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Corresponding author



Pedro Leite de Melo Filho

E-mail:
pedro.filho@unicesumar.edu.br

Innovations in nursing care in Primary Health Care: Integration of telenursing

Inovações no cuidado de enfermagem na Atenção Primária em Saúde: inserção da telenfermagem

Innovaciones en el cuidado de enfermería en la Atención Primaria de Salud: Integración de la telenfermería

Nathalia Racovski Ferreira ¹ ORCID: 0009-0009-4755-6480

Pedro Otávio Flores Santana ¹ ORCID: 0009-0006-1001-9663

Suellen Cristina da Silva Chaves ¹ ORCID: 0000-0003-3234-9752

Pedro Leite de Melo Filho ¹ ORCID: 0000-0002-0102-5619

¹ Universidade Cesumar, Departamento de Enfermagem. Curitiba, Paraná, Brazil.

ABSTRACT

Objective: To identify the contributions of telenursing to nursing care in Primary Health Care. **Methods:** An integrative review conducted in six stages, carried out between January and November 2024. The studies selected for this review were retrieved from the PubMed, LILACS, MedLine, WPRIM, and UNISALUD databases. The inclusion criterion was guided by the research question structured using the PICO acronym: What are the contributions of telenursing to nursing care in Primary Health Care? A total of 46 articles composed the final sample of this review. **Results:** Of these, 39 (84.78%) were published in PubMed, 3 (6.52%) in LILACS, 2 (4.35%) in MedLine, 1 (2.17%) in WPRIM, and 1 (2.17%) in UNISALUD. Regarding geographical distribution, 15 (32.61%) studies were from Latin America, 15 (32.61%) from Asia, 10 (21.74%) from Europe, and 6 (13.4%) from North America. **Final considerations:** The main contributions of telenursing to nursing care in Primary Health Care include financial benefits, convenience, comfort, and closer patient-provider interaction. Additionally, telenursing facilitates continuity of care, enabling more consistent and efficient follow-up. **Descriptors:** Primary Health Care; Nursing Care; Telenursing; Continuity of Patient Care; Digital Health.

RESUMO

Objetivo: Identificar as contribuições da telenfermagem para o cuidado de enfermagem na atenção primária à saúde. **Métodos:** Revisão integrativa conduzida em seis etapas, realizada entre janeiro a novembro de 2024. Os estudos selecionados para esta revisão foram recuperados nas bases de dados PubMed, LILACS, MedLine, WPRIM, UNISALUD. O critério de inclusão foi mediado pela pergunta norteadora, estruturada a partir do acrônimo PICO: Quais as contribuições da telenfermagem para o cuidado de enfermagem na APS? 46 artigos compuseram a amostra final desta revisão. **Resultados:** Dos quais 39 (84,78%) estão publicados na PubMed, 3 (6,52%) na LILACS, 2 (4,35%) na MedLine, 1 (2,17%) na WPRIM e 1 (2,17%) na

UNISALUD. 15 (32,61%) estudos são da América Latina, 15 (32,61%) da Ásia, 10 (21,74%) da Europa e 6 (13,4%) da América do Norte. **Considerações finais:** As principais contribuições da telenfermagem para o cuidado de enfermagem na Atenção Primária em Saúde incluem benefícios financeiros, conveniência, conforto e proximidade no atendimento. Além disso, a telenfermagem facilita a continuidade do cuidado de enfermagem, proporcionando um acompanhamento mais consistente e eficiente.

Descritores: Atenção primária à saúde; Cuidados de enfermagem; Telenfermagem; Continuidade da assistência ao paciente; Saúde digital.

