



BMJ Open Essential core competencies for scope of practice of paediatric oncology nurses in Latin America: a scoping review protocol

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ABSTRACT

Introduction Nurses comprise the largest group of health workers globally and are essential to the provision of care necessary for delivering curative therapy to children with cancer. In high-income countries, previous studies of the nurse workforce have shown an association between patient morbidity and mortality and nursing-related factors such as staffing, education and the nursing practice environment. There is currently limited evidence available to define the scope of essential core competencies for paediatric oncology nursing (PON) practice internationally and specifically in Latin America. Clearly defined essential core competencies contribute to establishing nurses' scope of practice within clinical practice, education and research settings. Here, we aimed to map and synthesise the available evidence on the scope of PON practices in the context of clinical practice, educational training and research settings in Latin America.

Methods A scoping review (ScR) protocol is reported, adhering to the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols statement and guided by The Joanna Briggs Institute. MEDLINE/PubMed, Cochrane Library, Embase, CINAHL, Web of Science, Scopus, Science Direct and Latin American and Caribbean Health Sciences Literature, plus additional sources: The ProQuest Dissertation & Theses Global, The British Library, Google Scholar, medRxiv, ClinicalTrials.gov and WHO-ICTRP will be searched. No date or language restrictions will be employed. Two independent researchers will conduct all the steps of this ScR. The findings will be presented through tables, charts, narrative summaries and assessed based on the outcomes. The search strategy will be updated in May 2022. The expected completion date for this ScR is November 2022.

Ethics/dissemination This protocol does not require ethical approval. The dissemination plans comprise peer-reviewed publication and conference presentations, to be shared with International Oncology Societies/International Nursing Societies and advisory groups to inform discussions on future research. We expect that our results will be of interest to nurse professionals, especially, PON and nurse scholars concerned with this particular issue.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ To the best of our knowledge, this will be the first scoping review that will synthesise the scope of practice of paediatric oncology nurses in Latin America.
- ⇒ The review will adopt a rigorous approach, adhering to Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews guidelines, using a comprehensive and systematic search strategy, including all study designs, grey literature and preprints, with no time period or language restrictions.
- ⇒ This protocol includes clearly defined inclusion criteria aligned with the *Population, Concept and Context* strategy according to the updated Joanna Briggs Institute Manual for Evidence Synthesis, 2020.
- ⇒ The paucity of literature addressing the scope of practice of paediatric oncology nurses may limit findings, specifically factors associated with regulatory frameworks of the profession in different Latin American countries.

INTRODUCTION

As the battle against childhood and adolescent cancer continues to become a global concern, capacity-building initiatives to improve survival and outcomes in resource-constrained locations will be increasingly prioritised.^{1–3} As such, it is important to identify essential core competencies to ensure that paediatric oncology nurses have the knowledge, skills, attitudes and other characteristics deemed necessary for safe and effective professional practice. The identification of these competencies will help to determine the scope of subspecialty nursing practice, promote competent workforces, facilitate professional mobility and aid in comparative evaluation of the profession and professionals' experiences at a regional level.

Nurses constitute the largest group of health professionals worldwide^{4–8} and are key



to the provision of optimal care for children and adolescents with cancer. In high-income countries, previous studies^{9 10} on the nursing workforce have shown an association between patient morbidity and mortality and factors related to nursing, such as dimensioning nursing staff, education and specialised nursing practice. Although specialisation has been associated with better patient outcomes, in many countries, paediatric oncology is just now emerging as a recognised subspecialty. Available evidence on the scope of professional practice through essential competencies to support quality nursing practice in paediatric oncology internationally, especially in Latin America, is still incipient.¹¹ To effectively build paediatric oncology nursing capacity, essential core competencies reflective of nurses' scope of practice must be identified and incorporated into clinical practice, education and research.

