

# Advanced Practice Nursing in primary health care: a systematic review protocol

## Práticas Avançadas de Enfermagem na Atenção Primária à Saúde: um protocolo de revisão sistemática

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### ABSTRACT

**Objective:** To synthesize the existing evidence on advanced practice nursing interventions in primary health care settings worldwide through a systematic review. **Method:** A protocol was developed based on the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols (PRISMA-P) guidelines. The protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO) under ID: CRD42022301785. To conduct the review, a systematic search will be performed in the databases ScienceDirect, Scopus, Medical Literature Analysis and Retrieval System Online (MEDLINE/PubMed), Web of Science, Excerpta Medica Database (Embase), and Cumulative Index to Nursing and Allied Health Literature (CINAHL) using the following search terms: (("Advanced Practice Nursing" OR Nursing OR "Nursing specialties") AND "Primary Health Care" AND "Public Health"). Inclusion criteria include all cross-sectional studies published in English through October 2022 that address the research question. The following will be excluded: (i) animal studies; (ii) letters, editorials, literature reviews, systematic reviews, and meta-analyses.

**Descriptors:** Primary Health Care; Advanced Practice Nursing; Systematic Review.

### RESUMO

**Objetivo:** Sumarizar as evidências existentes acerca das ações de Prática Avançada em Enfermagem no âmbito da Atenção Primária à Saúde à nível mundial através de uma revisão sistemática. **Método:** Trata-se de um protocolo desenvolvido com base nas diretrizes do *Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols* (PRISMA-P). O protocolo foi registrado no *International Prospective Register of Systematic Reviews* (PROSPERO) sob o ID: CRD42022301785. Para condução da revisão, a busca sistemática será realizada nas bases de dados *ScienceDirect*, *Scopus*, *Medical Literature Analyses and Retrieval System Online* (MEDLINE/PubMed), *Web of Science*, *Excerpta Medica Database* (Embase) e *Cumulated Index in Nursing and Allied Health Literature* (CINAHL), sendo utilizada a seguinte expressão de busca: (("Advanced Practice Nursing" OR Nursing OR "Nursing specialties") AND "Primary Health Care" AND "Public Health"). Os critérios de inclusão incluem todos os estudos transversais publicados em inglês até outubro de 2022 que respondam à questão de pesquisa. Destes, serão excluídos: (i) estudos em animais; (ii) cartas, editoriais, revisões de literatura, revisões sistemáticas e metanálises.

**Descritores:** Atenção Primária à Saúde; Prática Avançada de Enfermagem; Revisão Sistemática.

### INTRODUCTION

Throughout the world, there is a growing interest in developing innovative approaches to improving health care services to meet the health needs of populations. A significant part of these challenges is related to the shortage of health care professionals and their uneven geographic distribution. Advanced practice nursing (APN) are emerging as one of the prominent innovations in this context<sup>(1)</sup>. In the Brazilian context, APN plays a vital

role in consolidating the principles and guidelines of the Unified Health System (SUS), especially in primary health care<sup>(2)</sup>.

The dynamic role of nurses in primary health care (PHC) in Brazil has proven to be a catalyst for transformative changes in health care approaches. This is reflected in the model of care adopted, which focuses on comprehensive care, considering both the subjective aspects of patients and factors such as risk, disease prevention, and promotion of health and quality of life<sup>(3)</sup>.

Thus, many countries have taken measures to integrate Advanced Practice Nurses (APNs) as an alternative to address priorities within this complex care domain. The implementation of APNs has emerged as a new paradigm for coordinating integrated care for patients with complex needs in primary health care<sup>(7)</sup>, which is justified by the greater autonomy of these nurses at this level of care<sup>(8)</sup>.

The APN is a duly registered professional with specialized knowledge, advanced decision-making skills, and expanded clinical competencies, whose profile is shaped by the context in which they work<sup>(9)</sup>. As stated by Paz<sup>(10)</sup>, this professional operates at the intersection of scientific knowledge and technical skill, enabling the application of autonomous and evidence-based clinical practices that lead to more accurate therapeutic decisions.

