

# State of the art on Advanced Nursing Practice: reflections for the agenda in Brazil

*Estado da arte sobre Práticas Avançadas em Enfermagem: reflexões para a agenda no Brasil*  
*Estado del arte de las Prácticas Avanzadas de la Enfermería: reflexiones para la agenda en Brasil*

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## ABSTRACT

**Objectives:** to review the state of the art on Advanced Nursing Practices. **Methods:** a scoping review of existing publications up to 2020, in the PubMed/MEDLINE, SciELO, LILACS, BDNF, Web of Science and Scopus databases, identified by descriptors "Prática Avançada de Enfermagem" or "Advanced Practice Nursing". A total of 184 documents were selected. The characterization of this study was carried out, followed by the construction of an overview of different regions of the world. **Results:** studies showed an increasing trend in the last decade, being present in all continents, although 43.5% correspond to opinion articles, comments, editorials and event reports. Even with similar aspects, the justifications for Advanced Nursing Practices reflect specific regional needs. **Final Considerations:** the studies still lack methodological variety and emphasis on the specificities of countries and their health systems, in addition to greater detail on labor regulation, professional training and the impacts of these practices in nursing.

**Descriptors:** Advanced Practice Nursing; Work; Nurses; Health Systems; Brazil.

## RESUMO

**Objetivos:** revisar o estado da arte sobre as Práticas Avançadas em Enfermagem. **Métodos:** revisão de escopo de publicações existentes até 2020, nas bases PubMed/MEDLINE, SciELO, LILACS, BDNF, Web of Science e Scopus, identificadas pelos descritores "Prática Avançada de Enfermagem" ou "Advanced Practice Nursing". Foram selecionados 184 documentos. Realizou-se a caracterização dessa produção, seguida da construção do panorama das diferentes regiões do mundo. **Resultados:** a produção apresentou tendência crescente na última década, estando presente em todos os continentes, embora 43,5% correspondam a artigos de opinião, comentários, editoriais e relatos de eventos. Mesmo com aspectos semelhantes, as justificativas para as Práticas Avançadas em Enfermagem refletem necessidades regionais específicas. **Considerações Finais:** os estudos ainda carecem de variedade metodológica e ênfase nas especificidades dos países e seus sistemas de saúde, além de maior detalhamento sobre a regulação do trabalho, formação profissional e impactos dessas práticas no próprio campo da enfermagem.

**Descritores:** Prática Avançada de Enfermagem; Trabalho; Enfermeiras e Enfermeiros; Sistemas de Saúde; Brasil.

## RESUMEN

**Objetivos:** revisar el estado del arte de las Prácticas Avanzadas de la Enfermería. **Métodos:** revisión de alcance de publicaciones existentes hasta 2020, en las bases de datos PubMed/MEDLINE, SciELO, LILACS, BDNF, Web of Science y Scopus, identificadas por los descriptores "Prática Avançada de Enfermagem" o "Advanced Practice Nursing". Se seleccionaron 184 documentos. Se realizó la caracterización de esta producción, seguida de la construcción del panorama de las diferentes regiones del mundo. **Resultados:** la producción mostró una tendencia creciente en la última década, estando presente en todos los continentes, aunque el 43,5% corresponde a artículos de opinión, comentarios, editoriales y reportajes de eventos. Incluso con aspectos similares, las justificaciones de las Prácticas Avanzadas de la Enfermería reflejan necesidades regionales específicas. **Consideraciones Finales:** los estudios aún carecen de variedad metodológica y énfasis en las especificidades de los países y sus sistemas de salud, además de mayor detalle sobre la regulación laboral, la formación profesional y los impactos de estas prácticas en el campo de la enfermería.

**Descritores:** Enfermería de Práctica Avanzada; Trabajo; Enfermeras y Enfermeros; Sistemas de Salud; Brasil.

## INTRODUCTION

The debate on Advanced Nursing Practices has been increasingly present on the world stage<sup>(1-2)</sup>, with encouragement from international organizations to meet global health needs. Within the scope of the World Health Organization (WHO), such a debate appears as a strategy for achieving Universal Health Coverage<sup>(3-4)</sup> and supports the arguments of the International Council of Nurses (ICN) strategic plans, which bring Advanced Practice Nursing (APN) as a global need to expand the workforce to strengthen health systems<sup>(5-6)</sup>. In the Americas region, the Pan American Health Organization (PAHO) has disseminated APN, with a focus on Primary Health Care (PHC)<sup>(3)</sup>.

Although the theme has gained visibility in the last decade, Advanced Nursing Practice initiatives have been registered since the 1960s in several countries<sup>(7-9)</sup>. In 2002, the ICN prepared the first document that defines and characterizes APN<sup>(10)</sup> and, in 2017, at least 70% of hospitals in the world already had some type of nursing practice characterized as being of an advanced nature<sup>(1)</sup>, with around 70 countries interested in APN and at least 38 countries already with regulated practices, with emphasis on high-income countries<sup>(4)</sup>. However, monitoring these actions, as well as their impacts, is still limited to a restricted group of countries<sup>(11)</sup>, in which contributions to expanding access to health actions and services, improving case management of patients with multiple diagnoses and reducing costs for health systems, due to reduced hospitalization and readmission rates, have been reported<sup>(1,11)</sup>.

Despite this, as nursing constitutes a diversified professional field among countries in terms of training and actions developed, APN implementation forms also show differences, including a variety of titles, roles performed, required training, as well as ways of regulating professional practice<sup>(1,12)</sup>. It is noteworthy that there are more than 50 different titles for APN roles in the world<sup>(4)</sup>, in addition to interchangeability of terms in literature that are not necessarily synonymous.

Aiming to consolidate terminologies, the ICN updated a glossary<sup>(13)</sup>, distinguishing the terms "Advanced Nursing Practices" (ANP) and "Advanced Practice Nursing" (APN). ANP generically calls the expansion of boundaries of nursing's scope and work, being characterized by the "integration and application of a broad range of theoretical and evidence-based knowledge". On the other hand, the definition of APN outlines a set of "advanced nursing interventions", expanded in relation to what is normally established for nurses in each country, conditioned to qualification at the graduate level. From this second conception, "Advanced Practice Nurses" (APN) emerge, who, with additional professional qualification, acquire "expert knowledge base, complex decision-making skills and clinical competencies for expanded practice", whose characteristics are shaped by the context in which the profession is exercised in each country. Despite similarity of terms, ICN's definitions bring essential differences to the reflections that will be presented at the end of this article.

The diversity of APN roles and attributions can be categorized into two groups: Clinical Nurse Specialist (CNS) and Direct Care Nurse (DCN)<sup>(13)</sup>. CNS are professionals who undergo initial training, according to each country's regulations, internationally agreed as Registered Nurses (RN), and who take a graduate course in a specific

clinical area. DCN are equivalent to what has been called in most countries Nurse Practitioners (NPs), who are licensed to exercise the profession according to specified legislation for generalist nurses, but with a broader scope of practice than that of RN<sup>(1,4,14)</sup>. As a common element to any type of APN, there is the ability to demonstrate experience in four pillars: clinical, research, education and management/leadership. However, despite the scope of these four aspects, the clinical dimension is the central element<sup>(12)</sup>.

