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Posted Date: 25 February 2026

doi: 10.20944/preprints202602.1452.v1

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Review

# Mapping Nursing Telemedicine Practices: A Scoping Review of Models, Outcomes, and Professional Roles

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## Abstract

**Background/Objectives:** The rapid expansion of telemedicine has reshaped healthcare delivery, positioning telenursing as essential for continuity of care and patient management. This scoping review maps current evidence on telecare nursing practices, examining organizational models, professional roles, and key clinical and organizational outcomes. **Methods:** The review was conducted across five international databases, following the methodological framework proposed by Arksey and O'Malley, the interpretive extension by Levac et al., and the Joanna Briggs Institute guidelines, with reporting aligned to PRISMA-ScR recommendations. The search identified 1760 records, of which 1215 remained after duplicate removal. After title and abstract screening and full-text evaluation, 27 studies met the inclusion criteria. **Results:** Telenursing was implemented across diverse clinical contexts, particularly in chronic disease management, oncology, postoperative care, and emergency settings. Evidence indicates improvements in symptom management, therapeutic adherence, quality of life, and complication reduction, suggesting positive clinical and organizational impacts. The literature highlights the need for advanced digital, communication, and relational competencies, emphasizing the importance of targeted professional training. Cross-cutting trends include enhanced continuity of care, greater patient autonomy, improved integration between hospital and community services, and reduced healthcare costs. **Conclusions:** This review provides an updated overview of telenursing applications, highlighting their adaptability across clinical settings and the expanding strategic role of nurses in digital care. The findings indicate a rapidly evolving field and emphasize the need for further research to strengthen organizational frameworks, define advanced competencies, and support the sustainable integration of telenursing into healthcare systems.

**Keywords:** telenursing; telemedicine; digital health; remote patient monitoring; nursing competencies; chronic disease management

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## 1. Introduction

Telemedicine has become a central driver of transformation in contemporary healthcare systems, signifying a fundamental structural shift in the organization, delivery, and patient experience of care [1]. The technological evolution of recent years, accelerated decisively during the COVID-19 pandemic, has exponentially expanded the use of digital platforms for healthcare delivery, profoundly altering traditional interaction patterns between professionals and patients [2,3]. In this scenario, the nursing profession has assumed a central role, becoming a key factor in remote care models and contributing to the development of innovative pathways capable of integrating proximity, continuity, and service sustainability [4,5]. Nursing telemedicine, defined as the provision of nursing care through digital technologies and telematic platforms, constitutes not merely a technological extension of clinical practice but a paradigmatic transformation encompassing care processes, professional roles, and modes of therapeutic interaction [6].

In recent years, international literature has documented the progressive consolidation of nursing role in telemonitoring, teleassistance, and teleconsultation [7,8]. Across various clinical contexts, nurses have become central figures in the remote management of chronic conditions, in the ongoing surveillance of vital parameters, in therapeutic education, and in the coordination of interprofessional healthcare pathways [9,10]. Their ability to integrate clinical judgment, communication skills, and digital competencies positions them as the professionals most suitable for delivering care via connected technologies, particularly where frailty, chronicity, or geographical barriers hinder access to traditional services. Recent studies, including those by Lee et al. (2022), Jiang et al. (2023) and Mahvar et al. (2025) [11-13], confirm that nursing interventions delivered through telemedicine can reduce rehospitalizations, improve treatment adherence, stabilize clinical parameters, and increase patient satisfaction [14].

The expansion of nursing telemedicine has been facilitated both by organizational factors and by broader systemic transformations. Digitalization has emerged as a strategic response to growing pressure on healthcare services, workforce shortages, and the need to guarantee continuity of care in aging populations with complex needs [15]. Teleassistance enables more efficient monitoring of chronic patients, optimizes nurses' workload in community settings, and supports the creation of more sustainable models from an organizational perspective [16]. Telemedicine further strengthens person-centered care by enabling patients to receive services within their home environments and maintain greater autonomy [17]. At the same time, the relational dimension of care is supported through more frequent, timely, and sustained digital communication between nurses and patients [18].

Recent literature highlights how telemedicine is reshaping the professional role and competencies of nurses, requiring advanced competencies in digital literacy, data interpretation, autonomous clinical decision-making, and remote triage [19-21]. Nurses working in telemedicine increasingly operate as coordinators of care, mediators of communication processes, proactive managers of early clinical deterioration, and facilitators of patient and caregiver engagement. McConnell et al. (2023) emphasize that digitalization demands the development of new forms of operational leadership, whereby nurses become agents of innovation who support the implementation of telematic systems within healthcare organizations [22,23].

Despite this evolution, the field of nursing telemedicine still represents substantial terminological, conceptual, and methodological heterogeneity. Terms such as "telehealth nursing", "telenursing", "telecare", "virtual nursing", and "remote nursing monitoring" are often used interchangeably, contributing to conceptual overlap and complicating comparative analyses [8,14]. As highlighted by Snoswell et al. (2024), these ambiguities have hindered the development of standardized practices, resulting in heterogeneous models that vary across geographical, infrastructural, and policy contexts [14,24].

The absence of an integrated perspective is further reflected in the tendency of many studies to focus on individual pathologies or isolated care settings, thereby failing to provide a comprehensive understanding of the nursing role across remote care models.

Although robust evidence exists on the clinical effectiveness of telemonitoring and telecare for several conditions, fewer studies examine the organizational and professional implications of nursing telemedicine, such as workload, job satisfaction, professional autonomy, process redesign, and digital skill development [5,25,26]. The available evidence suggests that digital transformation requires profound cultural change within healthcare organizations and that nurses must adopt dynamic, adaptive roles consistent with the functioning of complex and evolving systems [27].

Telemedicine also introduces new ethical and relational dimensions. Issues such as digital data management, privacy protection, quality of remote communication, construction of the therapeutic relationship through virtual interfaces, and equity of access to technologies are increasingly central [28,29]. Nurses, due to their close relational engagement with patients' lived experiences, play a critical role in ensuring that digital care remains person-centered and that the empathic dimension of care is preserved within technologically mediated environments [30]. Evidence from Duffy et al.

(2025) indicates that patients' experiences with telehealth are closely related to the quality of communication established by nurses, particularly regarding clarity, support, and the ability to maintain therapeutic engagement despite physical distance [31].

In this dynamic scenario, there is a clear need for a rigorous and systematic scoping review to map the extent, nature, and characteristics of the existing literature on nursing telemedicine [32,33]. The purpose of this review is to explore the most recent evidence on nursing telemedicine, examine the models implemented, analyze the outcomes investigated, and understand how nursing roles have evolved in response to digital technologies [34]. In the absence of an exhaustive synthesis that integrates clinical, organizational, and professional dimensions, this paper aims to provide a comprehensive and updated overview to support the development of innovative care models, the training of nurses, and the design of health policies aligned with digital transformation [35]. At a time when technological innovation is redefining the very nature of care, understanding systematically the contribution of nurses to telemedicine is essential to ensure effective, equitable, and sustainable healthcare services.

## 2. Materials and Methods

### 2.1 Methodological Approach

This scoping review was conducted following the original methodological framework proposed by Arksey and O'Malley (2005), subsequently expanded by Levac and colleagues (2010) and finally consolidated within the methodological guidelines of the Joanna Briggs Institute [36,37]. Arksey and O'Malley's approach provided the fundamental structure of the entire process, articulating the review into five main steps that include identifying the research question, defining a broad and inclusive research strategy, selecting studies, mapping the extracted data, and narrative synthesis of the results [36,37]. In the review by Levac et al. (2010), these steps were further refined by attributing a central role to conceptual clarity, a more precise definition of the objective of the review and the need to adopt a structured and transparent decision-making process during the selection of studies [37]. This contribution has guided the entire process of this review, directing the methodological choices towards greater internal consistency and a constant commitment to the justification of the criteria used.