Background

Nursing is the most numerous category of health human resources in most of countries.⁴ Recent estimates indicate that the total nursing workforce is 27.9 million professionals, with more than 80% in countries that represent half of the world's population. The region of the Americas has 8.4 million professionals (approximately 30% of the global total), with 87% located in Brazil, Canada and the USA, which represent approximately 57% of the region's population.⁴ Regarding the distribution of human resources in nursing, it is heterogeneous both within and between the countries of the region of the Americas. The proportion of nurses as well as nursing technicians/10 000 inhabitants varies from 3.5 in Haiti to 111.4 in the USA. In half of the countries, the ratio of nurses/10 thousand inhabitants is less than or equal to 10.4; however, there is variation, and it should be considered that Canada (106.2), the USA (111.4) and Cuba (81.3) have the highest proportions of nurses per 10 000 inhabitants.¹² In one hand, the USA, Canada and some Caribbean Islands, there are four nurses/doctor. In the other hand, Guyana, Mexico and Suriname, this ratio is 1.1 to 1.8 nurses/doctor, while in Colombia, Chile, El Salvador, Guatemala, Honduras, Peru, Dominican Republic and Venezuela, the ratio can be less than one nurse per physician.^{12 13}

One of the strategies proposed by the WHO to improve the delivery of health services and achieve the Sustainable Development Goals is to review the roles of professionals.¹⁴ Countries that have new roles for nurses improve access and coverage in certain areas where medical resources are limited.¹⁴⁻¹⁶

Nurses, in particular, those caring for patients with cancer had to quickly learn how to integrate new knowledge and new technologies into their daily work, often in a context where this population has multiple comorbidities.¹⁷ The improvement in the survival rate of children and adolescents with cancer since the 1970s is notorious, considering the differences between countries. The best indicators reflect advances in therapy, diagnostic tests,

improvement in supportive care¹⁸⁻²¹ and nursing care.^{22 23} Hence, it is up to the nurse to act in prevention, disease control and quality of life actions. Therefore, they must have the skills to care for all stages of the therapeutic diagnostic process (diagnostic evaluation, treatment, rehabilitation and care for family members).²⁴

Paediatric oncology is a highly specialised field that requires critical thinking and technical skills to safely deliver cancer-targeted treatment regimens, supportive care and monitor patient deterioration within the context of family-centred care.²⁴ Still, the practice of paediatric oncology nurses requires extensive knowledge (art and science of nursing), strong critical thinking, problem-solving skills, decision making and a high degree of compassion and sensitivity towards children, adolescents, young adults, their families and their community.²⁵

Accompanying this specificity of the care process, there is a growing need for nurses with specialised knowledge, skills and experience, in positions where they can develop and supervise clinical nursing practice, guide the education and training of the health team and patients and families and lead nursing research.²⁶

Nursing in paediatric oncology and haematology transposes itself as a dynamic and evolving area of action, which is based on knowledge derived from theory, research and practice. It is not just the knowledge that the paediatric nurse acquires, but the application of this knowledge and the ability to apply it with art and science in the care of children, adolescents, young adults and their families.²⁵

Based on this definition and the scope of practice, paediatric oncology nurses are professionals specialised in nursing care for children and adolescents with cancer and their families. For this practice, specialist nurses articulate compassionate, non-traumatic, complex, continuous, ethical, aesthetic and child-centred, adolescent-centred and family-centred care to meet the physical, emotional, psychosocial and cultural needs of those involved. In carrying out their work, they use evidence-based best practices and are guided by the best interests of their clients.

The work of the paediatric oncology nurse is organised from central constructs such as evidence-based practice, nursing theories, scientificity of care, autonomy, empowerment, management/management of the work process and education/literacy in health, which permeate the scope of its practice that must be aligned with the real health needs of patients and families involved in this process. Thus, the need to search for the development of professional competences to exercise a qualified and safe care is pivotal. The concept of competencies encompasses knowledge, skills and attitudes that support the provision of adequate and evidence-based care. It also encompasses, for a safe practice in any environment along the healthcare continuum, the principles of respect and preservation of dignity.²⁷

Regarding the regulation of professional practice, in some countries its absence causes widespread dissatisfaction and abandonment of the profession. For this reason, it recommends that the regulation of the exercise

of health professions be implemented and respected in line with the social, cultural and health system characteristics in each country.²⁸ The need to discuss the regulatory frameworks of the profession in different countries is urgent. The International Council of Nurses has maintained a clear position on the importance of regulation to ensure safe and competent nursing practice to protect the public from receiving safe and ethical nursing care provided by competent nurses.²⁹ Professional regulatory systems are influenced and shaped by the legislative, political, environmental, social, cultural and professional context in which they are developed and that some form of nursing regulation exists in much of the world, although not in all countries or regions. In some Latin American and Caribbean countries, there is no regulation of professional practice. However, in other countries, they have only minimal regulatory frameworks or are just beginning to create regulatory mechanisms. In addition, in some countries, there may be long standing regulatory systems but not all are up to date with contemporary practice and thinking.²⁹

RESEARCH AIM

To map and synthesise the available evidence on the scope of paediatric oncology nursing practices in the context of clinical practice, educational training and research settings in Latin America.

