

# Contributions of Advanced Practice Nursing to Primary Health Care: A Scoping Review

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**Theme:** Evidence-based practice.

**Contributions to the subject:** This study identifies advanced practice nursing as a healthcare model aiming to corroborate clinical practices. In light of the scientific developments and breakthroughs in the profession, the spread of advanced practice becomes a challenge for the nursing class based on the profession's ethical, scientific, and political values. In this sense, it expands the discussion to the field of primary care to qualify and subsidize the measures provided at this level of care, in addition to being a starting point for new research on the subject.

## Abstract

**Objective:** To map the contributions and strategies to implement advanced practice nursing in primary health care. **Materials and methods:** This scoping review was carried out following the guidelines of the Joanna Briggs Institute in six databases, namely: LILACS, MEDLINE, WoS, Embase, CINAHL, and Scopus, in addition to a bibliographic repository. A total of 3,076 studies were found, from which 12 were selected. **Results:** The contributions mentioned by the studies regarding advanced practice nursing were divided into three subcategories, as follows: care, educational or management, and preventive practices. They concern autonomy, specialized clinical skills, therapeutic counseling, and patient-centered interaction. Some strategies to implement advanced practice are related to continuing education, practice management, self-care, and disease management. **Conclusions:** There is a need to improve strategies for advanced practice nursing, especially in primary care, to address gaps in specialized care, the development of indicators, and therapeutic objectives.

### **Keywords (Source: DeCS)**

Nursing; nurse practitioners; advanced practice nursing; nursing specialties; primary health care.

## 4 Aportes de la enfermería de práctica avanzada a la atención primaria de salud: revisión de alcance

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### Resumen

**Objetivo:** mapear los aportes y las estrategias para implementar la enfermería de práctica avanzada en la atención primaria de salud. **Materiales y método:** se trata de una revisión de alcance, realizada conforme a las recomendaciones del Instituto Joanna Briggs en seis bases de datos: LILACS, MEDLINE, WoS, Embase, CINAHL y Scopus, además de un repositorio bibliográfico. Se encontraron 3076 estudios, de los cuales se seleccionaron 12. **Resultados:** los aportes enumerados en los estudios respecto a la enfermería de práctica avanzada se dividieron en tres subcategorías: prácticas asistenciales, educativas o de gestión y preventivas, las cuales versan sobre la autonomía, las habilidades clínicas especializadas, el asesoramiento terapéutico y la interacción centrada en el paciente. Algunas estrategias para implementar la práctica avanzada se relacionan con la educación continua, la gestión de la práctica, el autocuidado y la gestión de enfermedades. **Conclusiones:** se observa la necesidad de perfeccionar estrategias direccionadas a la enfermería de práctica avanzada, en especial en el marco de la atención primaria, con el fin de cerrar brechas en atención especializada, formulación de indicadores y metas terapéuticas.

#### Palabras clave (Fuente: DeCS)

Enfermería; profesionales de enfermería; enfermería de práctica avanzada; especialidades de enfermería; atención primaria de salud.

# Contribuições das práticas avançadas de enfermagem na atenção primária à saúde: *scoping review*

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## Resumo

**Objetivo:** mapear as contribuições e as estratégias para implementar as práticas avançadas de enfermagem na atenção primária a saúde. **Materiais e método:** trata-se de uma *scoping review*, realizada conforme as recomendações do Instituto Joanna Briggs, em seis bases de dados: Lilacs, Medline, WoS, Embase, Cinahl e Scopus, além de um repositório bibliográfico. Foram encontrados 3076 estudos, dos quais 12 foram selecionados. **Resultados:** as contribuições apontadas pelos estudos a respeito da prática avançada de enfermagem foram divididas em três subcategorias: práticas assistenciais, educativas ou de gestão e preventivas. Elas versam sobre autonomia, habilidades clínicas especializadas, aconselhamento terapêutico e interação centrada no paciente. Algumas estratégias para efetivar práticas avançadas relacionam-se à educação continuada, à gestão da clínica, ao autocuidado e ao manejo de doenças. **Conclusões:** diante do exposto, observa-se a necessidade de aprimorar estratégias voltadas à prática avançada de enfermagem especialmente no âmbito da atenção primária com vistas a sanar lacunas para um atendimento especializado, formulação de indicadores e metas terapêuticas.

### Palavras-chave: (Fonte: DeCS)

Enfermagem; profissionais de enfermagem; prática avançada de enfermagem; especialidades de enfermagem; atenção primária à saúde.

