

School as a space for nursing: a review of health literacy

Escola como espaço de atuação da enfermagem: uma revisão sobre literacia em saúde

La escuela como espacio de actuación de enfermería: una revisión sobre alfabetización en salud

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Abstract

Objective: To understand the role of school nursing in the context of child and adolescent health literacy. **Methods:** An integrative review using the Web of Science, MEDLINE/Pubmed, Scopus, Cinahl, Virtual Health Library databases, and search terms related to child and adolescent health, health literacy, and school nursing. No time or language limits were considered. **Results:** 419 articles were identified and, after excluding duplicates and applying the eligibility criteria, seven articles made up the final sample, none of them developed in Brazil. Despite being a field of research that is still little studied, the results revealed the positive impact of nursing in the school context in promoting physical and mental health literacy, preventing preventable illnesses, and managing chronic non-communicable diseases. This evidence leads to reflections on the recognition of school nursing in Brazil. **Conclusion:** Nurses are references in the implementation of health literacy programs and in the construction of health literate organizations. In the Brazilian context, there is an urgent need to expand the training of nurses trained to work in schools.

Descriptors: Health Literacy; School Nursing; Child Health; Adolescent Health.

Whats is already known on this?

The first years of life are fundamental for health education and awareness. Health actions in the school context have repercussions on better levels of literacy and health.

What this study adds?

The literature indicates that nurses are references in the implementation of school health literacy programs and in the construction of health literate organizations.



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Resumo

Objetivo: Conhecer a atuação da Enfermagem escolar no contexto da literacia em saúde de crianças e adolescentes. **Métodos:** Revisão integrativa que utilizou as bases de dados Web of Science, MEDLINE/Pubmed, Scopus, Cinahl, Biblioteca Virtual de Saúde e os termos de busca relacionados à saúde da criança e do adolescente, literacia em saúde e Enfermagem escolar. Não foram considerados limites temporais ou de idioma. **Resultados:** Foram identificados 419 artigos e, após a exclusão de duplicados e aplicação dos critérios de elegibilidade, sete artigos compuseram a amostra final, nenhum deles desenvolvido no Brasil. Apesar de ser um campo de investigação ainda pouco estudado, os resultados revelaram o impacto positivo da Enfermagem no contexto escolar para a promoção da literacia em saúde física e mental, prevenção de agravos preveníveis e manejo de doenças crônicas não transmissíveis. Tais evidências levam às reflexões sobre o reconhecimento da Enfermagem escolar no Brasil. **Conclusão:** Os enfermeiros são referências na implementação de programas de literacia em saúde e na construção de organizações alfabetizadas em saúde. No contexto brasileiro, é urgente a ampliação da formação de enfermeiros capacitados a atuar no âmbito da escola.

Descritores: Letramento em saúde; Serviços de Enfermagem Escolar; Saúde do Adolescente; Saúde da Criança.

Resumen

Objetivo: Comprender el papel de la Enfermería escolar en el contexto de la alfabetización en salud de niños y adolescentes. **Métodos:** Revisión integradora que utilizó las bases de datos Web of Science, Medline/Pubmed, Scopus, Cinahl y la Biblioteca Virtual en Salud y búsqueda de términos relacionados con la salud del niño y del adolescente, la alfabetización en salud y la Enfermería escolar. No se consideraron límites de tiempo ni de idioma. **Resultados:** Se identificaron 419 artículos y, después de excluir duplicados y aplicar los criterios de elegibilidad, siete artículos constituyeron la muestra final, ninguno de ellos desarrollado en Brasil. A pesar de ser un campo de investigación aún poco estudiado, los resultados revelaron el impacto positivo de la Enfermería en el contexto escolar para la promoción de la alfabetización en salud física y mental, la prevención de enfermedades prevenibles y el manejo de enfermedades crónicas no transmisibles. Tal evidencia lleva a reflexiones sobre el reconocimiento de la Enfermería escolar en Brasil. **Conclusión:** Los enfermeros son referentes en la implementación de programas de alfabetización en salud y en la construcción de organizaciones alfabetizadas en salud. En el contexto brasileño, es urgente ampliar la formación de enfermeros calificados para actuar en las escuelas.