METHODS

Study design

This scoping review will be reported following the *Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)*³⁰ and is in line with the *Joanna Briggs Institute (JBI) Manual for Evidence Synthesis*.³¹

There are a number of reasons why a scoping review might be conducted. Unlike other reviews that tend to address relatively precise questions (such as a systematic review of the effectiveness of an intervention assessed using a predefined set of outcomes), scoping reviews can be used to map the key concepts that underpin a field of research, as well as to clarify working definitions and/or the conceptual boundaries of a topic.³² A scoping review of scoping reviews found that the three most common reasons for conducting a scoping review were to explore the breadth or extent of the literature, map and summarise the evidence, and inform future research.³³ The indications for scoping reviews includes: (A) as a precursor to a systematic review; (B) to identify the types of available evidence in a given field; (C) to identify and analyse knowledge gaps; (D) to clarify key concepts/ definitions in the literature; (E) to examine how research is conducted on a certain topic or field; and (F) to identify key characteristics or factors related to a concept.³⁴

Steps of the scoping review include the: (1) definition and alignment of objectives and the research question;

(2) elaboration of the inclusion criteria according to the objective(s) and the guiding question; (3) description of the planned approach to the evidence search, selection, data extraction and presentation of evidence; (4) search for evidence; (5) selection of evidence; (6) extraction of evidence; (7) analysis of evidence; (8) presentation of results; and (9) synthesis of evidence in relation to review, conclusions and implications of the results.³¹

To guarantee data reliability and methodological transparency of this review, the protocol was submitted for evaluation and registration in the *Open Science Framework/Center for Open Science*. Approval was obtained on 15 August 2021 (register ID: osf.io/24sv9). To formulate the review question, we have used the PCC strategy³¹ (*P – Population; C – Concept; C – Context;*), where P=population (certified paediatric oncology nurse), C=concept (essential core competencies in paediatric oncology) and C=context (clinical practice, education and research). This strategy facilitated structured critical reasoning on the topic and the formulation of the following review question: ‘*What are the essential competencies for Paediatric Oncology Nursing in the context of clinical practice, educational training and research settings in Latin America?*’.

Search strategy

The literature search will be carried out systematically in eight electronic databases: *Medical Literature Analysis and Retrieval System Online (MEDLINE)* through *PubMed*, *Cochrane Library*, *Embase*, *Cumulative Index to Nursing and Allied Health Literature (CINAHL)*, *Web of Science*, *Scopus*, *Science Direct* and *Latin American and Caribbean Health Sciences Literature*. The search strategy for the studies will consist of a combination of controlled descriptors (indexers in the respective databases) and keywords, according to the indication offered in each electronic database. It is emphasised that there will be no date or language restriction in the search strategy to be carried out. In addition to the electronic databases mentioned previously, secondary searches will be carried out in a variety of other sources, such as in *ProQuest Dissertations & Theses Global*, *The British Library* and *Google Scholar and Preprints for Health Sciences (medRxiv)*, *ClinicalTrials.gov* and *WHO International Clinical Trials Registry Platform*. Furthermore, the list of final references in the included primary studies will be manually analysed to find relevant studies to be added. Two researchers will perform the search strategy independently, according to the recommendations of the JBI guidelines.¹³ Initially, we will identify the existence of an index of specific subject titles in each database (such as *MeSH terms*, *CINAHL Headings*, *Entree terms* and the *DeCS*) and their synonyms (keywords). Subsequently, the search terms were combined using the Boolean operators ‘AND’ and ‘OR’.^{35–37} The search strategy that combines the controlled descriptors and keywords used in each database is depicted on the online supplemental file 1.

In this phase of the search strategy, the EndNote reference manager will be used to store, organise and delete

Table 1 Hierarchy of evidence

Evidence level	Study design
I	Evidence from systematic reviews or meta-analyses of randomised controlled clinical trials (RCTs).
II	Evidence from a well-designed RCT.
III	Evidence from well-designed controlled clinical trials without randomization (quasiexperimental).
IV	Evidence from well-designed case-control, cohort or cross-sectional studies.
V	Evidence from systematic reviews of qualitative and descriptive studies.
VI	Evidence from a single descriptive or qualitative study.
VII	Evidence from the opinion of authorities and/or reports of expert committees.

duplicates in order to ensure a systematic, comprehensive and manageable search.