RESUMEN

Objetivo: Identificar las contribuciones de la telenfermería al cuidado de enfermería en la Atención Primaria de Salud. **Métodos:** Revisión integradora realizada en seis etapas, llevada a cabo entre enero y noviembre de 2024. Los estudios seleccionados para esta revisión fueron recuperados de las bases de datos PubMed, LILACS, MedLine, WPRIM y UNISALUD. El criterio de inclusión estuvo guiado por la pregunta de investigación estructurada a partir del acrónimo PICO: ¿Cuáles son las contribuciones de la telenfermería al cuidado de enfermería en la Atención Primaria de Salud? Un total de 46 artículos conformaron la muestra final de esta revisión. **Resultados:** De estos, 39 (84,78%) fueron publicados en PubMed, 3 (6,52%) en LILACS, 2 (4,35%) en MedLine, 1 (2,17%) en WPRIM y 1 (2,17%) en UNISALUD. En cuanto a la distribución geográfica, 15 (32,61%) estudios fueron de América Latina, 15 (32,61%) de Asia, 10 (21,74%) de Europa y 6 (13,4%) de América del Norte. **Consideraciones finales:** Las principales contribuciones de la telenfermería al cuidado de enfermería en la Atención Primaria de Salud incluyen beneficios financieros, conveniencia, confort y una mayor proximidad en la atención entre paciente y profesional. Además, la telenfermería facilita la continuidad del cuidado, proporcionando un seguimiento más consistente y eficiente.

Descriptores: Atención Primaria de Salud; Atención de Enfermería; Telenfermería; Continuidad de la Atención al Paciente; Salud Digital.

INTRODUCTION

Nursing care is an essential practice in Primary Health Care (PHC), understood in this study as the organizing level of the Health Care Network, responsible for longitudinal care, care coordination, and the comprehensiveness of actions, centered on the patient and always focused on the triad of physical, mental, and emotional well-being. This care involves a holistic assessment of the patient, establishing individualized care plans and implementing therapeutic interventions. Nursing professionals play a fundamental role in this process, offering direct care, educating individuals about health and disease prevention, and collaborating with other health professionals to ensure continuity of care and a comprehensive and effective approach⁽¹⁾.

Over the years, nursing has evolved significantly, moving from a secondary position to a prominent position in the provision of health care and science, thanks to the work of great figures such as Florence Nightingale. There have been advances in training, practices, and research that have transformed the profession. And today, nurses play an independent and proactive role in patient care. Especially in the context of primary health care (PHC), this approach reinforces the longitudinal link and coordination of care. Furthermore, changes in health policies and societal demands have contributed to the expansion of the nursing field, creating new opportunities and challenges⁽²⁾.

However, health professionals face several challenges when serving the population in PHC, including high workloads, lack of resources, various communication barriers, and socioeconomic disparities. These difficulties can affect the quality and effectiveness of care provided, highlighting the need for innovative approaches to improve access, coordination, and continuity of health care⁽³⁾.

It is also evident that population growth and the concentration of people in large urban centers are global trends associated with an increase in chronic diseases and a greater demand for health services. This increased demand can overwhelm urban health systems, leading to overcrowding in health centers and hospitals, reinforcing the need for strategies that strengthen primary health care as the organizing axis of continuous care, and highlighting the need for innovative strategies to meet the needs of a growing population⁽⁴⁾.

Furthermore, with the arrival of the Coronavirus (COVID-19) pandemic, new and challenging obstacles to improving healthcare have emerged, including the implementation of telenursing. This modality allows nurses to provide remote care, using Digital Information and Communication Technologies (DICT) to assess patients, providing guidance and monitoring health remotely, thus avoiding the exposure of both the patient and the professional to risk factors. Therefore, telenursing offers significant benefits, such as greater accessibility, convenience, and efficiency of health services⁽⁵⁾.

Resolution No. 696/2022 of the Federal Nursing Council (COFEN) regulates the practice of nursing in digital health within the scope of the Unified Health System (SUS), as well as in supplementary and private health, according to the attached technical standard, which from this resolution onwards is called telenursing; furthermore, the practice of telenursing encompasses nursing consultation, interconsultation, consultancy, monitoring, health education and reception of spontaneous demand mediated by ICTs; thus, this regulation aims to guarantee the quality and safety of care, expanding access to health services⁽⁶⁾.