## Introduction

Advanced practice nursing (APN) comprises a perspective on expanding professional practice in the number of people and the fields of practice. This broad term encompasses several different professional profiles in nursing. However, two common possibilities are mentioned for APN: the Clinical Nurse Specialist in the hospital setting; and the Advanced Practice Nurse in primary care (1).

APN emerged in the United States in the mid-1950s in the hospital setting with a swift spread to primary health care (PHC) in several European countries. In 2016, strategies were implemented in Latin America and the Caribbean to increase access to primary care, with nurses holding APN competencies as its core figure. Since 2015, nursing representatives from Brazil have been trying to promote its implementation in the country (2).

APN becomes a global issue as it becomes a World Health Organization priority promoted by the Pan American Health Organization (PAHO). In this sense, APN is encouraged to mobilize decision-making professionals capable of providing services primarily to vulnerable populations, creating Pan-American networks, instituting APN where it does not exist, and developing related PHC models (2).

When providing care in PHC, nurses acquire advanced competencies that enable the implementation of care and professional autonomy. In developed countries, APN is synonymous with qualification for expanding clinical competencies through a master's program, which allows the development of care models for healthcare users based on reliable scientific evidence (3, 4).

These actions directly impact health services since they lead to improved care in contexts with a limited supply of professionals, favor care quality based on the follow-up and guidance of individuals with chronic conditions in PHC or hospitals, and cost reduction. In addition, there is a reduction in health expenses stemming from chronic conditions followed by APN, which prevents complications and unnecessary hospitalizations (2-5).

In the social protection models, PHC is expanded and works as the gateway to the health system, organizing care in the healthcare network. It aims to outline strategies, structures, and working methods in nursing to nurture its practice, providing quality health care to service users and their families, as it is based on current scientific evidence (6, 7).

The importance of PHC and the role of nurses in these services are highlighted, as they provide healthcare services comprising a set of competencies that range from research, education, and care practice to management. In this sense, APN is considered an innovative instrument that improves health care, especially for the most vulnerable populations (4).

The studies on APN have been gaining prominence in the international scene for representing a feasible strategy for public services, especially for agencies that promote research funding and professional qualification. The evidence on this theme already indicates that, in addition to identifying which activities are part of APN, it is necessary to recognize its contributions and practices that culturally and scientifically validate each competence (7). Thus, the present study inquires about the inputs and strategies for implementing APN in PHC.

Through a search in the literature and the Open Science Framework (OSF), a substantial gap was found regarding studies related to APN in PHC, especially regarding which activities are considered contributions to the practice, thus providing indicators for the quality of professional nursing care. It is also emphasized that research can clarify the understanding of APN in the primary care setting (6). Thus, the present study aimed to map the contributions and strategies to implement APN in PHC.

## Materials and methods

This scoping review was carried out following the guidelines of the Joanna Briggs Institute (8), which aims to describe and report the available evidence in the literature on a given theme. The following stages were adopted to conduct the study: identification of the guiding question; identification of relevant studies; study selection; data mapping; clustering, summarizing, and study reporting (8, 9). This study's registration protocol can be found in the OSF (10.17605/OSF.IO/K54VG).

Considering the methodological rigor to find answers to the theme, the acronym "Population, Concept, and Context" (PCC) was used, where "population" stands for nurses, "concept" stands for APN, and "context" stands for primary care. The guiding question was established based on these definitions: What are the contributions and strategies to implement APN in PHC?

The search was carried out in the following scientific databases and a bibliographic repository of scientific and technical production: Latin American and Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) via EBSCO Information Services, Web of Science (WoS), Embase via Elsevier, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Scopus. Regarding gray literature, the theses and dissertations catalog of the Coordination for the Improvement of Higher Level Personnel (CAPES) was adopted, as recommended by the Reviewer's Manual (8). The descriptors in health sciences (DeCS) were adopted for Latin American databases or the Medical Subject Headings (MeSH) for databases in English. The queries in the databases were carried out between February and March 2021.

The inclusion criteria were studies published in Portuguese, English, and Spanish with different methodological designs. There was no timeframe. The selected studies that addressed the present review's guiding question were read in full, and the references were analyzed in search of additional studies for possible inclusion.

The selection was made by reading the titles and abstracts, excluding opinion articles, annals, articles with unrelated themes, and those unavailable in full text. After reading, the studies were evaluated regarding irrelevant content. The Mendeley® reference manager was used to assist in the study selection. Duplicate studies were removed. The search strategy consisted of descriptors, as described in Table 1.