The growing incentive from international organizations to implement APN in different regions of the world, given the plurality of scenarios in different countries, leads to the need for better knowledge of existing scientific and institutional research, in order to support more robust context analyses. This need is latent in Latin America and the Caribbean, due to investment that PAHO has been making to implement APN in the region. For Brazil, in particular, considering the consolidation of the Unified Health System (SUS - *Sistema Único de Saúde*), of universal character, as well as existing regulation of nursing work, a more specific analysis of ANP needs, possibilities and paths is demanded.

Despite some literature reviews on the subject, aspects about study characteristics and ANP implementation singularities in different regions still need further elucidation. In this investigation, we seek to broadly systematize this study, in order to identify the needs for knowledge production, in order to contribute to formulating more specific questions for future research focused on the Brazilian reality.

## OBJECTIVES

To review the state of the art on ANP in national and international scientific literature, for the purpose of characterizing the study, implementation overview analysis in different regions of the world and, more especially, of studies related to the Latin American and Brazilian scenarios.

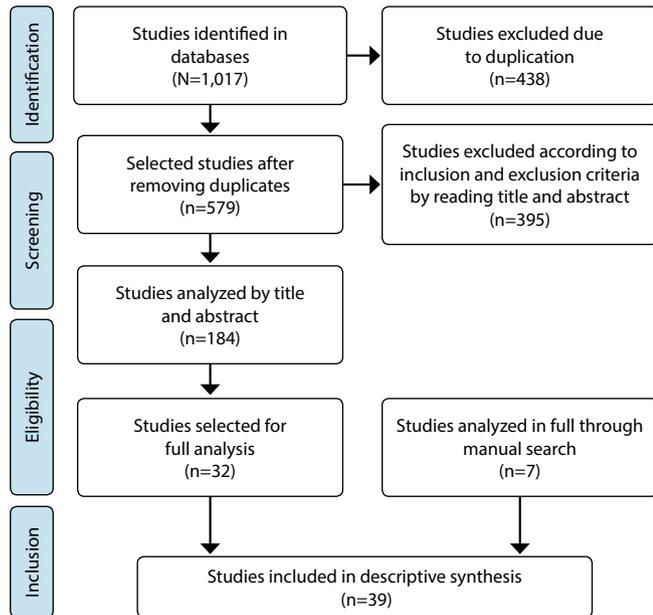
## METHODS

A scoping review was carried out according to the Joanna Briggs Institute recommendations<sup>(15)</sup>, with a view to locating the state of the art on the subject, from the following research questions: how have studies on the topic been characterized? How has the ANP implementation and development been justified in different regions of the world? What content is being produced and debated in Latin America and the Caribbean? What is the overview of Brazilian production on this topic?

The search was carried out in October 2020 and completed in May 2021, in the PubMed/MEDLINE, SciELO, LILACS, BDNF, Web of Science and Scopus databases, using descriptors "*Prática Avançada de Enfermagem*" (in Portuguese) and "*Advanced Practice Nursing*", under full-text filters and in Portuguese, English, Spanish and French, published until 2020.

A total of 1,017 documents were found, which were exported to the software Rayyan for processing and selection. After removing the duplicates, 579 documents were selected, from which the selection process began by two independent researchers, including texts that had advanced practice as the main subject. Conflicts regarding decisions of paired selection were sorted

out with the participation of a third researcher, obtaining, in the end, 184 documents, whose abstracts were analyzed for general characterization of studies, considering the year and study design, the country of origin and APN's areas of activity (Figure 1).



**Figure 1** - Study selection process flowchart according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) criteria

In order to analyze the global overview and the specific research production of Latin America and Brazil, articles were selected for analysis in full, based on the following criteria: (i) literature reviews; (ii) studies of groups of specific countries or regions; (iii) analysis of

APN implementation history in the USA and Canada; (iii) publications on ANP related to Brazil. From the initial sample, 32 articles were included, and still under the same criteria, 7 more documents were incorporated, through a manual search of references cited in the analyzed material. Thus, 39 documents were read in depth, from which information was extracted that answered the study questions, in order to allow the construction of an overview of different regions of the world as well as Brazil (Figure 1).

## RESULTS

### General study characterization

The first publication found on the subject was in the 2000s, but it was in the last decade that most of the research production took place, mainly between 2014 and 2020, a period that concentrates 88% of publications. Of this research production, 43.5% correspond to opinion articles, comments, editorials and event reports. Original research totals 29.3%, literature reviews, 9.2%, experience reports, 8.2%, other analytical studies, 2.2%, and a residual percentage of 7.6% that was not possible to categorize just by reading the available abstract.

A variety of countries, from all continents, appear as scenarios analyzed, although many of them are only cited or have an incipient debate on APN. Even among those who already have implementation initiatives, detailed information is not available on everyone. The USA, France and Spain were the countries that prevailed as the origin of selected studies. The areas of activity identified are very varied, and, for this study, it was decided to categorize them into three: general clinical, specific clinical and clinical subarea. The synthesis of this characterization can be found in Chart 1.

**Chart 1** - Characterization of studies on Advanced Nursing Practices (n=184) in the PubMed/MEDLINE, SciELO, LILACS, BDENF, Web of Science and Scopus databases by 2020

Time distribution	Study design	Countries with the highest volume of studies
2000 01	Opinions, comments, editorials and reports 80 (43.5%)	United States (n=26)
2001 01	Research reports 54 (29.3%)	France (n=13)
2002 01	Review articles 17 (9.2%)	Spain (n=9)
2003 00	Experience reports 15 (8.2%)	Norway (n=5)
2004 00	No categorization 14 (7.6%)	Australia (n=5)
2005 00	Other analytical studies 4 (2.2%)	Chile (n=5)
2006 00		Colombia (n=5)
2007 01		Canada (n=4)
2008 02	<b>AREAS OF PRACTICE OF ADVANCED PRACTICE NURSES</b>	
2009 03	<b>Generalist clinical</b>	<b>Specific clinical</b>
2010 03		<b>Clinical subarea</b>
2011 03	<ul style="list-style-type: none"> <li>Primary Care</li> <li>Clinical coordinator</li> <li>Emergency care</li> <li>Family care</li> <li>Intensive care</li> <li>Prolonged and home care</li> <li>Rural and remote care</li> <li>Chronic diseases</li> <li>Nurse researcher</li> <li>Care manager</li> <li>School and college health</li> </ul>	<ul style="list-style-type: none"> <li>Cardiology</li> <li>Surgery</li> <li>Palliative care</li> <li>Respiratory disease</li> <li>Geriatrics</li> <li>Nephrology</li> <li>Neurology</li> <li>Obstetrics</li> <li>Oncology</li> <li>Orthopedics</li> <li>Pediatrics/neonatology</li> <li>Occupational health</li> <li>Mental health</li> <li>Sexual and reproductive health</li> <li>Urology</li> </ul>
2012 05		<ul style="list-style-type: none"> <li>Anesthesia</li> <li>Diabetes mellitus</li> <li>Sleeping disorders</li> <li>Inflammatory bowel disease</li> <li>Cystic fibrose</li> <li>Genetics</li> <li>Hepatitis/HIV</li> <li>Anticoagulant therapy</li> <li>Opioid and neuroleptic therapy</li> <li>Transplantation</li> <li>Substance use disorders</li> <li>Acute pain treatment</li> <li>Wound care</li> </ul>
2013 02		
2014 13		
2015 19		
2016 17		
2017 19		
2018 29		
2019 39		
2020 26		

## Overview of Advanced Nursing Practices in different regions of the world

The experiences of expanding the scope of nursing practice present convergent points, but also some singularities in each region of the globe. Chart 2 presents the synthesis of articles analyzed in full for constructing the overview described below.