Eligibility and study selection criteria

- ▶ **Inclusion criteria:** primary studies, experience reports, guidelines, manuals, dissertations and theses related to the essential competencies to support quality nursing practice in paediatric oncology internationally, mainly in Latin America, will be included. No date or language restriction will be set for the study selection.
- ▶ **Exclusion criteria:** studies focusing on oncology nursing practice involving adult and elderly populations will be excluded.

Two reviewers (LCL-J and EBSM) will also select the studies through an independent and blind manner. After this selection, a third reviewer (RAGL) will be responsible for analysing and deciding on the inclusion or exclusion of each article, especially in case of conflicting decisions. In this stage of inclusion and exclusion of the articles in the sample, the Rayyan³⁸ application will support the archiving, organising and selecting articles.

Data collection

Two reviewers (LCL-J and RAGL) will independently extract data from each included study based on previously published extraction forms.^{31 35 39–42} The expected date of completion of this scoping review will be May 2022. Information to be extracted includes: (A) identification of the study and objectives; (B) study population and baseline characteristics; (C) study design; (D) recruitment methods; (E) sample size; (F) outcomes; (G) main findings; (H) clinical and epidemiological significance; (I) conclusions and (J) implications.^{31 35}

Methodological appraisal of included studies

For the classification of the selected studies, we will use the hierarchy of evidence.⁴³ This classification is divided in seven hierarchical levels, as described in [table 1](#).

Data analysis and presentation

A flow chart diagram ([figure 1](#)) will describe the entire study selection process.⁴⁴

Our findings will be presented through tables, charts and narrative summaries and will be assessed based on the type of data charted and the outcomes. To outline

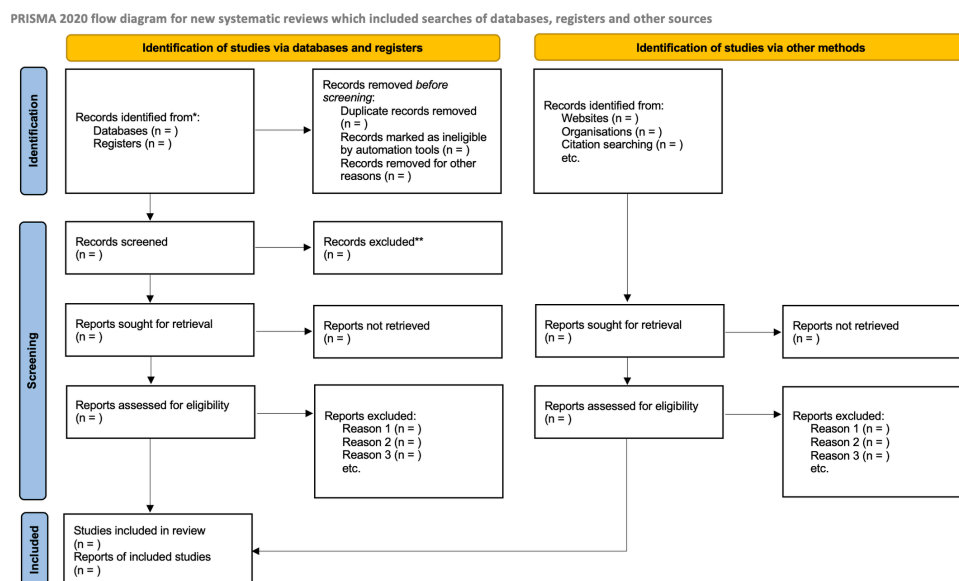


Figure 1 PRISMA flow chart. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

the networks of relationships between the keywords and the included references, a graphic map will be generated using VOSviewer, a useful software for visualising bibliometric networks. In addition, the significance of these findings will be considered insofar as they relate to the guiding question and consolidate the available evidence for the scope of practice in paediatric oncology nursing in Latin America, based on the essential competencies to be incorporated into clinical practice, education and research settings.

Limitations

The paucity of literature addressing the scope of practice of paediatric oncology nurses may limit findings, specifically factors associated with regulatory frameworks of the profession in different Latin American countries.

ETHICS AND DISSEMINATION

This study involves neither human participants nor unpublished primary data. As such, ethics approval from a human research ethics committee is not required. Plans for the dissemination of this study comprise peer-reviewed publication and conference presentations, to be shared with international oncology societies and international nursing societies and advisory groups to inform discussions on future research.