**Table 1.** Database search strategies for the research. Brazil, 2021

| Databases | Search strategies  |
|-----------|--|
| MEDLINE   | [Title/Abstract] (Nurse practitioners [MeSH Terms]) AND (Advanced practice nursing [MeSH Terms]) OR (Nursing specialties [MeSH Terms]) OR (Education, graduate [MeSH Terms]) AND (Primary Health Care [MeSH Terms]) OR (Family health strategy [MeSH Terms])           |
| Embase    | [Title/Abstract] (Nurse practitioners) AND (Advanced practice nursing) OR (Nursing specialties) OR (Education, graduate) AND (Primary Health Care) OR (Family health strategy)   |
| Scopus    | [Title/Abstract] (ALL (nurse AND practitioners [MeSH Terms]) AND ALL (advanced AND practice AND nursing OR nursing AND specialties OR education, graduate [MeSH Terms]) AND TITLE-ABS-KEY (primary AND health AND care OR family AND health AND strategy [MeSH Terms]) |
| WoS       | MH (Nurse practitioners [MeSH Terms]) AND MH (Advanced practice nursing [MeSH Terms]) OR MH (Nursing specialties [MeSH Terms]) OR MH (Education, graduate [MeSH Terms]) AND MH (Primary Health Care [MeSH Terms]) OR MH (Family health strategy [MeSH Terms])          |
| CINAHL    | (Nurse practitioners [MeSH Terms]) AND (Advanced practice nursing [MeSH Terms]) OR (Nursing specialties [MeSH Terms]) OR (Education, graduate [MeSH Terms]) AND (Primary Health Care [MeSH Terms]) OR MH (Family health strategy [MeSH Terms])                         |
| LILACS    | [Title/Abstract] (Profissionais de Enfermagem) OR (Prática Avançada de Enfermagem) OR (Especialidades de Enfermagem) OR (Educação de Pós-Graduação) AND (Atenção Primária à Saúde) OR (Estratégia Saúde da Família)  |

Source: Prepared by the authors.

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR [9]) checklist was used to ensure this study's methodological quality. Two independent researchers performed a paired review to ensure the relevance of the studies. The researchers read and selected the articles according to the inclusion criteria and compared the databases. However, in case of disagreements, studies were reviewed by a third researcher, including the studies with an agreement above 75 %.

In addition, the form recommended by the Joanna Briggs Institute (8) was used to guide the information synthesis in the data collection



and the relevance of the recommendations. The extracted results corresponded to authors, design, country, year, journals, the category of nursing contributions, and conclusion. The findings were described in tables and figures and discussed narratively.

For study selection and inclusion, the Preferred Reporting Items for Systematic reviews and Meta-analyses (PRISMA [10]) were adopted to assist in the decision and selection process. After reading the studies in full-text, their references were reviewed to find potential studies not yet included.

The studies were classified regarding the levels of evidence and recommendation according to the Joanna Briggs Institute (11). According to Resolution 510 of 2016, review studies do not require approval from the research ethics committee as there is no direct contact with human beings. However, it is the responsibility of this type of study to preserve the integrity and authorship of the documents used.