The most recent framework of the Joanna Briggs Institute has provided the operational reference for the concrete application of the methodology, in particular for the definition of the research strategy, the use of well-defined inclusion and exclusion criteria and the adoption of a systematic approach in the data extraction and synthesis phase. The integration of the three perspectives has made it possible to build a robust, transparent and reproducible procedure, while maintaining the flexibility necessary to explore an emerging and multidimensional field such as telenursing.

The entire review process was aligned with the indications of the PRISMA-ScR, which guided the reporting of the phases of the review, from the search to the selection of the studies, ensuring a high standard of quality and a clear description of the methodological decisions taken. This combination of methodological references has made it possible to develop a rigorous and articulated mapping of the available evidence on nursing telemedicine, ensuring solidity and interpretative depth to the review.

### 2.2 Definition of the Research Question

The definition of the research question followed the criteria of the Joanna Briggs Institute, which recommends the use of the PCC (Population, Concept, Context) approach.

This methodological approach is particularly well suited to scoping reviews that aim to explore multifactorial and rapidly evolving phenomena. The question was formulated with the aim of investigating the extent and nature of the contemporary literature regarding nursing telemedicine, what models have been described, what role nurses assume in different remote care programs and what clinical, organizational and professional outcomes emerge from the available studies. The

construction of this question took place through a preliminary literature review and an iterative process, as indicated by Levac et al. (2010), in order to ensure a clear orientation and at the same time broad enough to include the variety of existing evidence [37].

### *2.3 Development of the Research Strategy*

The research strategy was developed according to an articulated process, which began with a preliminary recognition of the recent literature in order to identify the most widely used terms in the field of nursing telemedicine. This first phase made it possible to define the key concepts and terminological variants necessary to build sensitive and specific queries. The construction of the search strings combined free-text terms with controlled vocabulary, including MeSH terms and discipline-specific thesauri, to ensure comprehensive coverage of the phenomenon under investigation. Terms related to telemedicine, nursing telemonitoring, telecare, digital nursing and remote care models were included. The final definition of the strategy was reached through an iterative and reflective process, characterized by the progressive verification of the adequacy of the results obtained and the modification of the terms if new evidence or new conceptual dimensions emerge.

### *2.4 Search Strategy and Strings Used*

The research strategy was built through an iterative process, in line with methodological recommendations from Arksey and O'Malley (2005), Levac et al. (2010), and the Joanna Briggs Institute [36,37]. After an initial exploratory survey of the recent literature, it was possible to identify the terms most used in studies concerning nursing telemedicine. The definition of the keywords and controlled descriptors required particular attention to the terminological variability that characterizes this field, since in the international literature there are numerous expressions used to indicate similar models, such as "telehealth nursing", "telenursing", "remote nursing care", "virtual nursing", "telemonitoring" and other similar terms. The final search strings were developed through the integration of free-text terms and controlled vocabulary (such as MeSH), with iterative testing to verify the consistency and relevance of the retrieved results.

In biomedical area databases, such as PubMed/MEDLINE, the search was conducted using a combination of MeSH terms and keywords. Although the formulations vary slightly depending on the structure of the database queried, the main string used on PubMed included the combination of the MeSH term "Telemedicine" and keywords related to nursing, including "nursing", "nurses", "telenursing", "telehealth nursing" and "remote nursing care". One of the reference formulations, adapted to the MeSH syntax, integrated terms related to telemedicine with those related to the nursing profession, also including outcome indicators such as "patient outcomes" or "care outcomes" when useful for refining research. The overall structure involved the association of the main concepts by means of Boolean operators, with a central nucleus consisting of a combination similar to the following: "Telemedicine" [MeSH] AND (nursing OR nurses OR telenursing OR "telehealth nursing" OR "remote nursing care").

In multidisciplinary databases, such as Scopus and Web of Science, search strategies were constructed using strings that incorporated free-text terms within the title, abstract, and keyword fields. In these platforms, where there are no controlled dictionaries similar to MeSH, the strategy was based on formulas including expressions such as "telemedicine", "telehealth", "telenursing", "digital nursing", "remote nursing monitoring" and "virtual nursing", combined with terms related to the professional role ("nurse", "nursing", "nurse-led"). One of the main formulations involved the use of the combination "telemedicine" AND "nursing" as a basic structure, progressively expanded through the inclusion of synonyms and lexical variants in order to ensure maximum sensitivity of the research. Expressions referring to care outcomes, such as "clinical outcomes" and "patient experience", have also been included, if useful for exploring more specific dimensions of the phenomenon.

In the CINAHL database, dedicated to the literature of nursing and health professions, a similar strategy was used, but further refined through the use of CINAHL Subject Headings, which made it possible to identify controlled terms similar to MeSH. Here, too, the research was built around the relationship between telemedicine and the nursing profession, using combinations such as “Telemedicine” AND “Nursing” and subsequently extending the string through terms such as “telehealth”, “telenursing”, “remote monitoring” and “virtual care”, with the aim of including the entire spectrum of digital interventions for nursing activities documented in the recent literature.

In PsycINFO, the research was oriented towards identifying studies that explored communicative, relational or psychological dimensions of telenursing telecare. For this reason, terms related to the remote therapeutic relationship, virtual communication and patient experience were used, integrated again with nursing keywords such as “nursing” and “nurse”. Also in this case, the main combination has kept the terms “telemedicine” and “nursing” as its core, then modulated with other expressions related to the psychological and communicative dimension of care provided remotely.

In summary, although the search strings have specific variations for each database, the conceptual framework that supports them remains consistent: all the searches have been built through the combination of a terminology block dedicated to telemedicine and a block dedicated to the nursing profession, enriched with terms that describe technologies, care models, professional roles and care outcomes. The definition of the strings was further refined through a preliminary verification phase, which made it possible to check the relevance of the results and correct any terminological anomalies.

### 2.5 Sources of Information and Database Research

The search was conducted in the most relevant international databases for biomedical and nursing literature, including PubMed/MEDLINE, Scopus, Web of Science, CINAHL and PsycINFO. The selection of these data sources was driven by the need to capture both clinically focused scientific literature and research addressing organizational and behavioral dimensions of care. The review included only studies published within the past ten years and written in English or Italian, in order to ensure the relevance of the evidence to contemporary healthcare contexts. Search results were subsequently exported to bibliographic management software, which facilitated the removal of duplicates and the preparation of the dataset for the screening phase.

**Table 1.** Search strings used in different databases.

| Database | Search string used  | Record |
|----------|---|--------|
| PubMed   | (“Telemedicine”[MeSH Terms]<br>OR<br>“Telemedicine”[Title/Abstract]<br>OR “Telehealth”[Title/Abstract]<br>OR “Telenursing”[Title/Abstract]<br>OR “Remote<br>Consultation”[MeSH Terms])<br>AND (“Nursing”[MeSH Terms]<br>OR “Nurse*”[Title/Abstract] OR<br>“Nursing Care”[Title/Abstract]<br>OR “Telehealth<br>Nursing”[Title/Abstract] OR<br>“Virtual Nursing”[Title/Abstract])<br>AND (“Patient<br>Outcomes”[Title/Abstract] OR<br>“Care Outcomes”[Title/Abstract]<br>OR “Clinical | 208    |