Authors are finalising/updating the search strategy in May 2022 and preparing to conduct the review. The aim is to complete the review by November 2022.

Patient and public involvement

This study protocol analyses existing research studies and therefore involves no patients or members of the public.

Data availability

Data are available on reasonable request.

Implications

To the best of our knowledge, this will be the first scoping review to look specifically at the essential core competences to support quality paediatric oncology nursing practice internationally, mainly in Latin America. We expect that our results will be of interest to nurse practitioners, nursing and oncology societies, especially, paediatric oncology nurses and paediatric hematology/oncology nurses and nurse scholars concerned with this particular issue in order to inform advisory group discussions on future research as well as to contributing to nursing education institutions, regulatory organisations and public health policies for the control of childhood cancer.

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REFERENCES

- Sung H, Ferlay J, Siegel RL, *et al*. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin* 2021;71:209–49.
- GBD 2017 Childhood Cancer Collaborators. The global burden of childhood and adolescent cancer in 2017: an analysis of the global burden of disease study 2017. *Lancet Oncol* 2019;20:1211–25.
- Guzman C PC, Cordoba MA, Godoy N, *et al*. Childhood cancer in Latin America: from detection to palliative care and survivorship. *Cancer Epidemiol* 2021;71:101837.
- World Health Organization. State of the world's nursing 2020: Investing in education, jobs and leadership; 2020. <https://apps.who.int/iris/handle/10665/331677>
- The Lancet. 2020: unleashing the full potential of nursing. *Lancet* 2019;394:1879.
- The Lancet. The status of nursing and midwifery in the world. *Lancet* 2020;395:1167.
- Bolina AF, Bomfim E, Lopes-Júnior LC. Frontline nursing care: the COVID-19 pandemic and the Brazilian health system. *SAGE Open Nurs* 2020;6:237796082096377.
- Lopes-Júnior LC. Advanced practice nursing and the expansion of the role of nurses in primary health care in the Americas. *SAGE Open Nurs* 2021;7:237796082110194.
- Day S, Challinor J, Hollis R, *et al*. Paediatric oncology nursing care in low-and middle-income countries: a need for baseline standards. *Cancer Control* 2015;2015:111–6.
- Day S, Hollis R, Challinor J, *et al*. Baseline standards for paediatric oncology nursing care in low to middle income countries: position