### United States of America

APN in this country has its antecedents in the process of professionalization of nursing, at the end of the 19<sup>th</sup> century and beginning of the 20<sup>th</sup> century, when nurses worked in regions of difficult access, diagnosing, intervening and referring patients<sup>(8)</sup>. It was from 1965 onwards, with the expansion of child health nurse practitioner role in the Colorado region, that what would become the NP formation began<sup>(8,14)</sup>.

In the early 1970s, this expansion of practice began to be advocated as a way of improving Americans' access to health services<sup>(8)</sup>, however, with many adversities in the regulatory process. First, it was accepted that nurses could diagnose and prescribe drugs

under "special conditions"; later, such conditions were defined as training programs for some specialties<sup>(8)</sup>.

The literature points out some factors that encouraged the expansion of nursing practices in the country, such as population aging, increase in chronic comorbidities and the need for case management, as well as the high cost in health and the difficulty of access for certain population groups, in addition to the focus of evidence-based care<sup>(1)</sup>. Currently, there are four recognized APN roles: certified registered nurse anesthetist, certified nurse-midwife, Clinical Nurse Specialist, and certified NPs<sup>(1)</sup>. These roles have been valued and are part of the North American health services network<sup>(2)</sup>, but their attributions comply with the regulations of each state, and, among some of them, there may be great disparities in terms of training, qualification and scope of practice<sup>(1,14)</sup>.

Possibly, it is the NPs that have a more organized action nationally and, in 2019, they were able to provide between 75% and 93% of PHC services, which include diagnosis, health problem management, medication prescription, treatments and health education actions<sup>(2)</sup>. NPs also work in specialized care in settings such as clinics, hospitals, emergency rooms, nursing homes, schools, colleges, and public health departments<sup>(14)</sup>.

**Chart 2** - Descriptive overview of articles analyzed in full (n=39) according to author/year, country analyzed, study design and content, from 2002 to 2020

Author Year	Countries	Study design and main content
Parker JM, Hill MN, 2017 <sup>(1)</sup>	USA, Canada, Australia, Hong Kong	Literature review on APN implementation: training, role, practice scope, career, accreditation and performance assessment.
Li Q et al, 2020 <sup>(2)</sup>	China and USA	Historiographical essay on historical aspects of APN in China, compared to the USA.
Bryant-Lukosius D et al, 2017 <sup>(4)</sup>	Latin America	Literature review on APN in the international context and its role for developing coverage and universal access to health in Latin America.
Kaasalainen S et al, 2010 <sup>(7)</sup>	Canada	Literature review on historical aspects of APN role development in Canada.
Keeling AW, 2015 <sup>(8)</sup>	USA	Historiographic essay on APN in the USA, its development and challenges.
Sheer B, Wong FKY, 2008 <sup>(9)</sup>	All continents	Documentary research on historical aspects, needs, facilities, performance and training for APN.
Maier C, Aiken L, Busse R, 2017 <sup>(11)</sup>	OECD and Europe	Analytical study on the development and regulatory reforms of APN role, functions performed, educational programs, legislation and regulations.
Lee G, Hendriks J, Deaton C, 2020 <sup>(12)</sup>	Europe	Editorial on APN overview in Europe and its role in the follow-up of people with chronic cardiovascular diseases.
ANNP, 2021 <sup>(14)</sup>	USA	American Nursing Practitioners Association timeline.
Brooten D et al, 2002 <sup>(16)</sup>	USA	Literature review on APN at early discharge in different groups of patients, focusing on health condition, patient satisfaction and cost.
Yi M, 2016 <sup>(17)</sup>	Asia	Analysis of the oncology situation in Asia and proposal to expand the performance in oncology nursing, through APN, aiming to enhance prevention and screening actions as well as continued and palliative care.
Almukhaini S et al, 2020 <sup>(18)</sup>	Arab countries	Scoping review research protocol on the APN role of in the region.
Christmals CD, Armstrong SJ, 2019 <sup>(19)</sup>	Sub Saharan Africa	Literature review on relevance, opportunities and challenges to implementation of an APN program focused on child health in sub-Saharan Africa.
Scanlon A, Murphy M, Smolowitz J, Lewis V, 2020 <sup>(20)</sup>	Middle- and low-income countries	Literature review on APN roles in low- and middle-income countries.

To be continued

Chart 2 (concluded)