Descritores: Alfabetización en salud; Servicios de enfermería escolar; Salud del adolescente; Salud infantil.

INTRODUCTION

Health Literacy (HL) was defined in 1998 by the World Health Organization (WHO) as a set of social and cognitive skills that encourage individuals, through their personal experiences, to access, understand, evaluate, and use information and services that improve or maintain good health conditions in both individual and collective contexts.⁽¹⁾ It is, therefore, an important tool that can offer autonomy and empowerment to individuals and communities.

It is therefore an important tool, capable of offering autonomy and empowerment to individuals and communities, which has gained greater visibility in recent decades. This is because low levels of HL have been linked to poorer health indicators, while individuals with more advanced levels of literacy are able to engage in and make the changes to individual and collective behaviors that they need to achieve better levels of health.⁽²⁻⁵⁾

In this sense, studies have sought to measure the level of HL in individuals with a particular condition such as Diabetes Mellitus or Chronic Kidney Disease,⁽⁶⁾ or to assess the HL of specific population groups such as adults⁽³⁾ or the elderly.⁽⁷⁾ However, there are few studies that seek to analyze how health concepts are transmitted to children and adolescents, a key period in the individual's formation and awareness of health care.⁽⁵⁾

In this context, the school emerges as a privileged space for the transmission of health knowledge, the development of skills, and the formation of healthy lifestyles.⁽⁸⁾ To this end, interdisciplinarity between the health and education sectors and the work of health professionals in the school context is essential.⁽⁹⁾ The literature has shown that among health professionals, nurses are key players in the development of actions related to HL in these spaces.⁽⁸⁻¹⁰⁾

Based on the above, the gaps identified and the relevance of the subject, this study aims to find out more about the scientific production of nursing practice in the HL of children and adolescents in the school context.

METHODS

This is an integrative review of the literature, with a survey of national and international articles on the subject being researched, in six stages: 1st) definition of the theme/research question, 2nd) eligibility criteria and search, 3rd) data extraction and categorization, 4th) evaluation of the studies, 5th) interpretation of the results, 6th) synthesis of knowledge.⁽¹¹⁾

The construction of the research question followed the PICO strategy (population - children and adolescents, interest - health literacy, and context - school nursing),⁽¹²⁾ and resulted in the following question: What has been produced about the role of nursing in the health literacy of children and adolescents within the school environment?

The materials were consulted through the CAPES Periodicals Portal, retrieving free and paid materials, with access in the Internet Protocol area of the Federal University of Ceará. The databases included, considering their relevance to the theme, were: Web of Science - Main Collection (Clarivate Analytics), MEDLINE/PubMed (via the National Library of Medicine), Scopus (Elsevier), CINAHL with Full Text (EBSCO) and Virtual Health Library: VHL (BIREME) - Regional Portal. The search took place in March 2022 and was updated in February 2024. No time or language limits were considered.