Digital health is the use of ICTs to improve health and the provision of health services; therefore, it includes telemedicine, telenursing, electronic health records, health applications, artificial intelligence, wearable devices and data analysis. These tools allow for remote consultation and monitoring, digital storage and sharing of patient data, and the use of algorithms for diagnoses and treatment personalization. In this sense, digital health strengthens the continuity of care and the role of nursing in primary health care, thus aiming to increase the efficiency of health systems, improve access to care, and promote a preventive and patient-centered approach⁽⁷⁾.

OBJECTIVE

To identify the contribution of telenursing to nursing care in primary health care.

METHODS

For the integrative review, a systematized methodological procedure was adopted for the search, selection, and analysis of scientific studies relevant to the topic. The process was conducted in six stages, as recommended in the specialized literature⁽⁸⁾.

First stage: the guiding question of the review was formulated: "What are the contributions of telenursing to nursing care in Primary Health Care (PHC)?" For its construction, the PICO strategy was used, defining: (P) population – users of telenursing, encompassing both those who make and those who receive the contact; (I) intervention – telenursing practices within the scope of PHC; (C) comparator – not applicable; and (O) outcome – contributions of telenursing to care in PHC.

Second stage: A systematic search was conducted in the electronic databases—Latin American and Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MedLine), PubMed, Universidad Nacional de Colombia (UNISALUD), and the Western Pacific Region Index Medicus (WPRIM). Controlled descriptors from the Health Sciences Descriptors (DeCS) were used: "Primary Health Care", "Telenursing", "Nursing

Care”, “Continuity of Patient Care”, and “Digital Health”. Inclusion criteria were: primary studies published in the last five years, available in Portuguese, English, or Spanish. Articles published more than five years ago, letters to the editor, simple or extended abstracts, and studies in other languages were excluded.

Third stage: 149 studies were initially identified. After screening the titles and abstracts, the potentially eligible articles were read in full, resulting in the selection of 46 studies for data extraction and critical appraisal.

Fourth stage: a descriptive and analytical synthesis of the 46 selected studies was carried out to identify patterns of evidence, relevant contributions, and gaps in knowledge.

Fifth stage: the findings were discussed in light of the guiding question, verifying the consistency of the results with the objectives of the review, which allowed the integration of the selected studies.

Sixth stage: the final stage of presenting the integrative review was developed, answering the proposed question and highlighting the contributions of telenursing to nursing care in primary health care.

To clarify the selection of material for the construction of this study, a flowchart was organized based on the framework proposed by Galvão; Pansani⁽⁹⁾ as shown in Figure 1.

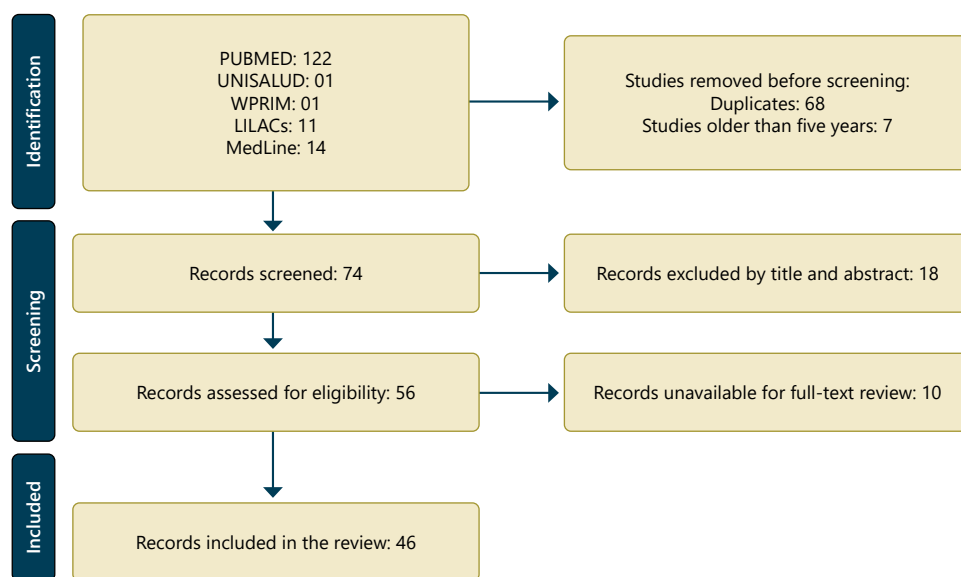


Figure 1. Flowchart detailing the screening of studies. Curitiba, PR, Brazil, 2025.