Author Year	Countries	Study design and main content
Cassiani SHDB, Zug KE, 2014 <sup>(21)</sup>	Latin America	Editorial that addresses PAHO's initiatives to promote APN in Latin America.
Cassiani SHDB, Zug KE, 2015 <sup>(22)</sup>	Latin America	Editorial that addresses some PAHO initiatives to achieve Universal Health Coverage and APN implementation to expand PHC.
Cassiani S, Lopez RS, Rosales LK, 2016 <sup>(23)</sup>	Latin America	Editorial that addresses some PAHO initiatives to achieve Universal Health Coverage and APN implementation to expand PHC.
Cassiani SHDB, Rosales LK, 2016 <sup>(24)</sup>	Americas	Editorial on initiatives for ANP implementation in the Americas region.
Morán-Peña L, 2017 <sup>(25)</sup>	Latin America	Editorial that addresses some PAHO initiatives for APN implementation, in order to strengthen PHC actions.
Morán Peña L, 2015 <sup>(26)</sup>	Americas	Editorial on historical aspects of APN and its implementation in the Americas.
Honig J, Doyle-Lindrud S, Dohrn J, 2019 <sup>(27)</sup>	Latin America	Description of a project's first phase that sought to develop a set of consensus-based ANP competencies to produce a curriculum prototype to be adapted in Latin American countries.
Cassiani SHDB et al, 2018 <sup>(28)</sup>	Latin America	Descriptive quantitative study, which verified central competencies for the training of APN in PHC.
Zug KE et al, 2016 <sup>(29)</sup>	Latin America	Study on APN regulation, education and practice in Latin America and nursing leaders' perception in the region regarding APN role in PHC.
Bezerril MS et al, 2018 <sup>(30)</sup>	Latin America	Literature review on factors that may influence ANP implementation.
Bellaguarda ML, 2015 <sup>(31)</sup>	Brazil and Canada	Comparative study, which analyzed the differences between prescription of medications by nurses in Brazil and Ontario, Canada.
Pereira JG, Oliveira MAC, 2018 <sup>(32)</sup>	Brazil	Qualitative research on nurses' professional autonomy in daily work and how this autonomy is perceived by other multidisciplinary team professionals.
Nascimento WG et al, 2018 <sup>(33)</sup>	Brazil	Documentary analysis on medication prescription and test request, with a view to advanced practice in the scope of PHC.
Andriola IC, Sonenberg A, Lira ALBC, 2020 <sup>(34)</sup>	USA and Brazil	Observational study of APN practice in an American hospital, with a view to supporting the ANP implementation in Brazil.
Dias CG et al, 2013 <sup>(35)</sup>	Brazil	Experience report of APN implementation in the oncology pediatric nursing staff.
Souza BML, Salviano CF, Martins G, 2018 <sup>(36)</sup>	Brazil	Experience report of university extension program of APN in uropediatrics, developed in the outpatient clinic of a teaching hospital of the Federal District.
Mattos-Pimenta CA et al, 2020 <sup>(37)</sup>	Brazil	It describes the experience of their professional master's degree in women's health, which integrated the concepts of ANP.
Rewa T et al, 2019 <sup>(38)</sup>	Brazil	This qualitative study that perception of graduates of nursing residency and professional master's degree in Primary Care about APN in PHC and the necessary training model.
Andriola IC, Sonenberg A, Lira AL, 2020 <sup>(39)</sup>	Brazil	Literature review on SUS process indicators and outcomes and possible APN contributions to improve maternal and child health care in Brazil.
Robazzi MLCC, 2014 <sup>(40)</sup>	Brazil	Editorial on possibilities of advanced practice and professional master's degrees in nursing.
Silvan Scochi CG et al, 2015 <sup>(41)</sup>	Brazil	Reflection on the contribution of professional master's programs to APN in Brazil.
Vitor AFAF, 2018 <sup>(42)</sup>	Brazil	Editorial on APN perspectives in Brazil and worldwide.
Oliveira JLC, Toso BRGO, Matsuda LM, 2018 <sup>(43)</sup>	Brazil	Theoretical-reflexive essay, based on international literature on ANP and analysis pertinent to the profession to the Brazilian context.
Miranda Neto MV et al, 2018 <sup>(44)</sup>	Brazil	Reflection on APN role in the context of Brazilian PHC.
Cassiani SHB, Silva FAM, 2019 <sup>(45)</sup>	Brazil	Editorial that addresses the international context of APN and points to Brazil as a favorable context for implementation to strengthen PHC, mainly for professional master's degree.

North American nurses are the ones that most gather evidence of APN results. In the early 2000s, cost reductions with rehospitalizations and length of stay were already reported<sup>(16)</sup>. Over time, other evidence was added in the context of coordinating cases of patients in transition between care environments<sup>(1)</sup>, in addition to the quality of care also being considered superior, when compared to doctors, with a lower cost, and being more likely to serve vulnerable populations<sup>(2)</sup>.

However, many challenges are still reported for APN in the country, among which stand out: training costs with no guarantee of return; lack of clinically competent and academically qualified faculty; outdated legislation; medical grade resistance; attempts to disqualify the population, associated with the public's lack of knowledge; lack of reimbursement policies by insurance companies; the fact that functional progressions depend on employers; and institution's rule.

### **Canada**

APN's historical background in Canada also dates back to the end of the 19<sup>th</sup> century, with English nurses working in more remote areas of the country. However, it was only after the 1960s and 1970s that formalization processes of such practices began, driven by the introduction of publicly funded universal medical insurance and an emphasis on PHC, as well as the complexity of clinical care that emerges in the post-World War II period<sup>(7)</sup>. Since then, they have been building their training and regulation proposal, which included the need to serve remote areas, primary care in urban areas, and diverse clinical specialties<sup>(1,7)</sup>. Despite facing difficulties in reaching consensus on the formation and lack of public investment until the 1980s, in more recent times, the Canadian government has distinguished itself worldwide in preparing graduate students, supporting nursing professionals and investing in research on APN results<sup>(7)</sup>, encouraging its integration and sustainability in the national territory<sup>(9)</sup>. It is the country in the world that has the most detailed data on this workforce<sup>(11)</sup>.

Having as a requirement a master's degree<sup>(9)</sup>, three APN titles are identified in the country: clinical specialists, PHC nurses and acute care nurses. Of these, the largest proportion and also the most consolidated nationally, with regard to the standardization and regulation of exercise, are those of PHC nurses. On the other hand, the proportion of clinical specialists is much lower, when compared to the USA, as well as they do not have national standards for this function, with inconsistency within and between provinces in the educational preparation for such functions, with the provinces that regulate the practice<sup>(1,9)</sup>. They have 26 certifying organizations, all coordinated by the Canadian Nurses Association, which ensures some consistency of standards and methods<sup>(1)</sup>.

### **Europe**

Some European population's health needs, as well as their health systems' characteristics, have fostered debate and opened paths for APN implementation on the continent. Population aging, added to the complexity of multiple chronic diseases, has pointed to the need for a prevention-oriented workforce, as well as evidence-based care and support for self-management. But

the literature shows that there is still limited evidence of cost-benefit, as well as educational capacity and areas of activity<sup>(12)</sup>.

The oldest experiences on the continent are in the UK and Netherlands<sup>(11)</sup>. In the UK, advanced practice roles in health care apply to a variety of professionals, which include nurses with a range of titles and regional variations in role<sup>(12)</sup>. The Netherlands, on the other hand, has a protected and validated title in five categories: preventive care for somatic conditions, acute care for somatic conditions, intensive care for somatic conditions, chronic care for somatic diseases and mental health, most of which work in PHC, managing elder care<sup>(12)</sup>.

Other experiences have been observed in the last decade in several countries. Finland started implementing APN in 2003<sup>(11)</sup>, Sweden has implemented APN since 2010 within the scope of APS, while in the Republic of Ireland, APN has been a career path for RN since 2019<sup>(12)</sup>. In Estonia and Lithuania, it is also already implemented, including financial incentives that have boosted the hiring of these workers<sup>(11)</sup>. With early stages of development after 2010 are Austria, the Flemish part of Belgium, Croatia, France, Germany, Iceland and Switzerland<sup>(11)</sup>. By 2020, Denmark, Norway, the Czech Republic and Hungary were in the process of implementing<sup>(12)</sup>.

Even though it is the continent with the largest number of countries with APN experiences, there is no consensus on what advanced practice is, its need for training, its roles, as well as not all countries recognize or support the initiative<sup>(12)</sup>. Most do not necessarily adopt the master's level for APN, and the PHC area has been the most encouraged, being also the one on which they find evidence of quality in care, even superior to that provided by doctors in some situations<sup>(11)</sup>.