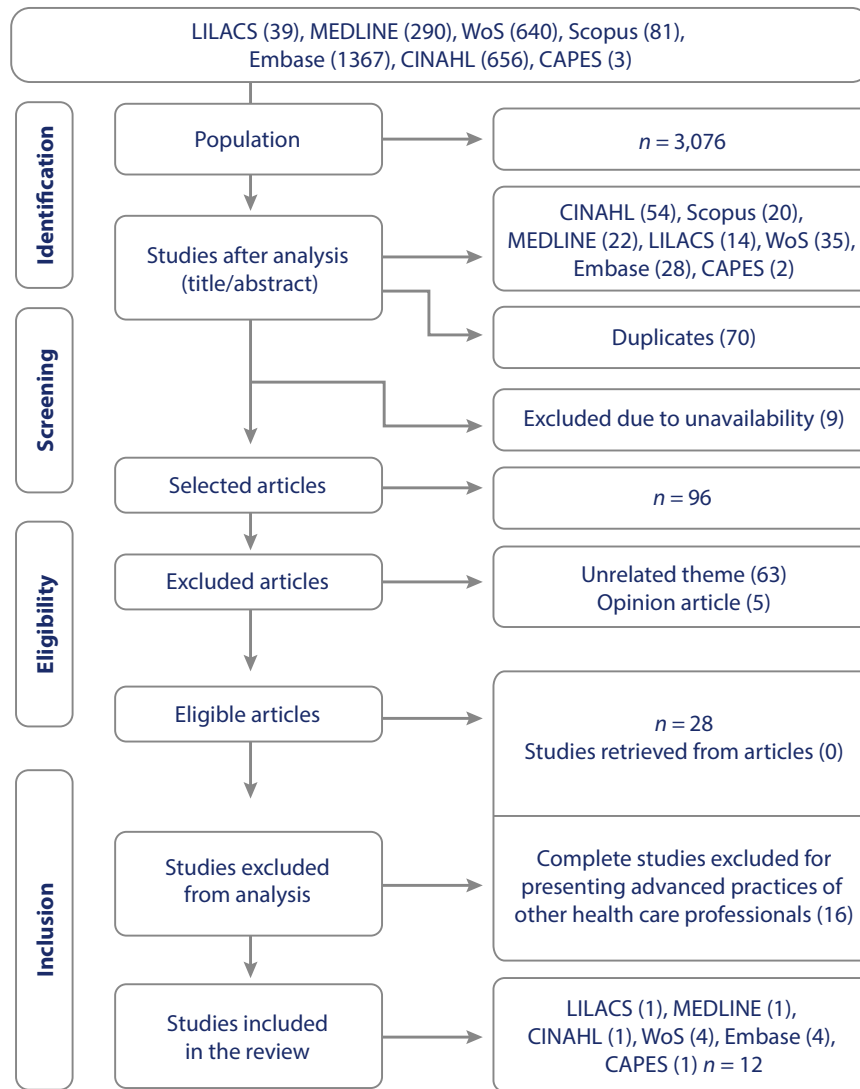
## Results

Of the 3,076 studies evaluated, 12 were selected to comprise the final sample, of which four were from WoS, four from EMBASE, one from LILACS, one from MEDLINE, one from CINAHL, and one from CAPES, as presented in Figure 1.

The studies were published between 2001 and 2019, of which three were from the United States, two from Brazil, and two from England, while China, the United Kingdom, Finland, Switzerland, and Scandinavia each had one study, as presented in Table 2.

The studied population consisted of nurses, from eight to 41 people, and the time working in the profession ranged from four to 26.5 years. Among the studies, exploratory and theoretical studies prevailed. The predominant sex in the studies was female, aged 26.5 to 59 years. The overall level of evidence in the studies was 4, and the study design was non-experimental, descriptive, and exploratory-qualitative.

The nursing strategies consisted of education and clinical practice management (12), research (12), best clinical practice (12-19), autonomy (12-21), specialized clinical skills (13, 14, 20, 21), therapeutic counseling (15, 22), predominant verbal communication (15, 22, 23), health administration and management (16), disease management (16), advanced competence development (17), professional experience more closely to patients (17, 21), increased accessibility to professionals (19), more effective and efficient professional performance (17, 19), constant updates to provide information and care based on reliable scientific evidence (19), patient-centered interactions (12, 22, 23), and continuing education (12, 13, 22).

**Figure 1.** Flowchart of the search process according to PRISMA-ScR. Brazil, 2021

Source: Adapted from Moher (10).

**Table 2.** Categorization of the studies analyzed in the review, Brazil, 2021

| Authors/year/country                  | Design                     | Sample/time in the profession/sex/age group                                  | Objective  | Contributions to APN  | LE/LR |
|---------------------------------------|----------------------------|--|--|---|-------|
| Barratt, Thomas, 2019 (12)<br>England | Case series, observational | 30 patients<br>Sex: 24 female and six male participants<br>Age: 32 years old | To analyze the use of different social interaction styles within professional nurses' appointments regarding satisfaction, qualification, and duration of appointment time | <p>The nurse:</p> <ul style="list-style-type: none"> <li>analyzes official and observational indexes;</li> <li>plans, organizes, and coordinates technical/administrative meetings;</li> <li>analyzes cases for home visits;</li> <li>evaluates contraindications and advancements;</li> <li>updates and refreshes the vaccination portfolio;</li> <li>evaluates the results of requested and collected exams for breast and cervical cancers;</li> <li>provides information, contraceptive methods, and condoms for reproductive planning and sexually transmitted infections/AIDS;</li> <li>performs childbirth without dystocia;</li> <li>performs technical procedures such as probing, bowel cleansing, electrocardiography, oral rehydration therapy, endotracheal aspiration, osteomized patient care, and umbilical cauterization;</li> <li>plans and coordinates the training and continuing education of community health agents;</li> <li>plans and discusses protocols, guidelines, rules, and institutional referrals with the basic healthcare unit team and the nursing team;</li> <li>provides systematized training for nurses;</li> <li>plans, participates, and implements training and continuing education programs for nursing and healthcare professionals, and</li> <li>prescribes medications</li> </ul> | 4c    |