RESULTS

Forty-six studies were selected. Of these, 39 (84.78%) are published in PubMed, 3 (6.52%) in LILACS, 2 (4.35%) in MedLine, 1 (2.17%) in WPRIM, and 1 (2.17%) in UNISALUD. 15 (32.61%) studies are from Latin America, 15 (32.61%) from Asia, 10 (21.74%) from Europe, and 6 (13.4%) from North America. Table 1 characterizes the studies included in this review, regarding title, authors, and year.

Based on the collected data, it is possible to analyze the main contributions of telenursing to Primary Health Care, as shown in Chart 2.

Chart 1. Characterization of the studies that comprised the integrative review. Curitiba, PR, Brazil, 2025.

Number	Title	Authors/year
01	Telenfermagem a Pacientes com Úlceras Venosas: Orientações Fornecidas e Desfecho do Monitoramento Remoto	Santos JC dos et al (2023) ⁽¹⁰⁾
02	Validação de um protocolo de teleconsulta pré-operatória de enfermagem em hernioplastia e colecistectomia	Bandeira TM, Barros NKRO de, Santana RF, Rocha G da S, Carmo TGD (2023) ⁽¹¹⁾
03	<i>Telenursing: A viable nursing response to the COVID-19 pandemic</i>	Jerick BT, Paul-Froilan UG, Leona-Paula LM (2021) ⁽¹²⁾
04	<i>Evaluación y seguimiento de tele - cuidados en pacientes pediátricos del servicio de oncología</i>	Cazón A, Flores L, Maldonado M, Rodriguez E (2020) ⁽¹³⁾
05	Atuação da enfermagem em trabalho remoto no contexto da pandemia COVID-19	Scarcella MFS, Lago PND (2020) ⁽¹⁴⁾
06	<i>Telenurses experiences of monitoring calls to parents of children with gastroenteritis.</i>	Sandelius S, Wahlberg AC (2020) ⁽¹⁵⁾
07	<i>The influence of an eHealth intervention for adults with type 2 diabetes on the patient-nurse relationship: a qualitative study.</i>	Lie SS, Karlsen B, Graue M, Oftedal B (2019) ⁽¹⁶⁾
08	Efeito da Tele-enfermagem no Processo Adaptativo de Pessoas Com Estomia Intestinal: Ensaio Clínico	Freitas LS, Silva IP da, Sena JF de, Lorena Brito do, Silva BWAC da, Diniz IV et al (2023) ⁽¹⁷⁾
09	<i>The impact of telenursing on level of depression, stress and anxiety in discharged patients after coronary artery bypass graft surgery: A randomized clinical trial.</i>	Bikmoradi A, Omidvar S, Roshanaei G, Khatiban M, Harorani M (2023) ⁽¹⁸⁾
10	<i>Telenursing needs and influencing factors in patients with type 2 diabetes mellitus: A cross-sectional study.</i>	Zhou J, Dang W, Luo Z, Fan X, Shi H, Deng N et al (2023) ⁽¹⁹⁾
11	<i>Effect of Telenursing on the Quality of Life of Caregivers of Older Patients with Stroke.</i>	Mohammadi F, Ardalan HB, Dehghankar L, Motalebi AS (2023) ⁽²⁰⁾
12	<i>The effect of telenursing education of self-care on health-promoting behaviors in patients with multiple sclerosis during the COVID-19 pandemic: A clinical trial study.</i>	Dehghani A, Pourfarid Y, Hojat M (2023) ⁽²¹⁾
13	<i>Psychometric evaluation of the Telenursing Interaction and Satisfaction Scale.</i>	Mattisson M, Börjeson S, Lindberg M, Restedt K (2023) ⁽²²⁾
14	<i>Telenursing in the sexual function of women with breast cancer: A study protocol.</i>	Silva Ferreira I, Carvalho Fernandes AF, Moura Barbosa Castro RC, Rodrigues Bezerra A, Velasco Yanez RJ (2022) ⁽²³⁾
15	<i>Demand analysis of telenursing among empty-nest elderly individuals with chronic diseases based on the Kano model.</i>	Yuan Y, Tao C, Yu P, Wang Y, Kitayama A, Takashi E, et al (2022) ⁽²⁴⁾
16	<i>Escucha activa: base de la relación terapéutica con persona mayor por teleenfermería en contexto pandémico</i>	Albornoz SC, Bascuñán JV, Luna MC, Miranda DG, Muñoz CJ, Ponce ÁG (2022) ⁽²⁵⁾
17	<i>Estudio de caso: Adulto Mayor sedentario en contexto de pandemia a través de teleenfermería</i>	Cornejo SM, Pavez PMJ, Riquelme VR, Tapia RE (2022) ⁽²⁶⁾
18	<i>Logical model of telenursing program of a high complexity oncology care center.</i>	Mendes C de SS, Souza PR de, Rabelo A, Silva AM da, Silva MR da, Santos DV dos et al (2022) ⁽²⁷⁾
19	<i>Evaluating the effects of telenursing on patients activities of daily living and instrumental activities of daily living after myocardial infarction: A randomized controlled trial study.</i>	Sefidi N, Assarroudi A, Zandi Z, Malkemes SJ, Rakhshani MH, Abbaszade A et al (2022) ⁽²⁸⁾