With the incorporation of APNs into health care services, nurses have acquired complementary skills through experience, expanding their scope of practice. Recently, the professional roles of APNs have been officially recognized through postgraduate programs dedicated to meeting established competencies and standards to strengthen this practice in various countries. However, this formalization has yet to occur in Brazil<sup>(11)</sup>.

Studies show that many professionals performing advanced roles still feel uncertain and need more knowledge about the full spectrum of competencies, including ethical and legal aspects. On the other hand, non-registered nurses often push the boundaries of their practice to meet patient health needs despite needing more formal training and professional regulation<sup>(4)</sup>.

Globally, the term APN encompasses a wide range of functions, resulting in varying definitions of this practice<sup>(14-15)</sup>. Although some countries have pioneered the adoption of APN,

there still needs to be standardization of professional competencies to guide their implementation in health services<sup>(16-17)</sup>. Therefore, this protocol aims to synthesize the existing evidence on APN interventions in primary health care worldwide through a systematic review.

Systematic review protocols play a crucial role in planning and documenting the review methods, thus preventing arbitrary decisions. They also allow readers to assess the presence of selective reporting in completed reviews and, when published, prevent duplicate research on the same topic<sup>(18)</sup>. In addition, the protocol clearly and transparently outlines all the steps taken in the review process.

## METHOD

### Study design

The protocol follows the established steps for conducting a systematic review and is based on the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols (PRISMA-P) guidelines<sup>(18-19)</sup>.

Systematic reviews follow specific protocols that allow them to be replicated by other researchers. These protocols detail the bibliographic databases searched, the search strategies used in each database, the process of selecting scientific articles, the inclusion and exclusion criteria defined, and the data analysis approach used. In addition, the systematic review highlights the limitations of the selected studies and the review process itself. In essence, this research approach is considered robust scientific evidence that provides a basis for decision-making in various contexts<sup>(20)</sup>.

According to Donato and Donato<sup>(21)</sup>, there are nine structured steps for its development: (i) formulation of a guiding research question; (ii) preparation and registration of a protocol; (iii) definition of inclusion and exclusion criteria; (iv) design of a search strategy; (v) study selection; (vi) assessment of study quality; (vii) data extraction; (viii) data synthesis and assessment of the quality of scientific evidence; and (ix) dissemination of results through publication.

### Search strategy

A research question was formulated according to the PECO acronym (P=problem, E=exposure, C=comparator, O=outcome)<sup>(22)</sup>, defined as follows: P=primary health care, E=advanced

practice nursing, C=not applicable, and O=professional actions. Based on this structure, the research question was framed as follows: "What APN actions are being developed in primary health care on a global scale?" With this formulation in mind, a review protocol was created to guide the research process. This protocol was duly registered in the International Prospective Register of Systematic Reviews (PROSPERO), identified by the ID: CRD420223 01785. A search of the Cochrane Library was conducted to identify systematic reviews with similar objectives. However, no document with the desired characteristics was found. The systematic search was conducted in the following databases: ScienceDirect, Scopus, Medical Literature Analysis and Retrieval System Online (MEDLINE/PubMed), Web of Science, Excerpta Medica Database (Embase), and Cumulative Index to Nursing and Allied Health Literature (CINAHL).

After combining terms in various ways using keywords and Boolean operators, it was determined that the bibliographic search would use the following search expression: (("Advanced Practice Nursing" OR Nursing OR "Nursing Specialties") AND "Primary Health Care" AND "Public Health"). Controlled descriptors via the Medical Subject Headings (MeSH) platform are preferred. Additional searches may be performed in the reference lists of all selected articles.

