Briggs Institute (JBI). | PHC          | The study highlights the importance of telemonitoring and the development of an instrument based on this study to improve the care of patients with skin lesions.                                                      |
| A38 | (XAVIER et al.,2024) | <i>Revista Eletrônica Acervo Saúde</i>       | To analyze nurses' perceptions of telemedicine in healthcare services.                          | Integrative review study                                                                                 | Care Network | The effectiveness of telemedicine is evident in monitoring patients with notifiable diseases, actively searching for patients who cannot be located, and resolving doubts about symptoms and medications/side effects. |

Source: The Author (2024) - Legend: A = Article.

Table 2. Modalities, Purposes, and Areas of Activity in the Analyzed Articles.

| Modalities               | %   | Purposes    | %   | Areas of Expertise / Lines of Care | %   |
|--------------------------|-----|-------------|-----|------------------------------------|-----|
| Telemonitoring           | 55% | Assistance  | 67% | Notifiable Communicable Diseases   | 18% |
| Tele-education           | 26% | Management  | 30% | Maternal and Child Health          | 11% |
| Teleconsultation         | 26% | Educational | 26% | Cardiology                         | 11% |
| Teleconsulting           | 26% |             |     | Geriatrics                         | 7%  |
| Teleconference           | 18% |             |     | Neurology                          | 4%  |
| Second Formative Opinion | 4%  |             |     | Skin Diseases                      | 4%  |
|                          |     |             |     | Gastrointestinal Diseases          | 4%  |
|                          |     |             |     | Mental Health                      | 4%  |

Source: The Author (2025)

The results presented in Table 02 are present in the GM/MS Ordinance number 3,691, of May 23, 2024, which describes that healthcare services in telehealth may be offered through synchronous and asynchronous meetings, in the modalities of teleconsultation, teleselection, teleconsultation, telediagnosis, telemonitoring, tele-interconsultation, tele-education, tele-regulation and tele-guidance, by health professionals in telehealth centers<sup>9</sup>, in the findings we did not observe the citation of all the modalities mentioned in the ordinance.

Regarding the purposes of telehealth processes, non-clinical and direct care services are proposed to the user, through systematized and elaborated responses based on specific demands from health professionals, content that serves to support and guide administrative, managerial and educational processes, always based on the best scientific and clinical evidence, relevant to the SUS guidelines<sup>9</sup>, all purposes are contemplated in the findings.

As of 2020, there are no specific studies outlining the lines of care in question; however, we do find research on areas of practice comparable

to medical specialties. Following the onset of the Covid-19 pandemic, various resolutions have emerged detailing the roles of additional health professionals, alongside those in the medical field, particularly in the realm of telehealth and telemedicine.

## DISCUSSION

Following the COVID-19 pandemic in 2020, there was a significant increase in the number of publications on telehealth and telenursing, further highlighting the practice of telehealth worldwide and the reorganization of services to ensure continuity of care, demonstrating an international and significant pattern in telehealth activities.

The environments in which telehealth operates are classified according to their application in the Health Care Network (HCN), where its function contributes to the articulation between specific points of the network. The most cited environment in the articles is the application of telehealth in the HCN in general, followed by



Primary Health Care (PHC), and lastly Hospital Care. This result demonstrates that telehealth effectively addresses all the main points of the HCN<sup>39</sup>.

The articles listed in this study mostly share the goal of sharing telehealth experiences, mainly to assist other professionals in the practice of telenursing<sup>1-4, 12, 15, 17, 19-20, and 26</sup>. The successful models demonstrate the benefits of using telehealth<sup>5, 14, 18, 21-23 and 25</sup>, while the less successful models contribute to the implementation of new practices and improvements in care processes using ICTs<sup>6, 9, 11, 13, 16</sup>.

Corroborating this study, Chang<sup>40</sup> presents data and suggests that publications on telenursing enhance practice and encourage more nurses to adopt telehealth, thereby contributing to the advantages and expansion of ICT use.