| Database          | Search string used   | Record |
|-------------------|--|--------|
|                   | Outcomes"[Title/Abstract] OR<br>"Professional<br>Role"[Title/Abstract])  |        |
| Scopus            | (TITLE-ABS-KEY("telemedicine")<br>OR TITLE-ABS-KEY("telehealth")<br>OR TITLE-ABS-<br>KEY("telenursing") OR TITLE-<br>ABS-KEY("virtual nursing") OR<br>TITLE-ABS-KEY("remote nursing<br>care")) AND (TITLE-ABS-<br>KEY("nurse") OR TITLE-ABS-<br>KEY("nursing") OR TITLE-ABS-<br>KEY("nurse-led") OR TITLE-<br>ABS-KEY("nursing role")) AND<br>(TITLE-ABS-KEY("patient<br>outcome") OR TITLE-ABS-<br>KEY("clinical outcome") OR<br>TITLE-ABS-KEY("care model")) | 682    |
| Web of<br>Science | TS=("telemedicine" OR<br>"telehealth" OR "telenursing" OR<br>"remote nursing" OR "virtual<br>nursing") AND TS=("nursing"<br>OR "nurse*" OR "nurse-led" OR<br>"nursing care") AND<br>TS=("patient outcomes" OR<br>"clinical outcomes" OR "care<br>delivery" OR "professional role")   | 466    |
| CINAHL<br>(EBSCO) | ("Telemedicine" OR "Telehealth"<br>OR "Telenursing" OR "Remote<br>Monitoring" OR "Virtual<br>Nursing") AND ("Nursing" OR<br>"Nurse*" OR "Nursing Care" OR<br>"Nurse-Patient Relations") AND<br>("Patient Outcomes" OR "Clinical<br>Outcomes" OR "Care Models"<br>OR "Professional Practice")   | 358    |
| PsycINFO          | (AB("telemedicine") OR AB("telehealth") OR AB("remote<br>care") OR AB("virtual nursing")) AND (AB("nursing") OR<br>AB("nurse") OR AB("nurse-led")) AND<br>(AB("communication") OR AB("patient experience") OR<br>AB("therapeutic relationship"))   | 46     |

## 2.6 Study Selection Process

Study selection was performed using a two-stage screening process, in accordance with Joanna Briggs Institute (JBI) guidelines.

In the first phase, the title and abstract of each article were evaluated, with the aim of excluding clearly irrelevant studies. The articles considered potentially relevant were subsequently analyzed in their full text. The selection was made by two independent reviewers, who compared their respective judgments and resolved any discrepancies through discussion and consensus. This approach ensures methodological consistency and transparency, reducing the risk of misinterpretation. Studies that

directly addressed the role of nurses in telehealth or that described models of telecare with nurse involvement were included. Articles that focused on technologies without a nursing care component, or that addressed the topic in a purely theoretical way without application references, were excluded.

### *2.7 Data Extraction Process*

The data was extracted using a form developed following the guidelines of the Joanna Briggs Institute for scoping reviews. The form was designed to collect information relating to the context of the study, the characteristics of the participants, the technologies used, the telecare models described, the professional roles of nurses and the clinical, organizational and relational outcomes reported. The data extraction process was conducted iteratively and reflexively, allowing for the expansion or modification of analytical categories as new conceptual dimensions emerged during study review. This approach, consistent with the recommendations of Arksey and O'Malley (2005), enabled the capture of the dynamic and multifactorial nature of the phenomenon under investigation [36].

### *2.8 Data analysis and Synthesis*

The analysis phase was conducted through a narrative and thematic approach, aimed at identifying recurring patterns and relevant differences between the included studies. This method lends itself particularly well to complex phenomena such as nursing telemedicine, which involves multiple clinical, technological, organizational and relational dimensions. The thematic analysis made it possible to reconstruct the panorama of telecare nursing models, describing the functions performed by professionals in different contexts and identifying the outcomes most considered in recent literature. The process was guided by an interpretative logic, with the aim of understanding how telemedicine is transforming nursing practice and what the repercussions are on health systems. The final synthesis was supplemented by a critical reflection on the gaps that emerged, with the aim of orienting future lines of research, as suggested by the methodological extensions of Levac and colleagues (2010).

## **3. Results**

### *3.1 Study Identification and Selection Process*

The search across the five selected databases yielded a total of 1,760 records, reflecting a heterogeneous distribution across the platforms consulted. Scopus was the most productive database, with 682 records retrieved due to its extensive coverage of multidisciplinary literature; Web of Science contributed 466 articles, highlighting a significant presence of studies related to both telemedicine and nursing care models; CINAHL returned 358 records, confirming its central role in research related to the nursing profession; PubMed added 208 relevant articles, consistent with its biomedical focus and PsycINFO produced 46 contributions, mainly related to the communicative, psychological and relational aspects of the nurse-patient digital interaction.

After removing the duplicates, amounting to 539 records, the total number of unique items was 1221. These were screened for titles and abstracts. The analysis made it possible to exclude irrelevant studies, those without a significant nursing component and those that treated telemedicine exclusively from a technological point of view, without the involvement of health professionals. At the end of the full-text selection process, 27 articles were included, which constitute the final corpus of the present scoping review (Figure 1).

The distribution by clinical field, type of study and telecare model adopted highlights a considerable methodological and applicative variety of telenursing. Studies range from experimental and quasi-experimental interventions to systematic reviews, scoping reviews, study protocols, and observational studies. This heterogeneity reflects the multidimensional nature of nursing telemedicine, which can be implemented in very different clinical settings, adapting to the needs of patients and services.

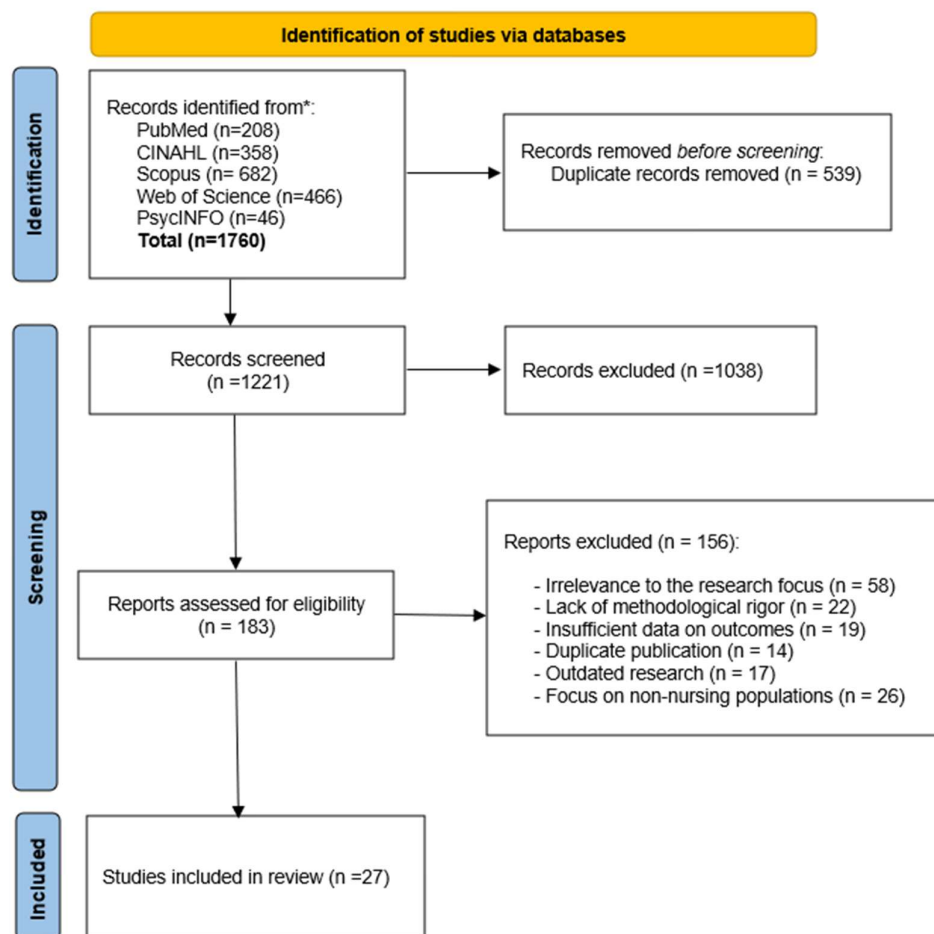


Figure 1. PRISMA-ScR flow diagram illustrating the selection process of the sources of evidence, including identification, screening, eligibility assessment, and final inclusion of studies.