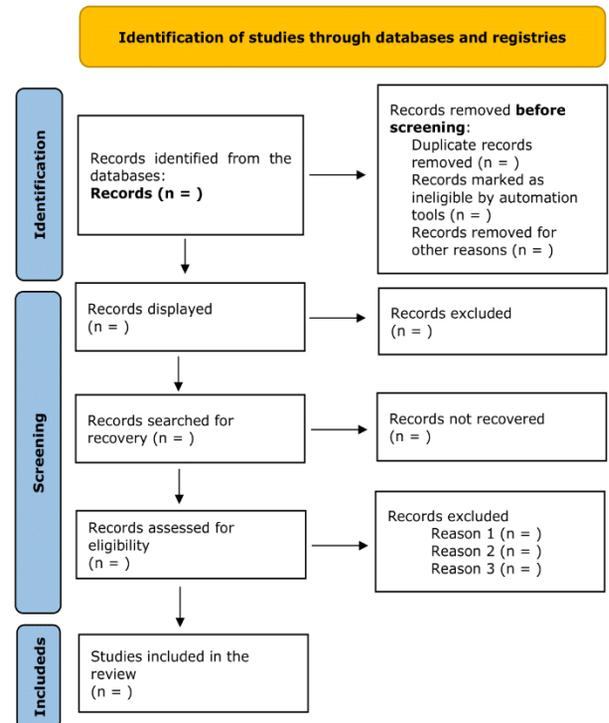
### Eligibility criteria

Inclusion criteria will include all cross-sectional studies published in English through October 2022 that address the research question. The following will be excluded: (i) animal studies; (ii) letters, editorials, literature reviews, systematic reviews, and meta-analyses.

### Study selection

Two authors (JK; WS) trained in systematic review methodology will screen titles and abstracts using the inclusion and exclusion criteria to retrieve relevant full texts, followed by comparing results. EndNote™ will be used to organize and manage all retrieved studies. After initial screening, the full text of retrieved studies will be assessed for inclusion/exclusion using the Rayyan™ application to mitigate bias. Any discrepancies will be resolved in consultation with a third author (MO). Inter-rater agreement will be assessed using the kappa (K) statistic for each item and the overall score obtained. A

flowchart summarizing the study selection process according to the PRISMA 2020 statement<sup>(23)</sup> is shown in Figure 1.



Source: PRISMA flowchart adapted from Page et al., 2021.

**Figure 1** - PRISMA flowchart for systematic reviews including database and registry searches. Parelhas, RN, Brazil, 2022

### Extraction and synthesis of data

The extracted data will address the current state and development of APN in primary health care globally. Two reviewers (JK and WS) will extract data for each included study. An information collection instrument has been devised to guide article selection in the systematic review (Figure 2). Contact will be established with selected study authors to request missing information and/or clarify data.

### Critical appraisal of the included studies

Bias assessment will be performed independently by two reviewers (WS and MO), and any discrepancies will be addressed and resolved by a third reviewer (JK) according to the ACROBAT-NRSI guidelines. Factors such as confounding, participant selection, intervention assessment, follow-up, missing data, outcome measurement, and selection of reported data will be considered. The quality of the evidence and the strength of the study recommendations will be assessed by one reviewer (MO) using

the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system. Data synthesis will be performed through de-

scriptive and qualitative analyses, with the possibility of additional analyses based on the results obtained.

Title of the study					
Advanced Practice Nursing in Primary Health Care: A Systematic Review					
Guiding question					
What advanced practice nursing actions are being developed in primary health care on a global scale?					
Objective					
To summarize existing evidence on advanced practice nursing interventions in primary health care globally					
Problem		P			
Primary health care					
Exposure		E			
Advanced practice nursing					
Comparator		C			
Not applicable					
Outcome		O			
Professional actions					
Extraction of details and study profiling					
<b>Table 1.</b> Distribution of articles found in the databases, their languages, year of publication and type of study, in the systematic review. Parelhas, RN, Brazil, 2022					
Articles					
Database	Localized	Excluded	Assessed		
<b>Table 2.</b> Distribution of studies by title or reference, year, country, design, number of participants, exposure, and outcome in the systematic review. Parelhas, RN, Brazil, 2022					
Articles					
Title or reference(s)	Year	Country	Design/number of participants	Exhibition	Outcome