To be continued

Chart 1 (concluded)

Number	Title	Authors/year
20	<i>Providing telenursing care for victims: a simulated study for introducing of possibility nursing interventions in disasters.</i>	Nejadshafiee M, Nekoei-Moghadam M, Bahaadinbeigy K, Khankeh H, Sheikhbardsiri H (2022) ⁽²⁹⁾
21	<i>Comparison of the effectiveness of home visits and telephone follow-up on the self-efficacy of patients having undergone coronary artery bypass graft surgery (CABG) and the burden of their family caregivers: A randomized controlled trial</i>	Gohari F, Hasanvand S, Gholami M, Heydari H, Baharvand P, Almasian M (2022) ⁽³⁰⁾
22	<i>The effect of telenursing training based on family-centered empowerment pattern on compliance with diet regimen in patients with diabetes mellitus type 2: a randomized clinical trial.</i>	Shahabi N, Kolivand M, Salari N, Abbasi P (2022) ⁽³¹⁾
23	<i>Patients experiences of telenursing follow-up care after bariatric surgery.</i>	Arnaert A, Girard A, Craciunas S, Shang Z, Ahmad H, Debe Z et al (2021) ⁽³²⁾
24	<i>National Estimates of Workplace Telehealth Use Among Emergency Nurses and All Registered Nurses in the United States.</i>	Castner J, Bell SA, Hetland B, Der-Martirosian C, Castner M, Joshi AU (2022) ⁽³³⁾
25	<i>Teleconsultation as an advanced practice nursing during the COVID-19 pandemic based on Roy and Chick-Meleis</i>	Rodrigues MA, Hercules ABS, Gnatta JR, Coelho JC, Mota ANB, Pierin AMG et al (2022) ⁽³⁴⁾
26	<i>Teleconsulta no serviço de atenção domiciliar na pandemia da COVID-19: estudo transversal</i>	Rodrigues MA, Santana RF, Hercules ABS, Bela JC, Rodrigues JN (2021) ⁽³⁵⁾
27	<i>Developing the First Telenursing Service for COVID-19 Patients: The Experience of South Korea.</i>	Heo H, Lee K, Jung E, Lee H (2021) ⁽³⁶⁾
28	<i>The Effectiveness of Telenursing for Self-Management Education on Cardiometabolic Conditions: A Pilot Project on a Remote Island of Osakikamijima, Japan.</i>	Moriyama M, Kazawa K, Jahan Y, Ikeda M, Mizukawa M, Fukuoka Y et al (2021) ⁽³⁷⁾
29	<i>The Implementation of the Sexual Assault Forensic Examination Telehealth Center: A Program Evaluation.</i>	Miyamoto S, Thiede E, Wright EN, Berish D, Perkins DF, Bittner C et al (2021) ⁽³⁸⁾
30	<i>Iranian Clinical Nurses and Midwives Attitudes and Awareness Towards Telenursing and Telehealth: A cross-sectional study.</i>	Ranjbar H, Bakhshi M, Mahdizadeh F, Glinkowski W (2021) ⁽³⁹⁾
31	<i>Developing a nursing protocol for the remote verification of an expected death.</i>	Ohashi Y, Ozaki A, Kawamura S, Nishida Y, Hirabayashi K (2021) ⁽⁴⁰⁾