### 3.2 Characteristics of the Studies Included

The studies included in the present scoping review, 27 in total, show considerable heterogeneity regarding methodological designs, clinical contexts and populations involved, reflecting the multidimensional nature of telenursing in the international literature. Table 2 provides a complete summary of the main characteristics of the 27 studies included.

The temporal distribution shows a significant concentration of publications in the last five years, with contributions that are mainly placed in the period following the COVID-19 pandemic, during which digital acceleration has promoted an increasingly extensive use of telenursing [38-40]. Alongside experimental and quasi-experimental studies, there are retrospective analyses, systematic reviews, feasibility studies and different research protocols, a sign of a growing scientific structuring of the field [41,42].

Geographically, the studies show a mapping spread over several continents, with a prevalence of contributions from Europe, followed by Asia, the Middle East and USA. In Europe, a significant share of works comes from Mediterranean and Central European contexts, such as Italy [43,44], Spain [45], Portugal [46] and France [47]. Asia represents a very active area in telenursing research, with several contributions from China, South Korea and Japan, especially in the oncology and postoperative fields [48,49]. The Middle East is also well represented, particularly by Iran, Turkey and Israel, with studies oriented towards post-surgical support, diabetes management and training of nursing students through advanced simulation [50-52]. In the Americas, the United States contributes substantially to the literature through organizational analyses and advanced digital care

models [53,54], while Latin American contexts have reported more targeted applications of telemedicine in areas such as cardiology, oncology, and continuity of care [44,46].

The clinical settings covered by the studies are equally variable. The most represented sectors include oncology [48,49], diabetology [50,55], neurology and neurodegenerative diseases [41,44], surgery and postoperative follow-up [38,39], cardiology [43] and emergency [45]. There are also contributions dedicated to caregiver support, rehabilitation, pediatrics and tele-triage [56,57], outlining a rich and multidisciplinary panorama.

The technologies used vary from synchronous teleconsultation platforms to remote monitoring systems, structured phone calls, digital applications and hybrid models that combine face-to-face and remote assistance. Nursing roles described include clinical telemonitoring, therapeutic education, postoperative follow-up, symptom assessment, emotional support, specialist counseling, and coordination of complex home pathways [41,47]. This variety highlights the progressive consolidation of advanced digital skills in nursing practice, as well as the growing recognition of the role of nurses in the governance of digital care models.

Overall, the mapping of the evidence reveals a rapidly expanding sector, characterized by broad international adoption, increasingly structured organizational models, and an evolving professional nursing role. The diversity of geographical contexts, clinical settings, technologies, and methodological approaches underscores both the need for and the relevance of a scoping review capable of providing an integrated and up-to-date overview of contemporary nursing telemedicine.

**Table 2. Summary of the studies included in the scoping review on telenursing.**

| N | Lead Author (Year)           | Type of Study              | Clinical Scope / Population | Focus of the Intervention or Review         | Telenursing Modalities     | Primary Domain of Outcome      |
|---|------------------------------|----------------------------|-----------------------------|---|----------------------------|--------------------------------|
| 1 | AkbariRad et al. (2023)      | Narrative review           | Type 2 diabetes             | Effects of telenursing on disease outcomes  | Remote monitoring          | Metabolic clinical outcomes    |
| 2 | Ali-Saleh et al. (2025)      | Cohort study               | Nursing students            | Simulation program for telenursing training | Telehealth simulation      | Skills and readiness           |
| 3 | Amir et al. (2025)           | Scoping review protocol    | Various populations         | Independence and economic value             | Not applicable             | Conceptual framework           |
| 4 | Aspas Sebastià et al. (2024) | Systematic review          | Emergencies and disasters   | Telenursing as emergency tool               | Teletriage, remote support | Organizational outcomes        |
| 5 | Bruce et al. (2024)          | Retrospective cohort study | Acute care patients         | Telenursing discharge program               | Hospital telemonitoring    | Patient and nursing experience |
| 6 | Cilia et al. (2025)          | Study protocol             | Atypical parkinsonism       | Home-based integrated care (IMPACT)         | Home monitoring            | Expected clinical outcomes     |
| 7 | Culligan et al. (2017)       | Observational study        | Thoracic surgery            | Reducing readmissions                       | Telephone follow-up        | Readmissions, satisfaction     |
| 8 | de Souza et al. (2017)       | Pilot study                | Catheterization patients    | Telenursing intervention                    | Remote follow-up           | Autonomy, complications        |
| 9 | do Nascimento                | Scoping review             | Surgical oncology           | Telenursing in cancer care                  | Perioperative telecare     | Clinical outcomes              |

| N  | Lead Author (Year)                | Type of Study                     | Clinical Scope / Population | Focus of the Intervention or Review | Telenursing Modalities | Primary Domain of Outcome            |
|----|-----------------------------------|-----------------------------------|-----------------------------|-------------------------------------|------------------------|--------------------------------------|
|    | Mozer et al. (2025)               |                                   |                             |                                     |                        |                                      |
| 10 | Doimo et al. (2026)               | Narrative review                  | Cardiology                  | Evidence on cardiology telenursing  | Remote monitoring      | Adherence, rehospitalization         |
| 11 | Esmailpour-BandBoni et al. (2021) | Randomized controlled trial       | Older adults with diabetes  | Telephone-based telenursing         | Structured calls       | Glycemic control                     |
| 12 | Gidora et al. (2019)              | Observational study               | Triage patients             | Teletriage impact                   | Nursing teletriage     | Costs, resource use                  |
| 13 | Gimenez et al. (2024)             | Scoping review                    | Postoperative patients      | Follow-up through telenursing       | Remote monitoring      | Complications, continuity            |
| 14 | Hançer et al. (2023)              | Observational study               | Postoperative patients      | Outcomes during COVID-19            | Remote support         | Recovery, symptoms                   |
| 15 | Kim et al. (2023)                 | Systematic review & meta-analysis | Colorectal cancer           | Effectiveness of interventions      | Remote follow-up       | Clinical outcomes, QoL               |
| 16 | Komariah et al. (2021)            | Scoping review                    | Lung cancer                 | Care delivery model                 | Remote assistance      | Continuity of care                   |
| 17 | Lo Monaco et al. (2025)           | Umbrella review                   | Diabetes                    | Effectiveness of telenursing        | Multiple models        | Clinical outcomes                    |
| 18 | Loverre et al. (2026)             | Narrative review                  | Cardiology                  | Current scientific evidence         | Teleassistance         | Clinical and organizational outcomes |
| 19 | Mancini et al. (2020)             | Interventional study              | Parkinson's disease         | Personalized care management        | Integrated monitoring  | Symptom management                   |
| 20 | Meunier-Sham et al. (2019)        | Descriptive study                 | Forensic nursing            | TeleSANE implementation             | Remote examination     | Care model quality                   |
| 21 | Rahmiati et al. (2025)            | Scoping review                    | Various settings            | Quality and cost impact             | Mixed modalities       | Savings, quality                     |
| 22 | Sarik et al. (2022)               | Preliminary interventional study  | NICU infants & caregivers   | Transition to home                  | Telehealth support     | Caregiver stress                     |
| 23 | Sebastià et al. (2024)            | Systematic review                 | Emergencies and disasters   | Role of telenursing                 | Teletriage             | Safety, organizational outcomes      |
| 24 | Shahrokhi et al. (2018)           | Interventional study              | Head trauma caregivers      | Post-discharge care                 | Remote counseling      | Care quality                         |
| 25 | Smith et al. (2018)               | Educational study                 | Nursing students            | Teaching telehealth competencies    | Simulation             | Professional skills                  |

| N  | Lead Author (Year)       | Type of Study       | Clinical Scope / Population | Focus of the Intervention or Review | Telenursing Modalities | Primary Domain of Outcome |
|----|--------------------------|---------------------|-----------------------------|-------------------------------------|------------------------|---------------------------|
| 26 | Toffoletto et al. (2020) | Integrative review  | Latin America & Caribbean   | Telenursing in care and management  | Multiple applications  | Models, barriers          |
| 27 | Hançer et al. (2023)     | Observational study | Postoperative patients      | Telenursing outcomes                | Remote monitoring      | Patient outcomes          |