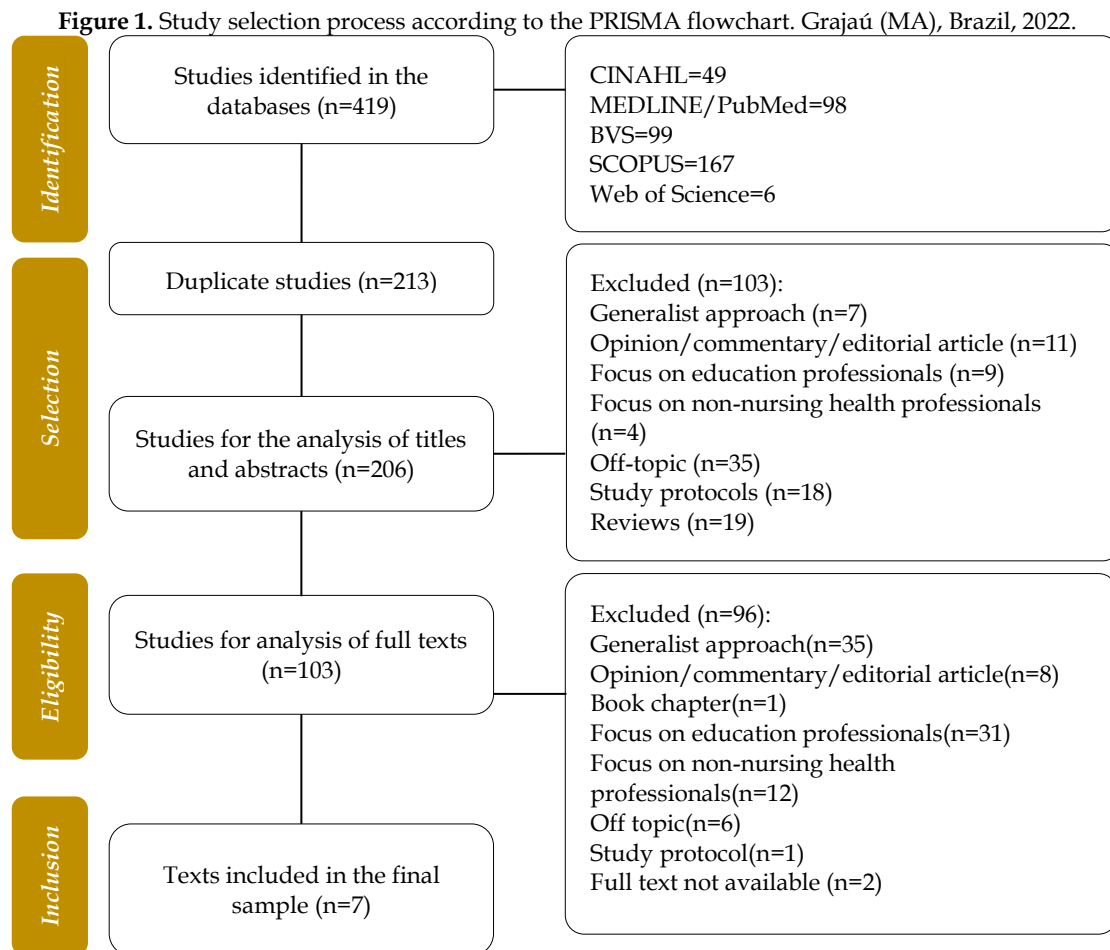
The search strategy was based on the Descriptors in Health Sciences/Medical Subject Headings (DeCS/Mesh), resulting in the following general search expression: ("Adolescent" OR "Adolescent Health" OR "Adolescent Health Services" OR "Child" OR "Child Health" OR "Child Health Service") AND ("Health Literacy") AND ("School Health Services" OR "School Nursing").

With regard to the eligibility criteria, articles whose subject matter involved the HL of children and adolescents with a focus on School Nursing were included and studies with an emphasis on education professionals, other non-nursing health professionals, and those with a generalist approach (including multi-professional teams and without delimiting the professional category) were excluded. In addition, opinion articles, commentaries, book chapters, study protocols, reviews, and those not available in full in digital format were eliminated.

To characterize and analyze the articles included in the final sample, the following data was collected: main author, year and journal of publication, country of development, as well as title, objective, method, main results, and implications.

RESULTS

Of the 419 documents retrieved initially, after excluding duplicates, 206 were kept for analysis of titles and abstracts. The eligibility criteria were then applied and 103 were selected for full-text reading, of which seven made up the final sample. The entire process described above was carried out independently by two health researchers, and any disagreements were resolved in a meeting at the end of each stage. Figure 1 shows the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses)⁽¹³⁾ flowchart detailing the selection of studies found in the databases mentioned above.