**Figure 2** - Information collection tool for studies selected for systematic review. Parelhas, RN, Brazil, 2022

### Ethical issues and disclosure

This study was not submitted to an Ethics and Research Committee (ERC) as it did not involve human subjects. The data used are in the public domain. In addition, the systematic review will follow the guidelines of the PRISMA 2020 statement, which establishes preferred reporting elements for systematic reviews and meta-

analyses. Regarding the dissemination of the results, we intend to share them through peer-reviewed publications.

### CONFLICT OF INTERESTS

The authors have declared that there is no conflict of interests.

### REFERENCES

- Miranda Neto MV, Rewa T, Leonello VM, Oliveira MAC. Advanced practice nursing: a possibility for Primary Health Care?. *Rev Bras Enferm.* 2018;71(1):764-9. <http://dx.doi.org/10.1590/0034-7167-2017-0672>.
- Toso BRGO, Padilha MI, Breda KL. O eufemismo das boas práticas ou a prática avançada de enfermagem. *Esc Anna Nery Rev Enferm [Internet].* 2019 [cited 2022 Abr 25];23(3):e20180385. Available from: <https://www.scielo.br/j/ean/a/wgFY45pvzZd5jrntLDdQpcJ/?format=pdf&lang=pt>.
- Ferreira SRS, Périco LAD, Dias VRF. The complexity of the work of nurses in Primary