### 3.3 Applications of Telenursing in Chronic Diseases

The analysis of the twenty-seven studies included shows that chronic conditions represent the prevailing area of application of telenursing. Evidence regarding diabetes, heart disease and Parkinson's disease converges in documenting relevant benefits in terms of symptom management, therapeutic adherence and improvement of clinical outcomes. Interventions dedicated to the management of diabetes indicate an improvement in metabolic parameters, a greater capacity for self-management and a reduction in complications associated with the disease. Similarly, studies focused on Parkinson's show that telenursing facilitates continuous monitoring of symptoms, supporting personalized care pathways that actively involve both patients and caregivers. In cardiovascular diseases, telenursing is used to support home management, provide personalized information and ensure constant follow-up, improving clinical stability and continuity of care. Overall, this group of studies suggests that telenursing in chronic diseases represents an effective model to support autonomy, reduce complications and promote a more stable control of clinical conditions in the long term.

### 3.4 Telenursing in Oncology Pathways

Another substantial part of the literature concerns the application of telenursing in oncology. Systematic reviews and primary studies highlight how telecare plays a central role in pre- and postoperative management, symptom control, and informational and emotional support to patients. This care modality is particularly useful in complex oncological pathways, such as those dedicated to colorectal cancer or lung cancer, in which the intensive and prolonged nature of treatment requires continuous monitoring and constant dialogue between patients and professionals. Evidence shows that telenursing helps improve quality of life, reduces response times in the event of complications and promotes greater adherence to treatments. In addition, the possibility of providing remote support allows for effective integration of the care pathway, especially in periods when face-to-face access may be difficult or not strictly necessary.

### 3.5 Telecare Nursing in the Postoperative Period

Telecare nursing is a particularly important element in the management of the postoperative period. The included studies show that, through remote telephone or digital follow-up, it is possible to reduce complications, improve adherence to post-surgical indications and facilitate the transition from hospital to home. Remote monitoring allows nurses to detect signs of distress early, provide timely clarification of prescriptions and intervene in a targeted manner in the event of emerging symptoms. Evidence from pilot interventions also shows that structured telenursing follow-up can support patient autonomy and reduce complications in home-based care pathways [58]. This approach results in a decrease in hospital readmissions and an improvement in the overall experience of patients and their families. The literature also suggests that such interventions strengthen the sense of continuity of care, offering patients a reassuring professional presence even outside the hospital environment.

### 3.6 Telenursing in Emergency Contexts and Disasters

A significant part of the studies analyzed focuses on the use of telenursing in emergency contexts, including natural disaster scenarios and the most critical phases of the COVID-19 pandemic. Evidence shows that telenursing has played a crucial role in triage, resource management, decision support and continuity of care under conditions of extreme pressure on health systems. The speed with which services were reorganized during the pandemic highlighted the flexibility of telenursing and its ability to maintain effective care even in the absence of direct physical contact. The studies describe how remote support has made it possible to manage the needs of large populations, monitor isolated patients, provide clinical indications and guide care decisions in a timely manner, contributing decisively to the resilience of the health system.

### 3.7 Digital skills and Nursing Education

A significant part of the literature examines the skills needed to work in telenursing and the role of training. Studies involving nursing students and professionals in training show that telecare requires advanced digital skills, specific communication skills and a conscious use of technological tools. Structured simulations are particularly effective in preparing students, strengthening the ability to use digital platforms, conduct remote assessments, interact with the patient through technological tools and manage complex clinical situations remotely [59]. Evidence suggests that integrating telenursing training into university curricula and professional development programs represents a strategic step to consolidate this care model in daily practice.

### 3.8 Emerging Cross-Cutting Trends

The integration of findings across the included studies reveals several convergent trends. First, telenursing emerges as an effective means of strengthening continuity of care, particularly through remote follow-up models that enhance coordination between hospital-based services and community settings. Second, multiple studies underscore the potential of telenursing to reduce healthcare costs and promote the efficient use of resources, primarily through enhanced patient monitoring and a reduction in hospital readmissions. Another recurring theme concerns the enhancement of patient and caregiver autonomy, which is reflected in improved disease management within the home setting and greater active participation in clinical decision-making processes. Emerging research protocols are also beginning to explore the relationship between telenursing, patient independence, and economic sustainability [60]. Overall, the evidence indicates that telenursing constitutes a flexible and adaptable model of care, capable of addressing diverse clinical needs while ensuring quality, safety, and continuity of care. The variety of the included studies enable the delineation of a comprehensive and detailed overview of contemporary nursing telemedicine applications, offering an up-to-date and articulated representation of current practices across healthcare settings..

## 4. Discussion

This scoping review offers an updated and articulated overview of contemporary applications of nursing telemedicine, highlighting a growing body of evidence that describes telenursing as a dynamic, adaptable care model capable of responding to complex clinical needs in different healthcare settings. The results show that telenursing is establishing itself not only as a tool for continuity of care, but as a real structural component of care models oriented towards chronicity, hospital-home transition, oncology, postoperative management and emergency contexts.

One of the most relevant aspects that emerged concerns the growing role of telenursing in the management of chronic diseases. The most recent studies indicate that telenursing can facilitate a significant improvement in self-management in patients with diabetes and other chronic diseases, contributing to the control of clinical parameters and reducing the need for repeated access to health services [48,55]. Evidence shows that remote follow-up, structured through telephone contacts or digital platforms, promotes greater therapeutic adherence and more active patient participation in

the treatment pathway. These results are in line with the evolution of Chronic Care Management models, which emphasize the role of the nurse as a facilitator of continuity and integration of services.

A second area of growing interest concerns the application of telenursing in oncology pathways. The included studies show that telenursing represents a valuable support for symptom management, monitoring of side effects of treatments and psychological support of patients undergoing oncological surgery or complex treatments [42,48]. Telemedicine allows cancer patients to maintain continuous contact with professionals, reducing anxiety, uncertainty and the risk of complications, especially at critical moments in the therapeutic pathway. These results confirm what has already been observed in the international literature, which describes telenursing as a key element in supporting complex and emotionally demanding care pathways [61].

Telenursing also plays a central role in the postoperative period. The studies analyzed show that telenursing allows for more timely management of symptoms, rapid identification of complications and better adherence to post-surgical recommendations, reducing in some cases the rate of hospital readmissions [38,62]. The adoption of telemedicine in the hospital-home transition phases has proven to be particularly effective during the COVID-19 pandemic, a period during which telecare emerged as a fundamental resource for ensuring continuity, safety, and relational proximity in care. Evidence confirms that nursing telemedicine can improve the perceived quality of postoperative care, providing support to both patients and caregivers.

Another relevant result concerns the use of telenursing in emergency and disaster contexts. The systematic reviews in the sample show how telecare has been used as a strategic tool in emergency contexts, improving triage, clinical decision support and resource management during critical situations [49,63]. Under these conditions, nursing telemedicine makes it possible to optimize the distribution of staff, ensure continuous communication and support clinical safety even in the absence of direct physical presence.