32	<i>Telenfermagem na COVID-19 e saúde materna: WhatsApp® como ferramenta de apoio</i>	Oliveira SC de, Costa DG de L, Cintra AM de A, Freitas MP de, Jordão CDN, Barros JFS et al (2021) ⁽⁴¹⁾
33	<i>Telemedicine for parkinsonism: A two-step model based on the COVID-19 experience in Milan, Italy.</i>	Cilia R, Mancini F, Bloem BR, Eleopra R (2020) ⁽⁴²⁾
34	<i>Telenurses experiences of interaction with patients and family members: nurse-caller interaction via telephone.</i>	Yliluoma P, Palonen M (2020) ⁽⁴³⁾
35	<i>Effect of Telenursing and Face-to-Face Training Techniques on Quality of Life in Burn Patients: A Clinical Trial.</i>	Rezaei M, Jalali R, Heydarikhayat N, Salari N (2020) ⁽⁴⁴⁾
36	<i>Central de telecuidado: perspectiva de intervenção de enfermagem</i>	Machado TMD, Santana RF, Hercules ABS (2020) ⁽⁴⁵⁾
37	<i>Virtual Nursing: The New Reality in Quality Care.</i>	Schuelke S, Aurit S, Connot N, Denney S (2019) ⁽⁴⁶⁾
38	<i>Development and content validation of the Telenursing Interaction and Satisfaction Questionnaire (TISQ).</i>	Mattisson M, Johnson C, Börjeson S, Restedt K, Lindberg M (2019) ⁽⁴⁷⁾

To be continued

Chart 1 (concluded)

Number	Title	Authors/year
39	<i>Using Telehealth for Sexual Assault Forensic Examinations: A Process Evaluation of a National Pilot Project.</i>	Walsh WA, Meunier-Sham J, Re C (2019) ⁽⁴⁸⁾
40	<i>Swedish Healthcare Direct managers views on gender (in)equity: applying a conceptual model.</i>	Kaminsky E, Höglund AT (2019) ⁽⁴⁹⁾
41	<i>Giving advice to callers with mental illness: adaptation among telenurses at Swedish Healthcare Direct.</i>	Björkman A, Salzmänn-Erikson M (2019) ⁽⁵⁰⁾
42	<i>Describing Telenurses Decision Making Using Clinical Decision Support: Influential Factors Identified.</i>	Tuden DS, Borycki EM, Kushniruk AW (2019) ⁽⁵¹⁾
43	<i>Telecuidado: uma estratégia para o autocuidado e qualidade de vida dos idosos com insuficiência cardíaca</i>	Guerreiro MAR de J (2019) ⁽⁵²⁾
44	<i>Family-centred empowerment using telenursing on pressure injury incidence in post-discharge stroke patients.</i>	Fashaei F, Deldar K, Froutan R, Mazlom SR (2024) ⁽⁵³⁾
45	<i>Teleenfermería en salud mental: efecto sobre los síntomas de ansiedad y el consumo de alcohol durante la pandemia de COVID-19.</i>	Vargas D de, Ramírez EGL, Pereira CF, Oliveira SR de (2023) ⁽⁵⁴⁾
46	<i>Role of interaction for caller satisfaction in telenursing-A cross-sectional survey study.</i>	Mattisson M, Börjeson S, Restedt K, Lindberg M (2023) ⁽⁵⁵⁾