### **Oceania**

The APN in this region was motivated by the need to establish professionals in remote rural areas, but, over time, possibilities for overcoming gaps in other areas of health services were also opened<sup>(1)</sup>. The literature considers APN experiences in Australia and New Zealand as consolidated, which are among the few countries in the world that have monitoring devices for such practices<sup>(1,9,11)</sup>. Both adopt the master's level for NPs, have expanded prescribing authority, or have undertaken reforms to advance APN role. Governments delegate regulation to agencies in the field of nursing, and APN can act within the scope of the health system or in private offices<sup>(1,9,11)</sup>.

In New Zealand, reforms were slower, mainly due to opposition from the medical association<sup>(11)</sup>. With the first recognized NP program in 2000, the title was regulated in the country<sup>(9)</sup>, and although it has evolved in terms of prescribing medications, until 2015, efforts were still made to expand the scope of practice to other domains, such as signing certificates and declarations of health or death conditions<sup>(11)</sup>.

Australia's experience began in the 1990s, with an APN program in one of its provinces, and, after showing good results, it ended up on the government agenda<sup>(9)</sup>. The NP modality is the most developed in Australia, favored by the regulation of nursing education and the practice of health professionals nationwide, guaranteed in the country since 1980 and 2009, respectively<sup>(1)</sup>. Nurses, who are trained in colleges in the country, receive the title of NP through a master's degree, in conjunction with colleges

and services, which include three years of full-time practice in the area. APN regulation took place in 2000, and in 2005 national competency standards were established within the scope of practice, which has been assessed as safe and effective, although stakeholder acceptance is still variable<sup>(1)</sup>.

On the other hand, what has been called other APN modalities, focused on clinical specialties, does not have a master's degree as a training strategy. Until 2017, they did not have a specific record and presented weaknesses in the training mechanism, as well as ambiguities regarding role, variety of titles and diversity of practices. Areas of expertise are poorly structured, and the scope of practice is formalized by stakeholder acceptance, which occurs within the local health agency<sup>(1)</sup>.

## **Asia**

APN implementation initiatives in some Asian countries have been justified by the increasing burden of chronic diseases, especially cancer and the disparity in incidence and mortality between more and less developed regions, these being the majority of countries and in which the greatest shortage of labor force is found. Moreover, the need for culturally sensitive care and optimization of limited resources for health care stands out<sup>(2,17)</sup>.

In the East Asia region, the biggest highlight is China, which, despite not having a very developed APN in its mainland region, has consolidated experiences in Hong Kong and Taiwan<sup>(9)</sup>. In Hong Kong, health care reform in the 1990s made clinical practice possible for nurses graduated in colleges, and work regulation is handled by the Hong Kong Board of Nursing<sup>(1)</sup>. Graduate education was introduced in 1995<sup>(9)</sup>, but APN role was only established in 2002, with the specialized nurse, and in 2008 another higher role was added, which was the clinical consultant nurse<sup>(1)</sup>. Thus, APN in Hong Kong has a degree of specialization and is related to the time of experience in the profession, in a career progression system<sup>(1)</sup>. The performance takes place both in hospital institutions and also, independently, in nursing clinics<sup>(9)</sup>. Its functions encompass advanced clinical assessment, education, research and consultation, with emphasis on outpatient case management, for which it has shown good results in the quality and safety of patient care. But they still face barriers, such as role non-acceptance by other health professionals and sometimes the general public, in addition to limited rights to prescription and referrals<sup>(1)</sup>. Even so, they have influenced the encouragement of APN expansion in mainland China, which has also been highlighted in literature<sup>(1)</sup>. In 2005, the need to develop APN was described in a document from the Chinese Ministry of Health<sup>(9)</sup>. In 2015, the first NP educational program<sup>(2)</sup> was instituted. In 2017, the first master's program began, and the first in-service training program was implemented<sup>(2)</sup>.

Less frequently in literature, other experiences are found in this Asian region. Korea has a background of certified nurse-midwives and certified registered nurse anesthetists since 1950, with expansion into community, home and mental health areas between the 1970s and 1990s. In 2000, they were placed under a broad title of APN, which later began to add new areas<sup>(9)</sup>. In this period, initiatives are also identified in Singapore and Thailand, and in most of these titles, the model of clinical specialist nurses predominates. In this sense, Japan can also be included, which, although the use

of APN is not evident, existing specialties for nurses are similar to the examples of neighboring countries, all with specializations or master's degree, offered by colleges and national certifications<sup>(9)</sup>.

In the West Asia region, in the 1990s, there are some APN initiatives in Jordan and Saudi Arabia, followed by more recent experiences of starting master's degree programs in Oman, the United Arab Emirates and Qatar<sup>(18)</sup>. Furthermore, a study has already identified practices considered as APN already established, even if at an early stage of implementation and timid regulatory reform, as in Israel<sup>(6)</sup>.

However, it is a region that still lacks much analysis of this practice and has received support from the WHO for its development in at least 21 countries: Afghanistan, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen<sup>(18)</sup>.

## **Africa**

With most countries facing situations of extreme poverty, serious health problems and low capacity to respond to situations of limited resources and shortage of health professionals, nursing work contribution has gained recognition in official discourses. The WHO estimated that, by 2005, more than 80% of health needs were met by nurses in the region. By 2007, APN initiatives were identified in Botswana, South Africa and Swaziland, but faced challenges regarding the lack of performance models, definition of the scope of practice and reimbursement mechanisms<sup>(9)</sup>.

Information on APN in this continent, in the literature reviewed, is more concentrated in Sub-Saharan Africa (SSA) and what has most motivated this debate in the region has been the difficulty of access to health care, among other things, related to the shortage of power of work. Unlike other regions of the world, where population aging has encouraged ANP, in this African region, the motivations are focused on high population growth, with children constituting 70 to 90% of the population in some rural areas and high mortality in the population under 12 years of age. Thus, the reference to APN is associated with the need to reduce the cost of health care and improve cost-effectiveness, above all in a bet on the Child Health Nurse Practitioner program<sup>(19)</sup>. Even though it is understood as a possible strategy for the region, based on the experiences of other places, it still faces obstacles, such as limited resources, opposition from the medical profession, weak nursing regulation and regulatory agencies, and a lack of specific APN referral programs<sup>(19)</sup>.

However, although the debate is already circulating on the African continent, there is still an insufficient number of publications for a more robust overview. APN experiences are also systematized in a study that analyzes low-income countries, and, among them, Zambia has stood out in the number of publications, but most of these countries do not have initiatives to strengthen the practice and regulation of APN roles<sup>(20)</sup>.

## **Latin America**

In this region, APN implementation has been considered by the literature as incipient and diversified in terms of understanding, formation and regulation. There are few established education programs and there are still no regulatory mechanisms for roles,

although they are being developed in some countries<sup>(4)</sup>. It appears that PAHO has been the main promoter of this initiative, especially since 2013/2014, when its documents started to deal with reducing human resource shortage in health to meet universal coverage and access. A reflection of this is that, in this scoping review, between 2014 and 2017, six editorials from important journals in the region were found, encouraging countries to implement APN. Four of them were written by PAHO agents<sup>(21-24)</sup> and two by a representative of *Asociación Latinoamericana de Escuelas y Facultades de Enfermería* (ALADEFE)<sup>(25-26)</sup>, addressing the same content.