| Authors/year/country  | Design   | Sample/time in the profession/sex/age group   | Objective   | Contributions to APN  | LE/LR |
|---|--|---|---|---|-------|
| Boman, Glasberg, Levy-Malmberg, Fagerström, 2019 (13)<br>Scandinavia (Sweden, Norway, Denmark, and the Faroe Islands) | Qualitative, semi-structured interviews                                      | 25 female nurses<br>Age: 47 to 65 years old<br>Education and training: 26.5 years   | To explore the viability of introducing geriatric nurses into PHC in Scandinavia  | The nurse: <ul style="list-style-type: none"> <li>provides dressing and wound care;</li> <li>develops interpersonal skills;</li> <li>manages people;</li> <li>manages time;</li> <li>has computer and negotiation skills;</li> <li>manages finances;</li> <li>provides auditing;</li> <li>provides health education, particularly for patients with chronic health problems; refers patients, and</li> <li>prescribes medications</li> </ul>                        | 4c    |
| Josi, Bianchi, 2019 (14)<br>Switzerland   | Ethnography with semi-structured interviews and non-participant observations | 16 nurses<br>Time in the profession: 23.8 years<br>Sex: Female<br>Age: 45 years old   | To explore the potential of new care models for nurse assistants and nurses in advanced practice and non-advanced practice  | The nurse: <ul style="list-style-type: none"> <li>identifies nurses with advanced competencies;</li> <li>listens carefully, observes, and interprets patients' signs of illness, and</li> <li>understands patients' health and needs</li> </ul>   | 4     |
| Rewa, 2018 (15)<br>Brazil   | Descriptive, exploratory-qualitative   | Eight nurses<br>Education and training: Four to 24 years<br>Sex: Three male and five female participants<br>Age: 32 years old | To develop a competency profile for APN in PHC in the Brazilian context   | The nurse: <ul style="list-style-type: none"> <li>conducts investigations;</li> <li>provides self-care counseling and follow-up;</li> <li>provides consultation on phytotherapy;</li> <li>develops guidelines for oral antifungal and paracetamol use;</li> <li>provides lifestyle counseling;</li> <li>treats pressure injuries;</li> <li>provides pregnancy counseling, and</li> <li>develops guidelines for emollient use, self-care, and pain relief</li> </ul> | 4     |
| Nascimento et al., 2018 (16)<br>Brazil  | Documental, exploratory, and qualitative research                            | 62 documents  | To carry out a documentary study on the rules, guidelines, policies, and institutional support for nurses to prescribe medications and request tests regarding advanced practice in PHC   | The nurse: <ul style="list-style-type: none"> <li>provides direct patient care;</li> <li>leads;</li> <li>plays alternative roles;</li> <li>develops professional practices as a counselor/consultant;</li> <li>manages chronic diseases;</li> <li>evaluates family health needs and public health;</li> <li>exercises administrative management, and</li> <li>promotes research</li> </ul>  | 4a    |
| Swan, Ferguson, Chang, Larson, Smaldone, 2015 (17)<br>The United States   | Systematic literature review   | Ten articles/10,911 participants<br>Age: 47 to 65 years old<br>Education and training: 26.5 years                             | To conduct a systematic review of randomized controlled trials regarding the safety and effectiveness of primary care provided by advanced practice nurses and evaluate the potential of their deployment to assist in relieving primary care shortages | The nurse improves the follow-up of elderly patients and enables the healthcare team to become competent regarding the needs of elderly patients  | 1a    |
| Wisur-Hokkanen, Glasberg, Mäkelä, Fagerström, 2014 (18)<br>Finland  | Descriptive, exploratory-qualitative   | 24 nurses<br>Education and training: 22 years<br>Sex: Female<br>Age: 35 to 59 years old                                       | To explore the experiences of advanced practice nurses in the context of nursing care and to describe the promoting or inhibiting factors for working with a complete APN scope   | The nurse: <ul style="list-style-type: none"> <li>provides safe and effective care;</li> <li>promotes increased patient access to health care and increased patient satisfaction, and</li> <li>fosters increased adherence to the proposed treatment and improved communication between healthcare professionals and patients</li> </ul>  | 4a    |
| Bonsall, Cheater, 2008 (19)<br>The United Kingdom   | Integrative literature review  | 88 articles   | To review and collect the evidence from studies that have evaluated the impact of nursing roles on advanced primary care  | The nurse schedules follow-up appointments with patients with chronic diseases and makes medication adjustments (according to the patient's clinical symptoms)  | n/e*  |
| Mao, Anastasi, 2010 (20)<br>The United States   | Literature review  | ---   | To discuss the etiology, clinical presentation, diagnosis, and management of endometriosis by advanced practice nurses in primary care  | The nurse prescribes medications and requests tests   | n/e*  |