Chart 2. Summary of studies included in the integrative review. Curitiba, PR, Brazil, 2025.

Analysis axis	Summary of studies (n=46)
Year of publication	Between 2020–2023, peaking in 2022–2023 (COVID-19 pandemic)
Location	Studies conducted in Latin America (Brazil, Mexico, Chile, Colombia, Argentina), Europe (Sweden, Norway, Italy), Asia (Iran, China, Japan, South Korea), and North America (USA, Canada)..
Target population	Adults with chronic diseases (diabetes, ostomies, heart failure, multiple sclerosis), surgical patients (bariatric, cardiac, oncological), the elderly and caregivers, pediatric oncology patients, women (breast cancer, maternal health), as well as nursing professionals.
Type of study	Predominance of randomized controlled trials (RCTs) and descriptive/qualitative studies; also methodological studies validating protocols and instruments.
Main interventions	Teleconsultations, telemonitoring, remote counseling, self-care education, and the use of digital platforms (WhatsApp, apps, phone calls, video conferencing).
Key results	- Improvement in clinical and psychological indicators (reduction of anxiety, stress, depression; better adherence to treatment; greater adaptation to the disease). - Support for caregivers (increased quality of life and self-efficacy). - Expanded access in remote areas and in pandemic/disaster situations. - High satisfaction of patients and professionals. - Challenges: technological barriers, need for protocols and professional training.
Tendencies	- Expansion of telenursing in different care contexts. - Growing scientific production post-COVID-19. - Emphasis on digital technologies as a complementary and safe strategy for nursing care.

DISCUSSION

The 46 studies included in this integrative review highlight the wide diversity of contexts, populations, and areas of application of telenursing, ranging from women, the elderly, children, and people with chronic diseases to victims of violence and patients in postoperative follow-up ^(1–46). This heterogeneity demonstrates the versatility of telenursing as a

care strategy, especially in situations where communication, clinical monitoring, and health education can be carried out remotely. Consistently, the studies pointed to improvements in nurse-patient communication, strengthening of the therapeutic bond, user satisfaction, and adherence to guidelines, supported by empirical evidence in different methodological designs^(1-16, 18-23, 28, 35, 44-46).

Telenursing is configured as an expanding field in the scientific and care context, with applications in multiple specialties and levels of care. The findings indicate that this modality allows for the provision of qualified care with optimized resources, without compromising the quality of care, especially when based on appropriate protocols and technologies⁽³⁶⁻³⁹⁾. Furthermore, studies addressing user interaction and satisfaction highlighted the importance of developing communication skills, empathy, and active listening on the part of professionals, even in virtual environments^(13, 16, 22, 25, 34, 38, 46).

In the context of primary health care, telenursing has proven particularly promising. Some studies developed at this level of care emphasized non-invasive interventions focused on health education, self-care literacy, longitudinal follow-up, and monitoring of chronic conditions^(7, 10, 15, 28, 43, 44, 54). These findings reinforce the potential of telenursing to support health surveillance, the collection of epidemiological data, and continuity of care, as well as to reduce absences, treatment abandonment, and geographical barriers to accessing services⁽⁵⁴⁾.

However, the analysis of the studies also revealed limitations related to digital inequalities. Research reported difficulties accessing the internet, unstable connections, low familiarity with digital technologies, and cultural and linguistic barriers, especially in socially vulnerable populations or those residing in remote areas^(24, 30, 33). These findings support the understanding of digital inequality as a social determinant of digital health, capable of restricting the reach and effectiveness of telenursing interventions, demanding public policies that promote equity in access to technologies and user training.