- Health Care. *Rev Bras Enferm.* 2018;71(1):752-7. <http://dx.doi.org/10.1590/0034-7167-2017-0471>.
4. Aguirre-Boza F, Mackay MCC, Pulcini J, Bryant-Lukosius D. Estratégia de implementação para a prática avançada de enfermagem na Atenção Primária à Saúde no Chile. *Acta Paul Enferm.* 2019;32(2):120-8. <http://dx.doi.org/10.1590/1982-0194201900018>.
  5. Mezaroba, E. Prática Avançada de Enfermagem: diagnóstico situacional quanto à implementação na Atenção Primária em Saúde [master thesis on the internet]. Porto Alegre: Universidade Federal de Ciências da Saúde; 2020 [cited 2022 Abr 28]. 165p. Available from: <https://repositorio.ufcspa.edu.br/jspui/bitstream/123456789/1790/1/%5BDISSERTA%C3%87%C3%83O%5D%20Mezaroba%20C%20Ernanda%20-%20Vers%C3%A3o%20parcial.pdf>.
  6. Organização Pan-Americana da Saúde. Perspectivas e contribuições da enfermagem para promover a saúde universal [internet]. Washington: OPAS; 2020 [cited 2022 Abr 25]. Available from: [https://iris.paho.org/bitstream/handle/10665.2/52238/9789275722190\\_por.pdf?sequence=1&isAllowed=y](https://iris.paho.org/bitstream/handle/10665.2/52238/9789275722190_por.pdf?sequence=1&isAllowed=y).
  7. Li Y, Chen M, Lin R, Li H. Perceptions and Expectations of Advanced Geriatric Nursing Role Development in Primary Health Care: A Qualitative Study Exploring Staff's Perspectives. *J Multidiscip Healthc.* 2021;14:3607-19. <https://doi.org/10.2147/JMDH.S343622>.
  8. Delamaire M, Lafortune G. A Description and Evaluation of Experiences in 12 Developed Countries. *OECD health working papers.* 2010;54. <https://doi.org/10.1787/5kmbrcfms5g7-en>.
  9. International Council of Nurses. Definition and Characteristics of the Role [internet]. 2022 [cited 2022 Abr 25]. Available from: <https://international.aanp.org/Practice/APNRoles>.
  10. Paz EPA, Cunha CLF, Menezes EA, Santos GL, Ramalho NM, Werner RCD. Práticas Avançadas em Enfermagem: discutindo a valorização do enfermeiro na Atenção Primária à Saúde. *Enferm Foco.* 2018;9(1):41-3. <https://doi.org/10.21675/2357-707X.2018.v9.n1.1856>.
  11. Oldenburger D, Cassiani SHB, Bryant-Lukosius D, Valaitis RK, Baumann A, Pulcini J, et al. Implementation strategy for advanced practice nursing in primary health care in Latin America and the Caribbean. *Rev Panam Salud Publica* [internet]. 2017 [cited 2022 Abr 28];41. Available from: <https://www.scielosp.org/pdf/rpsp/2017.v41/e40/en>.
  12. Zug KE, Cassiani SHB, Pulcini J, Garcia AB, Aguirre-Boza F, Park J. Advanced practice nursing in Latin America and the Caribbean: regulation, education and practice. *Rev Latino-Am Enfermagem.* 2016;24:e2807. <https://doi.org/10.1590/1518-8345.1615.2807>.
  13. Sousa MLO, Oliveira GS, BezerraYCP, Silva FAB, Sobreira MVS, Medeiros RLSFM. Práticas Avançadas de Enfermagem à Atenção Primária: estratégias para implantação no Brasil. *Temas Saúde* [internet]. 2021 [cited 2022 Abr 20];21(1):210-27. Available from: <https://temasemsaude.com/wp-content/uploads/2021/02/21112.pdf>.
  14. Kaldan G. Evidence characterizing skills, competencies, and policies in advanced nursing practice in intensive care in Europe: a scoping review protocol. University of Plymouth - PEARL [Internet]. 2019 [cited 2022 Abr 28]. Available from: <http://hdl.handle.net/10026.1/13287>.
  15. Schneider F. Enfermagem de prática avançada em oncologia: proposta de formação profissional [master thesis on the internet]. Florianópolis: Universidade Federal de Santa Catarina, Programa de Pós-graduação em Enfermagem; 2021 [cited 2022 Abr 28]. 197p. Available from: <https://repositorio.ufsc.br/handle/123456789/229137>.
  16. Quiroz PAE, Toso BRGO. Advanced Practice Nursing in Latin America and the Caribbean: seeking its implementation. *Rev Bras Enferm.* 2021;74(6). <https://doi.org/10.1590/0034-7167.202174suppl601>.
  17. Bryant-Lukosius D, DiCenso A, Browne G, Pinelli J. Advanced practice nursing roles: development, implementation and Evaluation. *J adv nurs.* 2004;48(5):519-

29. <https://doi.org/10.1111/j.1365-2648.2004.03234.x>.
18. Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ*. 2015;349. <https://doi.org/10.1136/bmj.g7647>.
19. Moher D, Liberati A, Tetzlaff J, Altman DG. Principais itens para relatar Revisões sistemáticas e Meta-análises: a recomendação PRISMA. *Epidemiol Serv Saúde*. 2015;24(2):335-42. <http://dx.doi.org/10.5123/S1679-49742015000200017>.
20. Galvão MCB, Ricarte ILM. Revisão sistemática da literatura: conceituação, produção e publicação. *Logeion*. 2020;6(1):57-73. <https://doi.org/10.21728/logeion.2019v6n1.p57-73>
21. Donato H, Donato M. Etapas na Condução de uma Revisão Sistemática. *Acta Med Port*. 2019;32(3):227-35. <https://doi.org/10.20344/amp.11923>.
22. Morgan RL, Whaley P, Thayerc KA, Schünemann HJ. Identifying the PECO: A framework for formulating good questions to explore the association of environmental and other exposures with health outcomes. *Environ Int*. 2018;121(1):1027-31. <https://doi.org/10.1016/j.envint.2018.07.015>.
23. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372(71). <https://doi.org/10.1136/bmj.n71>.

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