Still following a PAHO agenda, as of 2018, publications began on research with nurses in the region on the skills needed for APN applicable to Latin American countries, to produce a curricular prototype<sup>(27-28)</sup>. Also, there are some analyzes of the region context for APN implementation, based on existing publications or the perception of nursing leaders<sup>(4,29-30)</sup>, addressing the needs, possibilities and possible results.

The need highlighted by this literature is the greater supply of professionals in remote regions and the reduction of health costs to achieve Universal Health Coverage based on PHC. The possibilities identified in the region as favorable to implementation are the autonomy of nursing professionals in some countries in the context of drug prescriptions, the training profile, the increase in graduate courses and the expansion and appreciation of PHC with good acceptance of nursing work by the population. In this case, the settings identified as the most favorable are Brazil, Mexico, Chile and Colombia. As possible results, care qualification, health service access expansion by populations in need, PHC promotion as a gateway to the health system and improvement of nurses' activities in patient care are highlighted<sup>(30)</sup>.

In concrete terms of APN implementation, Jamaica is probably the country with the most experience, through the introduction of NP programs, followed by Belize, both implemented since 1992<sup>(4,30)</sup>. As obstacles to APN implementation in Latin America, divergence in the understanding of it by professionals and also by decision makers are pointed out, high percentage of technical training compared to graduation, resistance from other professionals, incipient training in PHC or low recognition of this specialization, regional differences in the level of socioeconomic development of countries, in addition to the fragility of organizational and political movements in favor of this initiative<sup>(4,30)</sup>.

### **Brazil**

Regarding research production on the subject, the state of the art does not differ much from what is available in Latin America, despite having a health system and nursing field with very different elements, when compared to most countries in the region. Some publications have considered clinical autonomy within the scope of PHC or women's health as equivalent to what is developed by the APN in other countries<sup>(31-34)</sup>. In other localized studies, even the use of APN for actions developed in the areas of oncology, pediatric uropediatrics and obstetric nursing is verified<sup>(35-37)</sup>. There is also a search for nurses' perceptions about APN<sup>(38)</sup> and a review study that analyzed SUS process indicators and expected outcomes, to explain how APN implementation could contribute to improving maternal and child health care in Brazil<sup>(39)</sup>.

It is noteworthy that a significant part of literature referring to Brazil consists of editorials or reflection articles on possible APN contributions, paths and possibilities for implementation, especially in the field of PHC, in the line advocated by PAHO<sup>(40-45)</sup>.

## **DISCUSSION**

### **Synthesis made possible by the state of the art**

Academic production still lacks specifications on the scope of APN practice, title consistency, professional practice regulation and its difference for a specialized nurse. APN singularities and other possibilities within the scope of ANP are also not explored, in the sense of analyzing professional practice development processes in different countries. The study methods used so far have largely been the description of experience or interviews with nurses or nursing "leaders", with reduced document analysis or other more systematic forms of analysis of national or organizational policies. Subjective elements around trust, leadership and autonomy prevail, or are even limited to superficially describing existing practices, training and regulation. There is also a possible bias, since informants tend to be nurses who already defend the expansion of the scope of practice in APN, and the documents often come from organizations in the field of nursing focused on this initiative.

With regard to the justifications for implementing APN, with this fragility of analytical methods, little emphasis is given to the specificities of countries and characteristics of their health systems. Most publications reveal justifications that tend to prevail and reinforce the discourses of international organizations around the shortage of doctors, high costs and difficult access, not always accompanied by well-founded data on countries or analyzes of objective local conditions. In this sense, given the two dimensions that characterize APN<sup>(11)</sup> – doctor replacement in what was previously exclusive to them or the creation of new roles for nurses that meet the health care complexity - is reinforced more broadly.

### **Elements of reflection for the Brazilian research agenda**

There is no denying the need to enhance the health workforce to qualify care and expand access, in order to address the constant and growing demands of care and management. In the case of Brazil, evidence points to the potential of Brazilian nurses and their role in the implementation of health policies, with a singular importance for SUS, in which they achieved a high degree of professional autonomy, even though there are limits to be overcome.

However, the ongoing debate on "advanced practices" requires an in-depth study that considers its different nuances. The "boundary expansion of the scope of work", present in the ANP definition, reflects a historical movement of development of any professional category in its encounter with the complexification of the reality in which it operates, in which the profession advances over its own limit, "expanding", resulting, therefore, in possible specializations in the professional field itself. On the other hand, APN brings a perspective of "differentiation" and "exteriorization" to this field, approaching a definition of "type of nursing" that, in large part, becomes a "concession" to work in the scope from another professional field.

Therefore, when analyzing what has been produced in Latin America and even the fragility of this debate in Brazil, it is necessary to ask: what expansion of scope interests Brazilian nursing and SUS and in what format? In the case of PHC, where it is being most encouraged by PAHO, what would this imply with regard to the multidisciplinary work that has already been developed in recent decades? In other words, it is at the heart of debates on reformulating the PHC team's work process, from the perspective of a professional field that already coexists with issues of overload, overexploitation, processes of precariousness, fragmentation into different professional categories, gender inequality, in addition to the fragility of health systems and low regulation of nursing work in some countries.

Therefore, when thinking about Brazil, it is necessary to take into account some aspects. The first is the fact that it has a universal health system, which over the years has consolidated PHC, reoriented by the Family Health Strategy (FHS), with a minimum established team. However, in this process, the worst FHS coverage in large urban centers and greater difficulty in retaining professionals - especially doctors - in small municipalities stand out.

The second aspect is related to advances made by the country in terms of nursing work training and regulation, compared to other Latin American countries, as well as college education for training nurses, with an equivalent academic degree for all health professions. Over the years, Brazilian nursing has advanced in the regulatory frameworks of the professional categories that compose it, and this dialogues with the third aspect and all the contradictions and challenges that it may imply, which is the fact that the country is currently one of the strongest private education markets in the world.

### Study limitations

Although the choice of bases, as well as generic descriptor "Advanced Practice Nursing", was made in order to guarantee greater sensitivity to the search, eventually documents referring to some countries may have been excluded, mainly taking into account the fact of a wide variety of existing APN titles. Therefore, studies that overcome these limits can improve the answers to some of the questions raised.

### Contributions to nursing and health

This work provided a synthesis of research production on the subject, in order to contribute to identifying research needs with

varied methodological designs that may contemplate different analytical aspects, not yet sufficiently explored. With this, it presents contributions to update the research agenda in nursing and health, especially with regard to personnel policy, health care qualification and workforce analysis in general.