A further significant contribution emerges from the studies dedicated to nursing education and digital skills. Simulation-based work shows that preparing for telenursing requires a complex set of skills that include the effective use of digital technologies, remote therapeutic communication, the ability to clinically assess electronically mediated and the management of relational dynamics in virtual environments [52] (Ali-Saleh et al., 2025). These results confirm the urgency of integrating digital training into nursing curricula, promoting professionalism capable of operating in increasingly connected and digitized care contexts.

Overall, the summary of the data shows how telenursing contributes to improving the quality of care in multiple contexts. Evidence suggests that nursing telemedicine is not just a technological tool but is configured as a true organizational model that enhances the role of the nurse as a coordinator of care, promoter of patient empowerment and facilitator of continuity of care. Telemedicine applications emerge as cost-effective and clinically effective solutions, especially in care-intensive services and longitudinal care pathways [40].

**Table 3. Emerging themes identified through qualitative and thematic analysis of the 27 studies included.**

| Emerging theme  | Discursive description   |
|---|--|
| <b>Management of chronicity and support for self-management</b> | Telenursing promotes continuous monitoring, therapeutic adherence and clinical stability in patients with chronic diseases, promoting empowerment and self-management. |
| <b>Oncology pathways and symptom support</b>                    | Telecare helps manage the effects of cancer treatments, improves informational and emotional support, and ensures therapeutic continuity.                              |
| <b>Postoperative care and hospital-to-home transition</b>       | Telenursing interventions facilitate the management of post-surgical symptoms, reduce complications and improve the safety of discharge.                               |

|   |  |
|---|--|
| <b>Telenursing in emergencies and disasters</b> | Telemedicine supports triage, clinical decision-making and resource coordination in critical contexts, ensuring timeliness and safety. |
| <b>Digital skills and nursing education</b>     | Studies highlight the importance of developing digital, relational and communication skills to operate effectively in teleassistance.  |
| <b>Economic and organizational impact</b>       | Nursing telemedicine contributes to cost reduction, the appropriate use of resources, and the reorganization of care models.           |

The findings of this study indicate that telenursing has evolved beyond an emergency or ancillary intervention, emerging instead as a mature and consolidated model of care with a substantial impact on the quality, safety, and continuity of healthcare delivery. Evidence suggests that the structural integration of nursing telemedicine into healthcare systems can contribute to greater efficiency, reduced pressure on hospital facilities, and a substantial improvement in the patient experience. In this perspective, telenursing is one of the most promising components to support the digital transformation of healthcare, promoting models that are closer to patients' needs, more sustainable and more oriented towards the complexity of contemporary care pathways.

#### 4.1 Limitations of the Scoping Review

Although this scoping review offers a complete and systematic mapping of the available evidence, some limitations must be considered in the interpretation of the results. The primary limitation relates to the methodological heterogeneity of the included studies, which encompassed randomized controlled trials, observational studies, systematic reviews, scoping reviews, and study protocols. This variability makes it difficult to make direct comparisons and prevents a uniform assessment of the methodological quality of interventions. However, this heterogeneity reflects the emergent and multidimensional nature of telenursing and represents an intrinsic feature of scoping reviews, which aim to explore the breadth and nature of the evidence rather than evaluate its effectiveness.

Further limitation concerns the predominance of studies conducted in specific contexts, such as oncology, diabetes or chronic diseases, which are overrepresented compared to other emerging clinical areas. This may limit the generalizability of the findings to other less studied clinical conditions. Moreover, the majority of studies adopt a predominantly clinical perspective, whereas research addressing the ethical, sociocultural, organizational, and interprofessional dimensions of telecare nursing remain comparatively underrepresented.

Another limitation concerns the fact that many practices have adopted technologies or digital platforms specific to the local health context. This technological variability makes the comparative evaluation of intervention models complex and limits the possibility of fully generalizing the organizational implications of the results. Finally, not all studies provide detailed data on the long-term outcomes of telenursing, an aspect that deserves further study in future research.

Despite these limitations, this scoping review offers a broad and up-to-date view of the literature, identifying established areas and fields of development that represent important opportunities for nursing research and practice.

#### 4.2 Implications for Nursing Practice

The evidence that emerged from this scoping review suggests that telenursing is taking on an increasingly important role in contemporary healthcare systems, contributing to the transformation of care models in the direction of greater continuity, proximity and personalization. The literature shows how telenursing is able to enhance patients' self-management, support complex decision-making processes and improve the care experience, particularly in longitudinal and high-intensity care pathways. The nurse is increasingly appearing as a digital mediator of the therapeutic

relationship, not only as a provider of clinical interventions, but as a coordinator of care, educator, facilitator and stable point of reference in care transition pathways.

The practical implications concern first of all the rethinking of professional skills. The studies analyzed indicate the need to integrate advanced digital skills, remote communication skills and forms of clinical assessment mediated by technological tools into nursing curricula. Nursing training will have to be oriented towards the construction of a professional profile capable of operating in hybrid healthcare ecosystems, in which the relationship between physical presence and digital interaction is increasingly flexible and interdependent [52].

From an organizational point of view, the integration of telemedicine into care services requires a rethinking of processes, professional responsibilities and governance models. Studies show that effective telenursing programs are based on a clear structuring of nursing activities, multidisciplinary coordination, and digital platforms that allow for timely clinical assessment and continuity of information across the entire care pathway [53]. The systemic adoption of telenursing could help reduce pressure on hospitals, improve accessibility to services and foster more equitable and sustainable models of care.

A final element concerns the economic impact and sustainability of teleassistance models. Cost-oriented studies show that telenursing can reduce avoidable hospitalizations, optimize the use of resources, and produce significant savings for health systems, especially in chronic settings and in geographic areas with limited access to specialized services [40]. These results support the need to invest in nursing telemedicine as a strategic component to address the growing demand for care, staffing shortages and the epidemiological complexity of the populations being treated.

## 5. Conclusions

Nursing telemedicine emerges as one of the most significant innovations in the digital transformation of contemporary healthcare systems. The results of this scoping review show that telenursing represents a consolidated, effective and sustainable care model, capable of improving the continuity, quality and safety of care through digital solutions integrated into traditional clinical pathways. Telenursing has demonstrated particular effectiveness in the management of chronic conditions, oncological care pathways, the postoperative period, and emergency contexts, supporting the complexity of care delivery while contributing to a reduction in pressure on healthcare services.

The literature suggests that nursing telemedicine plays a critical role in strengthening patient autonomy, facilitating hospital-to-home transition, supporting self-management, and improving patient and caregiver engagement. At the same time, teleassistance requires a redefinition of professional skills and training models, highlighting the need to structurally integrate digital preparation into nursing education pathways.

The digital transformation of healthcare, accelerated by the pandemic and demographic and epidemiological change, represents an opportunity to rethink the role of the nurse and to develop more resilient, integrated and future-oriented care models. Telenursing, in its ability to combine relational proximity and technological distance, embodies this evolution and represents a strategic resource for facing the challenges of complexity and sustainability in health services.

This scoping review provides a solid basis for developing further research, deepening the long-term outcomes of telenursing, exploring the integration of digital skills in nursing education, and evaluating the effect of telecare models in different organizational contexts. In a constantly changing healthcare landscape, nursing telemedicine is an indispensable component, destined to profoundly influence the future of the nursing profession and care itself.

**Author Contributions:** Conceptualization, B.D. and K.N.; methodology, B.D. and K.N.; data collection, F.M., J.Ç., A.Z., and K.V.; formal analysis, F.M. and A.Z.; writing—original draft preparation, B.D., F.M., and A.Z.; writing—review and editing, B.D., K.N., and A.A.; supervision, B.D. and K.N.; project administration, B.D. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was supported by the National Agency for Scientific Research and Innovation (AKKSHI), Albania. The funder had no role in the design of the study, data collection, analysis, interpretation, or manuscript preparation.