Source: Elaborated by the authors (2022).

The final sample of this review was seven studies, all published in the last decade (2011 to 2021), especially since 2016. The studies were carried out in five countries, on three different continents, with the majority coming from European studies (Germany, Norway, and Portugal), followed by North American (United States) and Oceania (New Zealand) publications. It is noteworthy that none of them refer to the Brazilian reality. In terms of language, all were published in English, with the exception of one study published in Portuguese in Portugal.

Table 1 shows the distribution of the articles according to the year and country in which they were published, as well as the journals in which they were published, with emphasis on Environmental Research and Public Health, which had two publications on the subject.

Table 1. Distribution of studies according to country, journal, and year of publication. Grajaú (MA), Brazil, 2022.

Journal	Year	Country					Total
		Germany	Norway	New Zealand	Portugal	*USA	
<i>Holistic Nursing Practice</i>	2011	0	0	0	0	1	1
<i>New Zealand Medical Journal</i>	2016	0	0	1	0	0	1
<i>BMC Health Services Research</i>	2018	0	1	0	0	0	1
<i>The Journal of School Nursing</i>	2019	0	1	0	0	0	1
<i>ROL Journal of Nursing</i>	2020	0	0	0	1	0	1
<i>International Journal of Environmental Research and Public Health</i>	2020	1	0	0	0	0	2
	2021	0	0	0	1	0	
Total		1	2	1	2	1	7

Caption: *USA - United States of America.

Source: Elaborated by the authors (2022).

Table 2 describes the studies according to their title, central objective, method, main findings, and implications for nursing in the school context. In methodological terms, different levels of evidence were identified, ranging from experience reports and cross-sectional studies to cohorts and randomized clinical trials. With regard to scales for assessing SL, only two were identified: Health Literacy for School-Aged Children and Mental Health Promoting Knowledge. The first assesses literacy in general terms and the second emphasizes the mental dimension of this construct.

Table 2. Presentation of studies/articles according to title, objective, method, main findings, and implications for school nursing. Grajaú (MA), Brazil, 2022.

First author, year	Title	Objective	Method	Main findings	Implications for school nursing
Morgado, 2021 ⁽¹⁴⁾	Adolescents' Empowerment for Mental Health Literacy in School: A Pilot Study on ProLiSMental Psychoeducational Intervention.	To evaluate the effects of an educational intervention (ProLiSMental) on mental health literacy.	Randomized controlled study with 38 students. The intervention focused on anxiety and mental health literacy, measured by the QuALiSMental scale.	Significant improvement in various dimensions of mental health literacy in relation to anxiety, such as recognition, prevention, and self-help.	The work of mental health nursing in the school context increases the literacy of adolescents with an emphasis on anxiety management.
Gordon, 2011 ⁽¹⁵⁾	Clarifying a vision for health literacy: A holistic school-based community approach.	To describe the process of implementing a project aimed at enlightening the school community about health literacy.	Experience report on the operationalization of the "Expanded School Health Program", which involved four focus groups with the school community.	A decision was taken to build an annual school well-being plan led by Nursing, a category with recognized relevance in promoting health literacy.	School nursing is important for the development and implementation of specific health literacy programs, focusing on the reality of each school community.
Feitor, 2019 ⁽¹⁶⁾	Empowerment comunitário em saúde escolar - adolescente com diabetes mellitus tipo 1 (DM1).	To draw up a model nursing care plan for the school community that has adolescents with DM1.	This is a methodological study based on an extensive review of empowerment and nursing interventions, as well as legislation, projects, and programs on school health and DM1 in adolescents.	The proposed model favors an alliance between health professionals, the school community, and the family, stimulating the training of the different players in decision-making.	The community health nurse is a key resource for promoting school health and increasing literacy in specific situations.
Bjornsen, 2018 ⁽¹⁷⁾	Exploring MEST: A new universal teaching strategy for school health services to promote positive mental health literacy and mental wellbeing among Norwegian adolescents.	To investigate the differences in mental health literacy and mental well-being between adolescents who did and did not participate in a school-based mental health	A cohort study of 357 adolescents (15-21 years) over one year in Norway. Health literacy and mental health literacy were measured by the scales: Health Literacy for School-Aged Children and Mental Health	There was an increase in positive mental health literacy and a lower increase in symptoms of anxiety and depression in the intervention group.	We encourage the development of programs on positive mental health literacy by school health services, through collective and universal interventions.