### FINAL CONSIDERATIONS

Considering the above, it is evident for Brazil the need for a debate on "advanced practices" from an ANP perspective, supported by a diverse and methodologically consistent academic production to guide the positions taken by organizations in the category, as well as subsidizing the decision-making of educational policy managers and makers and health workforce. It is fundamental, in this analysis process, to compare realities that take into account aspects such as: general educational system; health system model; training to work in the field of nursing; regulation of nursing work; difference of professional categories within the nursing field. These same aspects also require comparative analyzes of Brazil with Latin American countries, with research problems that go beyond international organizations' discourse. This would make it possible to obtain an overview of ANP with more details on needs, potentialities and relevance, with a view to the impacts on health systems, in addition to cost reduction and, mainly, the impacts for the nursing field itself, in the sense of professional valorization, wage and role played in universal health systems. In particular, it is necessary to answer which are the health needs of the Brazilian population and of its health system that nursing practice needs to meet.

It is still necessary to emphasize the importance of considering that the four pillars of APN are already formal competencies of undergraduate nursing in Brazil (clinical, research, education and management). Thus, elements such as clinically based direct patient care, the ability to lead, collaborate and cooperate with the health team and users. It is therefore necessary to analyze the equivalence with what is being proposed for other countries in terms of APN titles, what is the real need of the Brazilian health workforce and what changes are required.

Finally, in addition to studies on perceptions, content and training models, descriptions of practices, the perspectives of both ANP and APN require policy analysis, taking into account internal elements of nursing, intermediaries in the health field, but also broader elements of the correlation of political and social forces, which interfere with professional training and work regulation in society in general.

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### REFERENCES

1. Parker JM, Hill MN. A review of advanced practice nursing in the United States, Canada, Australia and Hong Kong Special Administrative Region (SAR), China. *Int J Nurs Sci*. 2017;4(2):196–204. <https://doi.org/10.1016/j.ijnss.2017.01.002>
2. Li Q, Liu M, Davidson PM, Reynolds NR, Buerhaus PI. A tale of two countries: nurse practitioners in the United States and China. *J Adv Nurs*. 2020;76(4):924–6. <https://doi.org/10.1111/jan.14292>
3. Pan American Health Organization (PAHO). Advanced practice nursing summit: developing advanced practice nursing competencies in latina America to contribute to universal health [internet]. 2016 [cited 2021 Jun 12];27. Available from: <https://www.paho.org/en/documents/report-advanced-practice-nursing-summit-developing-advanced-practice-nursing-competencies>

4. Bryant-Lukosius D, Valaitis R, Martin-Misener R, Donald F, Peña LM, Brousseau L. Advanced Practice Nursing: a strategy for achieving universal health coverage and universal access to health. *Rev. Latino-Am. Enfermagem*. 2017;25:e2826. <https://doi.org/10.1590/1518-8345.1677.2826>
5. International Council of Nurses (ICN). ICN Strategic Plan (2014–2018) [Internet]. 2014 [cited 2021 Jun 8];1–4. Available from: [https://www.icn.ch/sites/default/files/inline-files/ICN\\_Strategic\\_Plan\\_2014-2018.pdf](https://www.icn.ch/sites/default/files/inline-files/ICN_Strategic_Plan_2014-2018.pdf)
6. International Council of Nurses. ICN Strategic Plan (2019–2023) [Internet]. 2019 [cited 2021 Jun 8];1–4. Available from: [https://www.icn.ch/sites/default/files/inline-files/Strategic\\_plan.pdf](https://www.icn.ch/sites/default/files/inline-files/Strategic_plan.pdf)
7. Kaasalainen S, Martin-Misener R, Kilpatrick K, Harbman P, Bryant-Lukosius D, Donald F, et al. A historical overview of the development of advanced practice nursing roles in Canada. *Nurs Leadersh*. 2010;23:35–60. <https://doi.org/10.12927/cjnl.2010.22268>
8. Keeling AW. Historical Perspectives on an Expanded Role for Nursing. *Online J Issues Nurs* [Internet]. 2015 [cited 2021 May 5];20(2):2. Available from: <http://ojin.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-20-2015/No2-May-2015/Historical-Perspectives-Expanded-Role-Nursing.html>
9. Sheer B, Wong FKY. The development of advanced nursing practice globally. *J Nurs Scholarsh*. 2008;40(3):204–11. <https://doi.org/10.1111/j.1547-5069.2008.00242.x>
10. Torrens C, Campbell P, Hoskins G, Strachan H, Wells M, Cunningham M, et al. Barriers and facilitators to the implementation of the advanced nurse practitioner role in primary care settings: a scoping review. *Int J Nurs Stud*. 2020;104. <https://doi.org/10.1016/j.ijnurstu.2019.103443>
11. Maier CB, Aiken LH, Busse R. Nurses in advanced roles in primary care: policy levers for implementation. *OECD Health Working Papers*. 2017;(98):13–69. <https://doi.org/10.1787/a8756593-en>
12. Lee G, Hendriks J, Deaton C. Advanced nursing practice across Europe: work in progress. *Eur J Cardiovasc Nurs*. 2020;19(7):561–3. <https://doi.org/10.1177/1474515120917626>
13. Schober M, Lehwaldt D, Rogers M, Steinke M, Turale S. Advanced Practice Nursing Guidelines 2020 [Internet]. 2020 [cited 2021 Jul 10];1–48. Available from: [https://www.icn.ch/system/files/documents/2020-04/ICN\\_APN%20Report\\_EN\\_WEB.pdf](https://www.icn.ch/system/files/documents/2020-04/ICN_APN%20Report_EN_WEB.pdf)
14. American Associations of Nursing Practitioners (ANNP). Historical Timeline [Internet]. 2021 [cited 2021 Jun 15]. Available from: <https://www.aanp.org/about-aanp/historical-timeline>
15. Institute JB. The Joanna Briggs Institute Reviewers' Manual 2015: Methodology for JBI scoping reviews [Internet]. 2015 [cited 2021 Jun 10];1–24. Available from: <https://nursing.lsuhsu.edu/JBI/docs/ReviewersManuals/Scoping-.pdf>
16. Brooten D, Naylor MD, York R, Brown LP, Munro BH, Hollingsworth AO, et al. Lessons learned from testing the quality cost model of Advanced Practice Nursing (APN) transitional care. *J Nurs Scholarsh*. 2002;34(4):369–75. <https://doi.org/10.1111/j.1547-5069.2002.00369.x>
17. Yi M. Creating a Culture of Professional Development for Oncology Nursing in Asia. *Asia-Pacific J Oncol Nurs*. 2016;3(1):30–2. <https://doi.org/10.4103/2347-5625.177392>
18. Almukhaini S, Martin-Misener R, Weeks LE, Macdonald M, Hussain H, Macdonald D, et al. Advanced practice nursing roles in Arab countries in the Eastern Mediterranean region: a scoping review protocol. *JBI Evid Synth*. 2020;19(4):891–8. <https://doi.org/10.11124/JBIES-20-00002>
19. Christmals CD, Armstrong SJ. The essence, opportunities and threats to Advanced Practice Nursing in Sub-Saharan Africa: a scoping review. *Heliyon*. 2019;5(10). <https://doi.org/10.1016/j.heliyon.2019.e02531>
20. Scanlon A, Murphy M, Smolowitz J, Lewis V. Low-and lower middle-income countries advanced practice nurses: an integrative review. *Int Nurs Rev*. 2020;67(1):19–34. <https://doi.org/10.1111/inr.12536>
21. Cassiani SHDB, Zug KE. Promoting the Advanced Nursing Practice role in Latin America. *Rev Bras Enferm*. 2014;67(5):673–4. <https://doi.org/10.1590/0034-7167.2014670501>
22. Cassiani SHDB, Zug KE. The Advanced Practice Nursing role in Latin America: challenges, opportunities and implications for universal health coverage. *Investig Enferm Imagen Desarr*. 2015;17(1). <https://doi.org/10.11144/Javeriana.IE17-1.apnr>
23. Cassiani S, Lopez Reyes S, Rosales LK. [Building Curricular Competencies to Facilitate Advanced Practice Nursing Implementation in Latin America]. *Enfermería Univ*. 2016;13(4):199–200. <https://doi.org/10.1016/j.reu.2016.09.003> Spanish.
24. Cassiani SHDB, Rosales LK. Initiatives towards Advanced Practice Nursing Implementation in the Region of the Americas. *Esc Anna Nery*. 2016;20(4). <https://doi.org/10.5935/1414-8145.20160081>
25. Morán-Peña L. Advanced Practice Nursing: What is it and what could it become in Latin America? *Enfermería Univ*. 2017;14(4):219–23. <https://doi.org/10.1016/j.reu.2017.09.004>
26. Morán Peña L. Advanced practice nurses, global and regional trends to support access and universal health coverage. *Rev Iberoam Educ Invest Enferm* [Internet]. 2015 [cited 2021 Jul 10];5(3):4–7. Available from: <http://www.enfermeria21.com/revistas/aladefe/articulo/167/>
27. Honig J, Doyle-Lindrud S, Dohrn J. Moving towards universal health coverage: advanced practice nurse competencies. *Rev Lat Am Enfermagem*. 2019;27(3132). <https://doi.org/10.1590/1518-8345.2901.3132>
28. De Bortoli Cassiani SH, Aguirre-Boza F, Hoyos MC, Barreto MFC, Peña LM, MacKay MCC, et al. Competencies for training advanced practice nurses in primary health care. *ACTA Paul Enferm*. 2018;31(6):572–84. <https://doi.org/10.1590/1982-0194201800080>
29. Zug KE, Cassiani SHB, Pulcini J, Bassalobre Garcia A, 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>