The COVID-19 pandemic represented a milestone for the expansion of the use of telenursing. Studies conducted during this period demonstrated that the need for social distancing, the overload of health services, and the reduced availability of professionals boosted the adoption of remote care as a strategy to ensure continuity of care⁽³³⁻³⁷⁾. After the pandemic, the results indicate that telenursing remains relevant, especially because it allows for home monitoring, reduces unnecessary exposure to potentially contaminated environments, and maintains clinical outcomes similar to those of in-person care in specific situations⁽³⁴⁾.

Regarding economic aspects, studies do not support the notion of "significantly higher profit," but point to reduced operational costs, optimization of human resources, decreased travel, and greater organizational efficiency^(12, 28, 35). These elements suggest the cost-effectiveness potential of telenursing, especially when integrated into hybrid care models. Although face-to-face care has advantages related to physical contact and nonverbal communication, the findings indicate that telenursing, when well structured, can complement or replace face-to-face care in several clinical situations, without compromising the quality of care⁽¹²⁾.

Primary Health Care Units (PHCUs) emerge as strategic settings for the implementation of telenursing, given the multiplicity of demands related to guidance, triage, follow-up, and health education. Studies indicate that expanding communication channels favors closer relationships between users and services, reduces unnecessary travel, and increases patient satisfaction^(37, 43, 54). Furthermore, the possibility of remote work for nurses has been associated with reduced workload, less exposure to occupational risks, and improved professional quality of life, provided it is accompanied by adequate organization of the work process⁽³⁷⁾.

In general, studies that analyzed the remote follow-up of patients after clinical or surgical interventions indicated good acceptance of telenursing, associated with greater comfort, ease of access to care, and maintenance of the link with health services^(32, 53). This strategy proved

especially relevant for individuals with temporary functional limitations or residing in locations far from healthcare centers, by reducing unnecessary travel and promoting continuity of care. These findings reinforce the potential of telenursing as a complementary tool to in-person care, contributing to the reduction of follow-up abandonment and the organization of more accessible and effective care models.

Limitations of the study

Despite selecting 46 studies, only the most relevant variables were described in a table, which may restrict the visibility of all the evidence. Furthermore, even encompassing several databases, there may have been a loss of articles that are not indexed or published in other languages.

Contributions to the Fields of Nursing, Health, or Public Policy

The contributions of telenursing to Nursing, Health, and Public Policy are manifested in an integrated way in professional practice, service management, and nurse training. In the care context, this modality expands the possibilities of care, favors continuous monitoring, health education, and the strengthening of the therapeutic bond, especially in vulnerable contexts, hard-to-reach regions, and situations of health crisis.

From a management and public policy perspective, telenursing has the potential to expand access to services, support primary health care, optimize resources, and contribute to continuity of care, provided it is accompanied by investments in digital infrastructure and strategies aimed at reducing inequalities in access. In the field of training and continuing education, the findings highlight the need for continuous training of nurses for the ethical and safe use of ICTs, the development of communication skills, and clinical decision-making in remote settings.

FINAL CONSIDERATIONS

The review highlighted the relevance of telenursing as an effective strategy for primary health care, emphasizing its reliability, transparency, and absence of conflicts of interest in the analyzed studies. It was found that, in specific contexts and for certain outcomes—such as clinical follow-up, health education, monitoring, and support for self-care, the quality of remote care proved comparable to that of in-person care, especially when supported by structured protocols and appropriate technologies. Furthermore, telenursing demonstrated potential for reducing operational costs and optimizing resources, representing a significant contribution of this modality. Another central aspect identified was the strengthening of continuity of care, often weakened in exclusively in-person models, particularly in populations residing in remote areas or with barriers to access to health services.

It was found that the effectiveness of telenursing depends directly on the quality of the digital platforms used and the ongoing training of nursing professionals, factors that directly impact user satisfaction and the comprehensiveness of the care offered.

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