		literacy strategy (MEST).	Promoting Knowledge.		
Anderson, 2016 ⁽¹⁸⁾	Nurse-led school-based clinics for rheumatic fever prevention and skin infection management: evaluation of Mana Kidz programme in Counties Manukau.	To evaluate School Nursing clinics in the identification, treatment, and prevention of skin infections, throat infections, and rheumatic fever.	The evaluation involved students, parents, and guardians, as well as interviews with stakeholders (nurses and program representatives) in 61 New Zealand schools.	The literacy of parents and students increased during the implementation of the program, facilitating the diagnosis and treatment of infections, as well as enabling the identification of other needs.	School-based health programs represent an opportunity for primary health care.
Buhr, 2020 ⁽¹⁹⁾	Potentials of School Nursing for Strengthening the Health Literacy of Children, Parents and Teachers.	To evaluate changes in the level of health literacy of children, parents, and teachers and to discuss the contributions of school nursing to these changes.	A study carried out in 28 schools in Germany, with an evaluation in the first few weeks of the Nurses' work and follow-up between nine and 14 months. The health literacy of children and adolescents was checked using the Health Literacy for School-Aged Children scale.	At follow-up, health literacy increased in all groups: children, parents, and teachers.	The inclusion of nursing in schools is an important step towards creating health-literate organizations and healthy schools.
Bjornsen, 2019 ⁽²⁰⁾	The Relationship Between Positive Mental Health Literacy and Mental Well-Being Among Adolescents: Implications for School Health Services.	To investigate the advantages of using educational actions to achieve and maintain good mental health in adolescents in the context of school nursing work.	Cross-sectional study with 1,888 adolescents aged 15 to 21 in five schools in Norway. Positive mental health literacy was measured using the Mental Health Promoting Knowledge scale.	Adolescents with higher levels of mental health literacy reported significantly higher levels of mental well-being.	School nursing can promote mental health education through seminars and discussion groups on stress, relaxation techniques, sleep hygiene, and self-image, among other topics.

Caption: MHL - Mental Health Literacy; HL - Health Literacy.

Source: Elaborated by the authors (2022).

Most of the programs presented dealt with the promotion of physical and mental HL through a universal and broad approach, although others focused on the diagnosis and prevention of preventable diseases and the management of chronic non-communicable diseases. The studies included in this review while respecting their specificity, objectives, and methodological approaches, have spoken with one voice about the benefits of school nursing programs focused on HL. Whether or not they are part of a multi-professional team, school nursing is said to be an important step towards access to primary health care and the construction of health-literate organizations.

DISCUSSION

This article sets out to question the role of nursing in the school environment and its practices related to HL. The analysis carried out on five of the most important databases that bring together the majority of publications in the health area, even without time or language limits, reveals the scarcity of studies that discuss the subject. The final sample, limited to seven articles, undoubtedly indicates that this is a field of research that has yet to be studied. On the other hand, as the results elucidate, HL actions in the school context led by nursing represent a differential in educational institutions⁽¹⁹⁾ and an opportunity for access to primary health care.⁽¹⁸⁾

HL has been described as an educational dimension and its strengthening in school environments contributes to promoting the health of children and adolescents, as well as impacting school performance, the development of academic skills, and critical thinking, enabling them to exercise citizenship.⁽²¹⁾ In addition, HL contributes to empowering individuals to seek better conditions for their own health or that of their families, acting as an important modifier of health determinants.^(2,16,22)