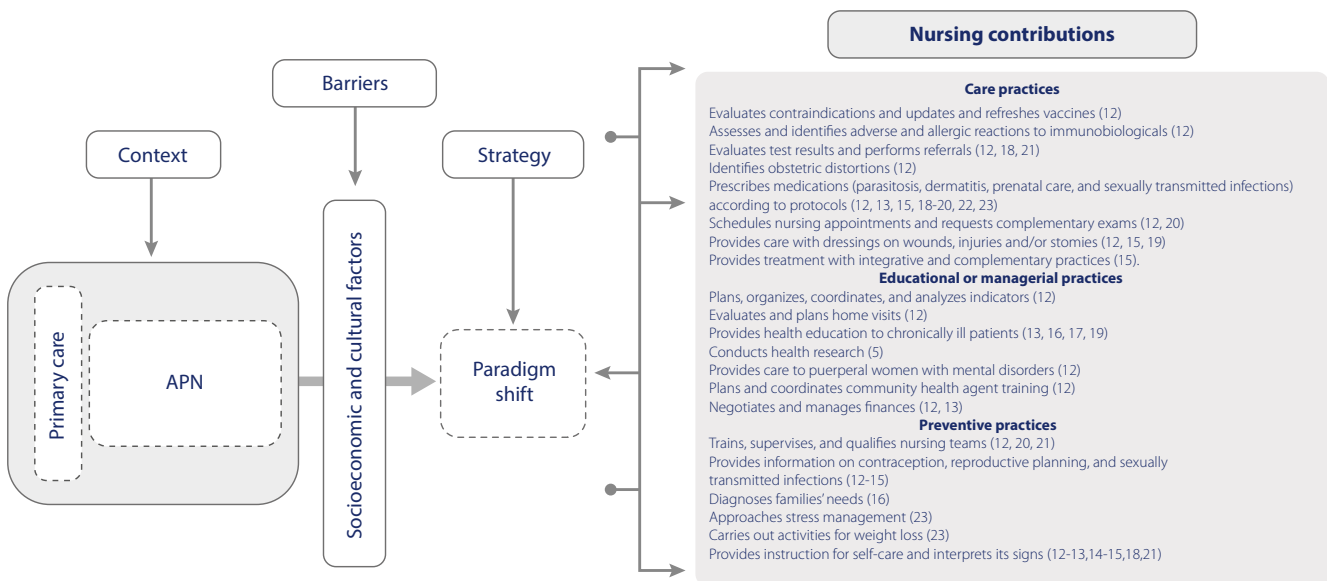
| Authors/year/country                                 | Design                  | Sample/time in the profession/sex/age group                  | Objective   | Contributions to APN  | LE/LR |
|--|-------------------------|--|---|---|-------|
| Twin, Thompson, Lopez, Lee, Shiu, 2005 (21)<br>China | Multiple case study     | 41 nurses  | To examine the determinants of the development of an APN model in primary care  | The nurse:<br>• makes nursing care effective;<br>• uses sanitary resources, and<br>• uses physiological measurements (hemoglobin, blood pressure, lipid profile)  | 4     |
| Carnwell, Daly, 2003 (22)<br>England                 | Descriptive-qualitative | 31 nurses<br>Sex: Male<br>Education and training: Five years | To explore the role of APN in primary care in the West Midlands, UK, and how nurses have played their roles over time | The nurse:<br>• reduces pain and prevents infertility through patient-oriented health education;<br>• informs and directs the use of nutritional and integrative therapies in treating endometriosis, and<br>• educates and assists patients in optimizing therapeutic interventions to improve their quality of life | 4     |
| Markle, 2001 (23)<br>The United States               | Literature review       | ---  | To discuss the diagnosis and management of polycystic ovary syndrome by APN in primary care                           | The nurse:<br>• enables patients to fight against weight loss;<br>• takes a holistic approach to stress management techniques;<br>• guides on the importance of adherence to treatment regimens, and<br>• reports changes in symptoms and schedules regular follow-up appointments                                    | n/e   |

Note. LE: level of evidence; LR: level of recommendation; \*n/e: no evidence.

Source: Prepared by the authors.

Figure 2 summarizes the 12 studies included in the scoping review according to the aspects of their scientific production. The concept used to identify APN is that of the International Council of Nursing, which highlights specialized scientific knowledge, clinical decision-making, reorganization of practices, and implementation of programs focused on care(12-21). Data were categorized according to an adaptation for studies in primary care (24). The barriers indicate the social phenomena in which APN is embedded in PHC, and the strategies denote the human, educational, translational, and managerial needs to make APN effective in PHC.