30. Bezerril MS, Chiavone FBT, Mariz CMS, Sonenberg A, Enders BC, Santos VEP. Advanced practice nursing in Latin America and the Caribbean: context analysis. *Acta Paul Enferm.* 2018;31(6):636-43. <https://doi.org/10.1590/1982-0194201800087>
31. Bellaguarda MLR, Nelson S, Padilha MI, Caravaca-Morera JA. Prescriptive Authority and Nursing: a comparative analysis of Brazil and Canada. *Rev Latino-Am Enfermagem.* 2015;23(6):1065-73. <https://doi.org/10.1590/0104-1169.0418.2650>
32. Pereira JG, Oliveira MAC. Nurses' autonomy in Primary Care: from collaborative practices to advanced practice. *Acta Paul Enferm.* 2018;31(6):627-35. <https://doi.org/10.1590/1982-0194201800086>
33. Nascimento WG, Uchôa SADC, Coêlho AA, Clementino FS, Cosme MVB, Rosa RB, et al. Medication and test prescription by nurses: Contributions to advanced practice and transformation of care. *Rev Latino-Am Enfermagem.* 2018;26:e3062. <https://doi.org/10.1590/1518-8345.2423-3062>
34. Andriola IC, Sonenberg A, Lira ALBC. Understanding advanced practice nursing as a step towards its implementation in Brazil. *Rev Panam Salud Publica.* 2020;44:e115. <https://doi.org/10.26633/RPSP.2020.115>
35. Dias CG, Duarte AM, Ibanez ASS, Rodrigues DB, Barros DP, Soares JS, et al. Clinical Nurse Specialist: a model of advanced nursing practice in pediatric oncology in Brazil. *Rev Esc Enferm USP.* 2013;47(6):1426-30. <https://doi.org/10.1590/reeusp.v47i6.78110>
36. Souza BML, Salviano CF, Martins G. Advanced Practice Nursing in Pediatric Urology: experience report in the Federal District. *Rev Bras Enferm.* 2018;71(1):223-7. <https://doi.org/10.1590/0034-7167-2016-0654>
37. Mattos-Pimenta CA de, Coca KP, Amorim MHC, Belasco AGS, Gabrielloni MC, Schirmer J. Women's health care in advanced practice nursing: a professional master's degree program. *Acta Paul Enferm.* 2020;33. <https://doi.org/10.37689/acta-ape/2020AE01235>
38. Rewa T, Miranda Neto MV de, Bonfim D, Leonello VM, Oliveira MAC. [Advanced Nursing Practices: perception of graduates of the residency and professional master's programs]. *Acta Paul Enferm.* 2019;32(3):254-60. doi: 10.1590/1982-0194201900035 Portuguese.
39. Andriola IC, Sonenberg A, Lira ALBC. Advanced Practice Nursing: a strategy to improve mater. *Acta Paul Enferm.* 2020;33. <https://doi.org/10.37689/acta-ape/2020ar02356>
40. Robazzi MLCC. Possibilities of advanced practices and Professional Master's Programs in Nursing. *Rev Latino-Am Enfermagem.* 2014;22(5):707-8. <https://doi.org/10.1590/0104-1169.0000.2470>
41. Scochi CGS, Gelbcke FL, Ferreira MAMA, Alvarez AM. Professional Master's Degree: potential contribution to Advanced Practice Nursing. *Rev Bras Enferm.* 2015;68(6):874-7. <https://doi.org/10.1590/0034-7167.2015680626i>
42. Vitor AFAF. Perspectives of the advanced nursing practice in Brazil and in the world. *Online Braz J Nurs.* 2018;17(1):1-4. <https://doi.org/10.17665/1676-4285.20186189>
43. Oliveira JLC, Toso BRGO, Matsuda LM. Advanced practices for care management: reflections on the Brazilian Nursing. *Rev Bras Enferm.* 2018;71(4):2060-5. <https://doi.org/10.1590/0034-7167-2017-0115>
44. Miranda Neto MV, Rewa T, Leonello VMVM, Oliveira MAC. Advanced practice nursing: a possibility for Primary Health Care? *Rev Bras Enferm.* 2018;71(1):716-21. <https://doi.org/10.1590/0034-7167-2017-0672>
45. Cassiani SHB, da Silva FAM. Expanding the role of nurses in primary health care: the case of Brazil. *Rev Latino-Am Enfermagem.* 2019;27. <https://doi.org/10.1590/1518-8345.0000.3245>