COFEN states that a nurse with a bachelor's degree is considered a generalist nurse, who should and can provide general nursing care. Resolution number 581/2018 - COFEN specifies the possible qualifications based on the areas of nursing practice, when specialized they are divided into three areas: the nurse's practice specialties by area of coverage, classified as Area I Collective Health; Child and Adolescent Health; Adult Health (Men's Health and Women's Health; Elderly Health; Urgencies and Emergencies) and Area II - Management and Area III - Teaching and Research<sup>41</sup> supporting the practice of nursing in the areas presented here.

After organizing the findings and structuring the results, we developed the discussion divided into three classification axes in the use of telenursing, with axis 1 being: the telehealth modalities that nursing uses, axis 2: the purpose for which telenursing is applied in the health area between the years 2015 and 2024, and finally axis 3: which describes in which lines of care nursing most develops assistance.

#### 4.1. AXIS 01: MODALITIES

The structuring of telehealth in Brazil, through the Telehealth Brazil Networks Program, was decisive in shaping the modalities and organizing them in the three areas of health care: primary, secondary, and tertiary<sup>32</sup>. Cezário et al.<sup>42</sup> describe six telehealth modalities, but their article does not mention all possible telehealth modalities.

Telemonitoring was one of the modalities with a significant representation compared to other modalities, and it is present across the most diverse areas of care, proving to be an effective tool for the health system.

The Telehealth Brazil Networks Program includes tele-education as an educational tool in its design, implemented through lectures, courses, and teaching materials. This strategy is aimed at both health professionals, contributing to qualification through continuing education and supporting the implementation of the telehealth system, and users, serving as an instrument for disseminating knowledge<sup>43</sup>. The articles presented, which reference tele-education, reinforce that the use of this tool benefits all actors in healthcare.

Teleconsultations are characterized by work processes where the nurse assesses the patient's general condition. This tool speeds up care, reclassifies the patient's health status in cases of chronic/palliative diseases, and even in acute situations, observations presented in more than one article in this study. However, teleconsultations did not stand out as a widely used resource, being cited in only 22% of the articles analyzed.

Teleconferences/videoconferences are remote meetings or communications that use audio and/or video technology to connect participants in different locations. This tool is widely used to facilitate real-time discussions, presentations, and decisions without the need for physical travel. One of the main objectives in using teleconferencing/videoconferencing is its applicability to matrixing, as evidenced by 1/5 of the articles found, demonstrating that professionals can invest in this area much more than they already do<sup>43</sup>.

The teleconsulting and tele-guidance described in the studies are tools to assist professionals, either by clarifying doubts or by providing support in care practices, and can be synchronous or asynchronous. The Telehealth Brazil Networks Program includes the activity called Formative Second Opinion in its scope. This tool is a function characterized by a structured response built on bibliographic review and the best scientific and clinical evidence, comprising questions originating from teleconsultations and selected based on criteria of relevance and pertinence to the SUS guidelines<sup>8</sup>.

#### 4.2. AXIS 02: PURPOSE

Regarding the purposes for which telenursing is used, we can divide it into 3 areas: care, continuing education, and management.

The Nursing Care area is described by the Regional Nursing Council (COFEN) as actions grounded in scientific evidence and methods and

strategies that can contribute to the promotion, prevention, recovery, and rehabilitation of the health of the individual, family, and community<sup>41</sup>.

The findings demonstrated that nursing practice occurred across nine clinical specialties, areas used by most health professional categories. In compiling the findings, we observed a prevalence of practice in generalist areas, which are within the scope described by COFEN<sup>41</sup>, falling under area I: Collective Health; in the area of Child and Adolescent Health; in the area of Adult Health (Men's Health and Women's Health; Elderly Health); in the area of Urgencies and Emergencies. Even though the areas of practice are not cited in all productions, they are present in 74% of the published works.

Another area of activity is education, which can occur through popular health education, continuing education, and lifelong learning. The latter is the most prevalent in distance education and is usually developed in the workplace itself, with the aim of improving collective or individual work processes. This practice is understood as a teaching methodology that can be applied synchronously or asynchronously, including in the field of health, using ICTs (Information and Communication Technologies).

Continuing education offers advantages such as learning flexibility and time optimization. However, its limitations include restricted access to necessary technologies, often associated with limited internet connectivity, even after the advent of the Internet of Things<sup>43</sup>. This scenario may partly explain why only 15% of the analyzed articles describe the use of distance education in nursing.