Figure 2. Synthesis of the studies included in the scoping review. Brazil, 2021



Source: Prepared by the authors.

# Discussion

The nurse's work is essential for managing or performing care, educational, and preventive practices (24).

## Care practices

In the context of primary care, nurses can perform managerial and care activities regarding vaccines; provide assistance and referrals to chronic and non-chronic patients; plan and coordinate technical-administrative meetings; train, supervise, and qualify the nursing team and community health agents; provide information, contraceptive methods, and condoms for reproductive planning and sexually transmitted infections/AIDS; diagnose the families' needs in all stages of the life cycle, especially for pregnant and postpartum women in prenatal and postnatal follow-up; evaluate and treat dressings, and prescribe medications (12, 13, 15, 19, 20, 22, 23). Training is a vital tool for implementing APN (25).

According to PAHO, APN nurses should, among other competencies, have the following nine: clinical expertise, leadership, care experience (individual, group, or community), care and education in varied settings, applied research, interprofessional collaboration, ethical decision-making, advocacy, and technology (2). All of these activities can be observed in the present study. Education becomes critical in nursing practice (26-29).

Nurses are essential in promoting direct care in PHC since the work process reaches beyond direct care. These professionals must master knowledge, skills, and competencies that culminate in assistance management or care management (30, 31). Thus, their work is also considered strategic and vital, especially concerning managing or implementing care, educational, and preventive practices at the primary care level (24).

The present study found that nurses use their care experience and technical qualifications in PHC to adjust treatment regimens, report changes in symptoms, and maintain regular follow-up appointments. Among the various technical activities, the following stand out: probing, bowel lavage, electrocardiography, oral rehydration therapy, endotracheal aspiration, ostomized patient care, umbilical cauterization by prescription, and collection of oncotic cytology (12). Continually adopting procedures needed to ensure patient safety, these techniques are supported by clinical care in health and essential clinical reasoning in advanced practices (12).

Currently, APN is established and present in more than 50 countries worldwide, with proven quality in the cost-effectiveness of the care provided compared to other healthcare professionals (32, 33). APN contributes directly to improving the quality of care, increasing health coverage, and decreasing healthcare costs (34, 35).

## Educational or managerial practices

The research on PHC indicates the active participation of nurses in intersectoral management activities (12). They are included in broad discussions regarding health (16) by conducting, participating in, and applying research or other forms of knowledge production to qualify professional practice (12). In the professional and theoretical fields, advanced practice nurses differ in workload, leadership, and alternative roles (16). Moreover, they plan and hold discussions with the basic health unit team and the nursing team regarding protocols, guidelines, rules, and institutional referrals in a systematized way (12).

Aligning the roles of advanced practice nurses with the health needs of patients and the population is critical to achieving improvements and efficiency in health care. The evaluations of APN roles focus on the effectiveness of attaining outcomes for patients, employees, and health systems (36, 37).

Therefore, this study has found that APN professionals stand out in patient care regarding leadership and user satisfaction (16, 18, 21). Moreover, with the range of possible activities, the work of these professionals increases patient access to health care, provides education, and assists in optimizing therapeutic interventions to improve quality of life (18).

In some countries, such as Spain, APN excels in performing roles that integrate research, education, practical experience, and management with a high level of professional autonomy, developing specific competencies, such as advanced health assessment, decision-making, and reasoning in diagnosis, and planning, implementing and evaluating health programs, among other competencies (38-40). All of these qualities were found in the present study.

Concerning APN in the home care context, the possibility of prescribing medications also exists (30). Thus, it is possible to provide nursing care by recommending or requesting tests and treatment under direct observation, streamlining, and enabling the adequate provision of care (32, 40). The present study demonstrates the contributions of prescriptive practice to PHC that assists in the treatment of parasitoses or dermatitis, direct prenatal and postnatal care, the prevention of complications and improvement of clinical rates, the monitoring and prevention of sexually transmitted diseases and AIDS, and the treatment of cases of miliaria and ear aches (12, 18-20).

In addition, the therapeutic resources presented in this study demonstrate in the prescription practice, essential interventions based on protocols in the treatment of scabies, pediculosis, intestinal parasitosis, seborrheic dermatitis, intertrigo, and impetigo, nicotine replacement therapy, and the development of guidelines that elucidate the form of use and therapeutic indications for patients using emollient, antibiotic, antifungal, and paracetamol medications (12, 13, 15, 19).