- statement of the SIOP PODC nursing Working group. *Lancet Oncol* 2014;15:681–2.
- 11 Sullivan CE, Morrissey L, Day SW, *et al*. Predictors of hospitals' nonachievement of baseline nursing standards for pediatric oncology. *Cancer Nurs* 2020;43:E197–206.
 - 12 Crisp N, Chen L. Global supply of health professionals. *N Engl J Med* 2014;370:950–7.
 - 13 World Health Organization. Expanding the roles of nurses in primary health care; 2018. <https://iris.paho.org/handle/10665.2/34958>
 - 14 World Health Organization. Report of the policy dialogue meeting on the nursing workforce; 2017. <https://www.who.int/hrh/news/2017/NursingApril2017-2.pdf>
 - 15 Oldenburger D, De Bortoli Cassiani SH, Bryant-Lukosius D, *et al*. Implementation strategy for advanced practice nursing in primary health care in Latin America and the Caribbean. *Rev Panam Salud Publica* 2017;41:e40:1.
 - 16 Lopes Júnior LC, Lazarini WS, Coqueiro JM. Universal health system based on primary care and advanced practice nursing. *Rev Bras Enferm* 2022;75:e20210403.
 - 17 Sarfati D, Koczwara B, Jackson C. The impact of comorbidity on cancer and its treatment. *CA Cancer J Clin* 2016;66:337–50.
 - 18 Gupta S, Howard SC, Hunger SP. Treating Childhood Cancer in Low- and Middle-Income Countries. In: Gelband H, Jha P, Sankaranarayanan R, eds. *Cancer: disease control priorities*. Volume 3. Third Edition. Washington DC: The International Bank for Reconstruction and Development / The World Bank, 2015. <https://www.ncbi.nlm.nih.gov/books/NBK343626/>
 - 19 Lopes-Júnior LC, Olson K, de Omena Bomfim E, *et al*. Translational research and symptom management in oncology nursing. *Br J Nurs* 2016;25:S12–21.
 - 20 Lopes-Júnior LC, Lima RAGde. [Cancer care and interdisciplinary practice]. *Cad Saude Publica* 2019;35:e00193218.
 - 21 Lopes-Júnior LC. Personalized nursing care in precision-medicine era. *SAGE Open Nurs* 2021;7:237796082110647.
 - 22 Gustafsson G, Heyman M, Vernby Å. Childhood cancer incidence and survival in Sweden 1984–2005 Karolinska Institute; 2007.
 - 23 Lopes-Júnior LC, Tuma MC, Amorim MHC. Psychoneuroimmunology and oncology nursing: a theoretical study. *Rev Esc Enferm USP* 2021;55:e20210159.
 - 24 Sullivan CE. Developing a Core Set of Nursing-Sensitive Indicators for International Pediatric Oncology Nursing Practice [Doctoral dissertation, University of Alabama at Birmingham] ProQuest Dissertations Publishing; 2021.
 - 25 Association of Pediatric Hematology/Oncology Nurses. Available: www.aphon.org
 - 26 Hollis R. The role of the specialist nurse in paediatric oncology in the United Kingdom. *Eur J Cancer* 2005;41:1758–64.
 - 27 World Health Organization. Defining competent maternal and newborn health professionals: background document to the 2018 joint statement by who, UNFPA, UNICEF, ICM, ICN, FIGO and ipa: definition of skilled health personnel providing care during childbirth; 2018. <https://apps.who.int/iris/handle/10665/272817>
 - 28 PAHO. Diretriz estratégica para a enfermagem Na região das américas; 2019. <https://iris.paho.org/handle/10665.2/50956?locale-attribute=pt>
 - 29 International Council of Nurse. Regulatory board governance toolkit [development by Jean Barry]. Geneva, Switzerland ICN; 2014.
 - 30 Tricco AC, Lillie E, Zarin W, *et al*. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
 - 31 Peters MDJ, Godfrey C, McInerney P. Chapter 11: Scoping Reviews (2020 version). In: Aromataris E, Munn Z, eds. *JBI Manual for Evidence Synthesis*, JBI, 2020.
 - 32 Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
 - 33 Tricco AC, Lillie E, Zarin W, *et al*. A scoping review on the conduct and reporting of scoping reviews. *BMC Med Res Methodol* 2016;16:15.
 - 34 Munn Z, Peters MDJ, Stern C, *et al*. Systematic review or scoping review? guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* 2018;18:143.
 - 35 Lopes-Júnior LC, Bomfim EO, Nascimento LC, *et al*. Non-Pharmacological interventions to manage fatigue and psychological stress in children and adolescents with cancer: an integrative review. *Eur J Cancer Care* 2016;25:921–35.
 - 36 Lopes-Júnior LC, Lima RAG, Olson K, *et al*. Systematic review protocol examining the effectiveness of hospital clowns for symptom cluster management in paediatrics. *BMJ Open* 2019;9:e026524.
 - 37 Lopes-Júnior LC, Siqueira PC, Maciel ELN. School reopening and risks accelerating the COVID-19 pandemic: a systematic review and meta-analysis protocol. *PLoS One* 2021;16:e0260189.
 - 38 Ouzzani M, Hammady H, Fedorowicz Z, *et al*. Rayyan-a web and mobile APP for systematic reviews. *Syst Rev* 2016;5:210.
 - 39 Lopes-Júnior LC, Rosa MADRdeP, Lima RAGde. Psychological and psychiatric outcomes following PICU admission: a systematic review of cohort studies. *Pediatr Crit Care Med* 2018;19:e58–67.
 - 40 Lopes-Júnior LC, Rosa GS, Pessanha RM, *et al*. Efficacy of the complementary therapies in the management of cancer pain in palliative care: a systematic review. *Rev Lat Am Enfermagem* 2020;28:e3377.
 - 41 Lopes-Júnior LC, Bomfim E, Olson K, *et al*. Effectiveness of hospital clowns for symptom management in paediatrics: systematic review of randomised and non-randomised controlled trials. *BMJ* 2020;371:m4290.
 - 42 Lopes-Júnior LC, Urbano IR, Schuab SIPdeC, *et al*. Effectiveness of complementary therapies for the management of symptom clusters in palliative care in pediatric oncology: a systematic review. *Rev Esc Enferm USP* 2021;55:03709.
 - 43 Fineout-Overholt E, Melnyk BM, Stillwell SB, *et al*. Evidence-based practice step by step: critical appraisal of the evidence: part I. *Am J Nurs* 2010;110:47–52.
 - 44 Page MJ, McKenzie JE, Bossuyt PM, *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71.