**Institutional Review Board Statement:** Ethical review and approval were waived for this study because it is a scoping review based exclusively on previously published data and publicly available sources. No human participants were involved.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** No new data were created or analyzed in this study. Data sharing is not applicable as this article is based exclusively on previously published literature.

**Public Involvement Statement:** No public involvement in any aspect of this research.

**Guidelines and Standards Statement:** This manuscript was developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).

**Use of Artificial Intelligence:** Artificial intelligence or AI-assisted tools were not used in drafting any aspect of this manuscript.

**Acknowledgments:** The authors would like to express their sincere gratitude to Professor Ippolito Notarnicola for his scientific guidance, methodological insight, and academic mentorship throughout the development of this study.

**Conflicts of Interest:** The author declares no conflicts of interest.

## Abbreviations

The following abbreviations are used in this manuscript:

PRISMA-ScR Preferred Reporting Items for Systematic Reviews and  
Meta-Analyses Extension for Scoping Reviews  
JBI Joanna Briggs Institute  
WHO World Health Organization  
ICT Information and Communication Technologies  
AI Artificial Intelligence  
EHR Electronic Health Records  
mHealth Mobile Health  
eHealth Electronic Health  
QoL Quality of Life

## References

1. World Health Organization. *Global Strategy on Digital Health 2020–2025*. WHO Press: Geneva, 2022.
2. Shaw SE; Hughes G; Wherton J; Greenhalgh T. Telehealth adoption after COVID-19. *Soc. Sci. Med.* 2022, 298, 114808.
3. Greenhalgh T; Wherton J; Papoutsi C; et al. Digital health in the next decade. *BMJ* 2023, 380, e072601.
4. Bianchi M; Rossi S; Ferrara P. Telehealth integration in nursing: Opportunities and challenges in post-pandemic healthcare. *Int. J. Nurs. Stud.* 2022, 129, 104204.
5. Rutledge C; Gustin T; Holly C. Nursing in the virtual care era: Re-envisioning roles. *Nurs. Outlook* 2023, 71(2), 184–193.
6. Budhiraja S; Kaur A; Saran R. Reframing nursing practice through telehealth: A paradigm shift in care delivery. *Telemed. e-Health* 2023, 29(5), 761–769.
7. Chen Y; Wang Z; Li X. Effectiveness of remote nursing monitoring for chronic diseases: A rapid review. *J. Adv. Nurs.* 2022, 78(12), 4500–4513.

8. Barbosa LC; Fernandes A; Silva R. Nursing roles in telehealth: An updated overview of global practices. *J. Nurs. Scholarsh.* **2023**, 55(2), 230–239.
9. Cowan K; Weston M; Sanders C. Nursing-led telemonitoring interventions in primary care. *BMC Nurs.* **2023**, 22, 115.
10. Jones A; Richards N; O'Connor T. Virtual nursing models in community care. *Public Health Nurs.* **2023**, 40(2), 499–510.
11. Lee AYL; Wong AKC; Hung TTM; Yan J; Yang S. Nurse-led telehealth intervention for telerehabilitation among community-dwelling patients with chronic diseases: Systematic review and meta-analysis. *J. Med. Internet Res.* **2022**, 24(11), e40364.
12. Jiang X; Li H; Sun Q. Nursing teleconsultation for chronic diseases. *J. Nurs. Manag.* **2023**, 31(4), 1001–1012.
13. Mahvar T; Mashalchi H; Polarak F; et al. Effect of telenursing on quality of life, adherence to medication regimen, and readmission rate in hypertensive patients: A quasi-experimental study. *J. Nurs. Rep. Clin. Pract.* **2025**, 4(2), 74–84.
14. Snoswell CL; Chelberg G; De Guzman KR; et al. The clinical effectiveness of telehealth: A systematic review of meta-analyses from 2010 to 2019. *J. Telemed. Telecare* **2023**, 29(9), 669–684.
15. Singh R; et al. Digital health adoption and workforce transformations in nursing. *J. Nurs. Scholarsh.* **2023**, 55(1), 42–53.
16. Foley T; Vale L; McArthur K. Cost-effectiveness of telehealth nursing interventions. *Health Serv. Res.* **2022**, 57(3), 705–719.
17. Olowomeye E. Exploring interdisciplinary family medicine approaches to improve chronic disease management and patient-centered outcomes. *Int. J. Res. Publ. Rev.* **2025**, 6(5), 12378–12395.
18. Verma N; Lehmann H; Alam AA; Yazdi Y; Acharya S. Development of a digital assistant to support teleconsultations between remote physicians and frontline health workers in India: User-centered design approach. *JMIR Hum. Factors* **2023**, 10, e25361.
19. Breen R; McGarry D; O'Donnell C. Digital competence and the evolving role of nurses in telemedicine systems. *J. Clin. Nurs.* **2023**, 32(7–8), 1450–1462.
20. Park E; Lee S. Advanced digital competencies for telehealth nursing. *Nurs. Health Sci.* **2022**, 24(3), 634–642.
21. Rouleau G; Gagnon MP; Côté J. Virtual care nursing roles: An updated scoping review. *J. Med. Internet Res.* **2022**, 24(11), e40255.
22. McConnell T; Scott D; Porter S. Nursing leadership in digital care transitions. *J. Nurs. Manag.* **2023**, 31(1), 12–25.
23. Al Thobaity A; Alanazi S; Plummer V. Digital transformation and nursing leadership: Emerging competencies for virtual care environments. *Nurse Leader* **2023**, 21(4), 395–402.
24. Gajarawala SN; Pelkowski J. Telehealth benefits and barriers. *Nurse Pract.* **2021**, 46(3), 189–192.
25. Abdulkareem AK; Ishola AA; Bello ML; Adejumo A. The dark side of digitalization: Examining the impact of digital overload on job autonomy and job satisfaction. *J. Inf. Commun. Ethics Soc.* **2024**, 22(3), 354–371.
26. Ibrahim AM; Alenezi IN; Mahfouz AKH; et al. Examining patient safety protocols amidst the rise of digital health and telemedicine: Nurses' perspectives. *BMC Nurs.* **2024**, 23(1), 931.
27. Bozkus K. Organizational culture change and technology: Navigating the digital transformation. In: *Organizational Culture—Cultural Change and Technology*; IntechOpen: London, UK, **2023**. DOI: 10.5772/intechopen.112903.
28. Milani P; Sanna M; Piras S. Ethical challenges in telehealth nursing. *Nurs. Ethics* **2023**, 30(6), 1450–1465.
29. Ramaswamy A; Yu E; Mathews K. Ethical considerations in remote care delivery. *J. Med. Ethics* **2022**, 48(1), 22–28.
30. Cunningham C; Petrie K; Smith L. Nurses' experiences of delivering care through telehealth: A qualitative metasynthesis. *J. Clin. Nurs.* **2023**, 32(5), 1221–1236.
31. Duffy LV; Evans R; Bennett V; Jones R. Exploring therapeutic relational connection in virtual healthcare: Insights from nurse practitioner practice with young adults living with chronic illness. *J. Adv. Nurs.* **2025**, 81(7), 3962–3971.
32. Tricco AC; Lillie E; Zarin W; et al. PRISMA-ScR: Checklist and explanation. *Ann. Intern. Med.* **2018**, 169(7), 467–473.