In the managerial area, nursing encompasses people management, work process management, and care management, whether in the implementation, deployment, or improvement of health actions<sup>44</sup>. The three articles found in the research demonstrate the use of technologies to aid and facilitate the implementation of managerial actions, highlighting the benefits that technological advances offer in the field of management.

### 4.3, AXIS 03: CARE PATHWAYS

The care pathways in the SUS are sets of information on specific clinical areas in health, aimed at guiding the management of ongoing care, centered on the comprehensive, holistic care of the patient within the Health Care Network (RAS). The care pathways have increasingly adopted telehealth<sup>45</sup>.

On the Ministry of Health's website, when consulted in September 2025, there was a page

providing information about Care Pathways, describing the purpose of using them and which care pathways exist within the Primary Health Care Policy. At that time, there were 22 care pathways<sup>45</sup>, with more than one care pathway found in a single clinical specialty. This highlights the potential for developing new care pathways in the future. Furthermore, regarding the use of care pathways, they are not only used by nursing staff but also by multidisciplinary health professionals, as described by the Ministry of Health.

The Ministry of Health suggests that managers, when implementing a care pathway, consider five relevant topics that will guide clinical practices in Primary Care. The first topic involves choosing the patient's pathology or health condition, which will define the actions. The second topic concerns the patient's needs, whether related to the care process, the service format, or the types of professionals required for care.

The third topic is the preparation of the care plan, taking into account the complexity of structuring the network; the creation of this network must consider which partner municipalities will belong to the care network, the organization of flows, and the regulatory capacity. The fourth topic is the structuring of care, the division of functions, the assigned population, and the physical space. The fifth topic must take into account how the incorporation and adaptation of the care pathway into the network will occur and the definition of the pathway indicators<sup>46</sup>.

Based on the findings, we can present the three most prevalent of the eight areas of clinical practice cited in the studies. The calculation considered all studies cited in this article, not only those that presented care guidelines. The three most prevalent are notifiable infectious diseases, accounting for 18% of the publications, followed by maternal and child health (11%) and cardiovascular health (11%).

The Basic Care Notebooks of the Ministry of Health, initially published in 1998, are precursor documents to the care guidelines, as they are a tool that includes guidelines, protocols, and specific recommendations for the development of work in Primary Care and Family Health. The notebooks, upon publication, had the same objective as the care guidelines: to organize the areas of care and offer support and protocols that help professionals develop best practices in user care<sup>47</sup>.

Both the care guidelines and the Primary Care Notebooks are practical, scientifically based, and accessible guides that direct professionals toward more standardized, qualified care. The material, written in easy-to-understand language,

provides recommendations for managing even the most complex cases, outlining a more uniform, care-centered system that respects each patient's individuality.

## LIMITATIONS OF THE STUDY

One limitation of this study is the scarcity of national publications addressing the practice of telenursing in the Brazilian context. Although there is a growing integration of ICTs across various nursing practice settings, studies exploring the specificities, challenges, and potential of this care modality remain incipient. This gap highlights the need for further studies to consolidate this practice in digital nursing.

## CONTRIBUTIONS TO PRACTICE

This article contributes to nursing by highlighting telenursing as an innovative and empowering strategy for professional practice, particularly in expanding access and promoting comprehensive care for individuals. Furthermore, it fosters the development of competencies amid digital transformation in healthcare practice. It also seeks to promote the consolidation of telenursing as a strategic tool for reconfiguring care models within the Brazilian Unified Health System (SUS).

## CONCLUSION

This review has shown how telehealth has been strengthening in recent decades and keeping pace with advances in health technologies. Telenursing is one of the areas that most heavily uses telehealth as a support tool, both for direct assistance, professional qualification, and assisting work processes.

The use of telehealth by nursing presents different possibilities for improving care and strengthening actions toward a more effective practice. Sharing experiences in telenursing can equip other professionals to develop ICT-mediated care, and this article can contribute to the dissemination of the qualified use of telehealth in nursing.

Many questions remain about the use of telehealth in nursing, but we hope this article has contributed to its dissemination.

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