Therefore, nurses' prescription of drugs (12, 13, 15, 19, 20, 22, 23) is a quality that indicates significant APN improvements in PHC.

APN stands out in the context of advanced practices since decision-making, leadership, and improved care planning are skills that underlie APN. The latter is responsible for mediating their ability to decide on care, as care management ultimately becomes the foundation of these practices (30, 41).

## Preventive practices

This study emphasizes ongoing and continuous work with pregnant and older women in PHC in specific populations. The activities performed include the evaluation of physiological measurements (hemoglobin, blood pressure, lipid profile [21]). Pregnancy counseling is provided (15) with a broad clinical and therapeutic evaluation, which promotes mother-baby safety (13). The review of test results and referrals for diagnosis or treatment of breast and cervical cancers in pregnant and non-pregnant women are also highlighted (12, 18). Regarding the elderly, it enables team decision-making to acquire skills for monitoring and preventing comorbidities (17).

Therefore, this study unveils nurses' managerial activities as an essential part of health problem prevention, especially the analysis of cases for home visits, mobilizing the necessary professionals (12), and the planning, organization, and coordination of technical-administrative meetings (12, 23) with the nursing team and the healthcare unit, and helps consolidate these professionals' practices.

Advanced practice nurses in PHC should develop skills, provide effective and efficient health care, be recognized for their leadership by the healthcare team and patients, and use science to guide their practice, thus integrating nursing knowledge with clinical experience (42-45). They assume essential roles in the health-disease process; therefore, their participation is vital for its successful implementation (3, 46).

Regarding the study findings, monitoring patients with chronic diseases, medication adjustments, safe and effective care demonstrated by increased patient satisfaction, and effective communication are some of the mentioned competencies that corroborate the categories (12, 13, 18-20).

A systematic review (17) underlines the potential of APN actions, in which nurses' perspective is sovereign on activities related to physiological measures, user satisfaction, and costs, suggesting increased safety and efficiency provided by these professionals. The level of user satisfaction and the safety of APN nurses' practices were among the activities mentioned in the present study that contribute to the quality of care provided in PHC.



APN nurses have more time for their patients, with skilled and qualified practices, and closer contact with patients, benefiting them directly (47). In addition, their role has added value due to their competence in performing tasks such as advanced care planning, specialized patient care, or coordination with the social sector. The range of activities performed by these professionals is varied and vast, which implies an improvement in the quality of care as a result of the specialized care provided by them, resulting in the efficiency of care and the consequent increase in the level of satisfaction with the activities performed.

Among the activities performed by APN nurses, a study (48) carried out with family health strategy nurses found that in addition to the authority to diagnose, prescribe, test, and therapeutically treat individuals, evaluation, judgment, decision-making, and diagnostic reasoning skills are parts of APN, which corroborates the present study.

The growing and increasingly complex health needs demand new professional profiles from healthcare professionals dedicated to the interactive practice and focused on collaboration with other healthcare professionals (15). Thus, it is necessary to reflect upon the training process of advanced practice nurses as a potential alternative to overcome these barriers and meet the population's healthcare needs.

It is noteworthy that the contributions of APN are perpetuated in this scenario where nursing indicators are closely related to the systematization of care. Diagnoses are essential to this process and culminate in health promotion strategies for specific or non-specific populations (49). This process is also noted when identifying the needs of the individuals receiving care (50).

However, the implementation of APN faces some challenges, such as the lack of legal and regulatory frameworks that define the role of advanced practice nurses, the lack of clarity regarding the roles and attributions of advanced practice nurses, the lack of knowledge on APN itself, the medical professionals' reluctance towards the expansion of nurses' attributions, and the creation of the APN model in each country (51-54). Therefore, nurses should demonstrate specialized practices and establish the "advanced" attribute as a landmark of their new attributions; otherwise, they will be subjected to taxative and devaluating constraints (53).

It is noteworthy that the studies on this theme are still incipient, and articles with a moderate risk of bias were included, albeit having met the proposed objective. There was neither standardization of the diagnostic methods of the studies presented nor the risk of bias, as preconized in scoping reviews.

## Conclusions

The contributions that support APN in PHC are autonomy, therapeutic counseling, verbal communication, specialized clinical skills,



and patient-centered interaction. In turn, the strategies mapped emphasize continuing education, practice management, self-care, and disease management.

In light of these findings, we emphasize the implementation of advanced practices in all contexts of health care and the consolidation of structures that enable nurses to work with autonomy and safety. Finally, we encourage new studies to demonstrate the results of APN in PHC based on cross-cultural evaluative processes and the emergence of indicators that measure the effectiveness of the contributions mentioned and their implications in healthcare promotion.

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