33. Peters MDJ; Godfrey C; McInerney P; et al. *JBI Manual for Evidence Synthesis*. JBI, 2020.
34. Munn Z; Peters MDJ; Stern C; et al. Systematic review or scoping review? *BMC Med. Res. Methodol.* 2022, 22, 305.
35. Bashshur RL; Howell JD; Krupinski E. The empirical foundations of telemedicine interventions for chronic disease management. *Telemed. e-Health* 2020, 26(5), 305–314.
36. Arksey H; O'Malley L. Scoping studies: Towards a methodological framework. *Int. J. Soc. Res. Methodol.* 2005, 8(1), 19–32. <https://doi.org/10.1080/1364557032000119616>
37. Levac D; Colquhoun H; O'Brien KK. Scoping studies: Advancing the methodology. *Implement. Sci.* 2010, 5, 69.
38. Hançer AT; Demir P. The effect of telenursing on postoperative recovery during COVID-19. *J. Perianesth. Nurs.* 2023, 38(3), 325–333.
39. Gimenez VCA; Almeida GMF; Cyrino CMS; et al. Telenursing in the postoperative period: A scoping review. *Rev. Bras. Enferm.* 2024, 77(3), e20240066. <https://doi.org/10.1590/0034-7167-2024-0066>
40. Rahmiati C; Amir H; Wulansari I; et al. Mapping the impact of telenursing on quality and healthcare savings: A scoping review. *Salud Cienc. Tecnol.* 2025, 5, 1700. <https://doi.org/10.56294/saludcyt20251700>
41. Cilia R; Zangaglia R; Mariani C; Cereda E. IMPACT: A patient-centered telehealth model for atypical parkinsonism. *Ther. Adv. Neurol. Disord.* 2025, 18.
42. do Nascimento Mozer CA; do Carmo Gonçalves J; Rozetti CMT; de Carvalho R; Fiorin BH; Furieri LB; Fiorese M. Telenursing practice in the care of patients with surgical cancer: A scoping review. *BMJ Open* 2025, 15(7), e094399. <https://doi.org/10.1136/bmjopen-2024-094399>
43. Doimo S; Mojoli M; Cappannelli S; Zuin M; Gori M; Carigi S; Dalla Valle C; Pavan D; Di Lenarda A; Scalvini S; Temporelli PL. Telenursing in cardiology: Literature review and current scientific evidence. *G. Ital. Cardiol.* 2026, 27(1), 57–65. <https://doi.org/10.1714/4618.4627>
44. Mancini F; van Halteren AD; Carta T; et al. Personalized care management for persons with Parkinson's disease: A telenursing solution. *Clin. Parkinsonism Relat. Disord.* 2020, 3, 100070. <https://doi.org/10.1016/j.prdoa.2020.100070>
45. Aspas Sebastià N; Navarro Martínez O. Telenursing as a tool in emergencies and disasters: A systematic review. *Int. Emerg. Nurs.* 2024, 75, 101478. <https://doi.org/10.1016/j.ienj.2024.101478>
46. Toffoletto MC; Ahumada Tello JD. Telenursing in care, education and management in Latin America and the Caribbean: An integrative review. *Rev. Bras. Enferm.* 2020, 73, e20190317. <https://doi.org/10.1590/0034-7167-2019-0317>
47. Meunier-Sham J; Preiss RM; Petricone R; Re C; Gillen L. Laying the foundation for the National TeleNursing Center: Integration of the Quality-Caring Model into TeleSANE practice. *J. Forensic Nurs.* 2019, 15(3), 143–151. <https://doi.org/10.1097/JFN.0000000000000252>
48. Kim YM; Min A; Hong HC. The effectiveness of telenursing interventions on patient outcomes for colorectal cancer patients: A systematic review and meta-analysis. *Semin. Oncol. Nurs.* 2023, 39(3), 151406. <https://doi.org/10.1016/j.soncn.2023.151406>
49. Komariah M; Maulana S; Platini H; Pahria T. A scoping review of telenursing's potential as a nursing care delivery model in lung cancer during the COVID-19 pandemic. *J. Multidiscip. Healthc.* 2021, 14, 3083–3092. <https://doi.org/10.2147/JMDH.S337732>
50. Akbari Rad M; Nejadhosseini M; Khoshsima Moshir E; Kazemnejad Leyli E. The effect of telenursing on management of type 2 diabetes: A narrative review. *J. Diabetes Metab. Disord.* 2023. <https://doi.org/10.1007/s40200-023-01101-7>
51. Esmaeilpour-BandBoni M; Gholami-Shilsar F; Khanaki K. The effects of telephone-based telenursing on glycated hemoglobin among older adults with type 2 diabetes mellitus: A randomized controlled trial. *J. Nurse Pract.* 2021, 17(3), 305–309. <https://doi.org/10.1016/j.nurpra.2020.09.015>
52. Ali-Saleh O; Massalha L; Halperin O. Evaluation of a simulation program for providing telenursing training to nursing students: Cohort study. *JMIR Med. Educ.* 2025, 11, e67804. <https://doi.org/10.2196/67804>
53. Bruce CR; Klahn S; Randle L; Li X; Sayali K; Johnson B; Gomez M; Howard M; Schwartz R; Sasangohar F. Impacts of an acute care telenursing program on discharge, patient experience, and nursing experience:

- Retrospective cohort comparison study. *J. Med. Internet Res.* **2024**, 26(1), e54330. <https://doi.org/10.2196/54330>
54. Gidora H; Borycki EM; Kushniruk AW. Effects of telenursing triage and advice on healthcare costs and resource use. *Stud. Health Technol. Inform.* **2019**, 257, 133–139. <https://doi.org/10.3233/978-1-61499-951-5-133>
  55. Lo Monaco M; Profeta A; Corrao S. Telenursing as an effective ally for improving patient outcomes in diabetes? An umbrella review. *Nurs. Open* **2025**, 12(7), e70265. <https://doi.org/10.1002/nop2.70265>
  56. Sarik DA; Matsuda Y; Terrell EA; Sotolongo E; Hernandez M; Tena F; Lee J. A telehealth nursing intervention to improve the transition from the neonatal intensive care unit to home for infants and caregivers: Preliminary evaluation. *J. Pediatr. Nurs.* **2022**, 67, 139–147. <https://doi.org/10.1016/j.pedn.2022.09.003>
  57. Shahrokhi A; Azimian J; Amouzegar A; Oveisi S. Effect of telenursing on outcomes of provided care by caregivers of patients with head trauma after discharge. *J. Trauma Nurs.* **2018**, 25(1), 21–25. <https://doi.org/10.1097/JTN.0000000000000338>
  58. de Souza VD; Mendes IAC; Mazzo A; de Godoy S; dos Santos CA. Telenursing intervention for clean intermittent urinary catheterization patients: A pilot study. *Comput. Inform. Nurs.* **2017**, 35(12), 653–660. <https://doi.org/10.1097/CIN.0000000000000370>
  59. Smith TS; Watts P; Moss JA. Using simulation to teach telehealth nursing competencies. *J. Nurs. Educ.* **2018**, 57(10), 624–627. <https://doi.org/10.3928/01484834-20180921-10>
  60. Amir H; Hidayah N; Istiqomah I; Rahmiati C; Dewi Rahayu C; Padhila NI; Dwi Cahyani D. Telenursing practice for independence and economic value: A scoping review protocol. *Salud Cienc. Technol.* **2025**, 5, 1405. <https://doi.org/10.56294/saludcyt20251405>
  61. Weaver K; Wozniak M; Hatcher J. Telehealth nursing support for oncology patients. *Cancer Nurs.* **2021**, 44(6), E306–E317.
  62. Culligan M; Friedberg J; Black L; et al. TeleNursing: A thoracic surgery nursing initiative aimed at decreasing hospital readmissions and increasing patient satisfaction. *J. Thorac. Oncol.* **2017**, 12, S1097–S1098. <https://doi.org/10.1016/j.jtho.2016.11.1534>
  63. Sebastià NA; Martínez ON. Telenursing as a tool in emergencies and disasters: A systematic review. *Int. Emerg. Nurs.* **2024**, 75, 101478. <https://doi.org/10.1016/j.ienj.2024.101478>

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