Health promotion was defined by the Ottawa Charter in 1986 as empowering individuals and populations to improve their health and quality of life. Based on this document, various initiatives have been launched around the world to build environments conducive to health, such as the Health Promoting School (HPS), which recognizes the school as an important place for children and adolescents to socialize and integrate, capable of promoting health through joint actions with family members and the community.⁽²³⁾

In Brazil, the Health at School Program (HSP) was launched in 2007 and, in line with the HPS initiative, it aimed to contribute to the comprehensive education of students by expanding access to health promotion, prevention, and care. Its implementation depended, a priori, on coordination between public schools and basic health units, but it is precisely this intersectorality that is the main obstacle to the program's effectiveness. Internal conflicts and communication obstacles lead to the fragmentation of actions between the two sectors which, in addition to individual agendas, are required to operate a policy, in many realities, without adequate training for the development of intersectoral actions.⁽²⁴⁾

In 2022, while reaffirming the school's commitment to student well-being, the Pan American Health Organization (PAHO) published a guide for transforming schools into HPS. Despite having been conceived over 25 years ago, few countries have implemented the model on a large scale, and the guide is intended to be the starting point for action. Supportive government initiatives and the involvement of school leaders become the basis for reformulating school curricula with a focus on building a welcoming and safe psychosocial environment, and guaranteeing health services at school (or linked to it) capable of meeting biopsychosocial needs.⁽²⁵⁾

In addition to the availability of infrastructure and human resources, and the implementation of partnerships, the PAHO guide advocates the existence of an educational curriculum and support materials, as well as the ongoing training of educators.⁽²⁵⁾ In this review, the development of programs aimed at promoting HL actions in schools was well documented, such as ProlISmental⁽¹⁴⁾ and MEST⁽¹⁷⁾. However, it should be mentioned that the design of proposals such as these requires the active involvement of health representatives who can vouch for the quality of their content, preferably also being involved in their operationalization and in the constant evaluation of results.⁽²⁵⁾

The definition of roles in HL actions at school should be problematized. In this review, during the study eligibility process, a significant number of articles were excluded because they were developed by teachers/educators, with no mention of the involvement of health professionals. Particularly in the context of nursing, the studies mention the opportunities for its action through individual actions, such as the construction of specific care plans,⁽¹⁶⁾ or collective actions, through seminars, and discussion groups, among other methodologies⁽²⁰⁾ that place nursing at the forefront of educational programs in the school environment.⁽¹⁵⁾

Nursing's field of action at school is broad and involves, among other things, monitoring health records, supervising students with special needs, as well as counseling students and their families. However, one of the main roles of school nurses is to lead health education activities, using the professional skills acquired during their training.⁽²⁶⁾ However, what often happens is that other professionals lose their place, and nursing is left to provide support and consultancy.⁽²⁷⁾

As a profession, nursing represents the largest workforce in the health sector.⁽²⁸⁾ The importance of its work is undeniable, but periods of crisis such as COVID-19 highlight the relevance of its educational role. The population's difficulties in accessing and interpreting health information have made the pandemic

a huge challenge for HS around the world and educational actions have contributed to reducing inequalities in the search for better health outcomes.⁽²⁹⁾

Despite not being the focus of this review, COVID-19 has highlighted the gaps and made the relevance of school-based HL programs even clearer. In terms of themes, this review frequently looked at studies on mental health, but with regard to promoting the health of children and adolescents, nursing's work is also recognized in areas such as hygiene, immunization, sexual health, eating habits, and physical activity, and the use of alcohol and other drugs.⁽²⁷⁾

In this scenario, schools are proving to be a decisive space for nursing work, despite low recognition and little training on offer. In Brazil, in 2020, professionals working in these spaces mobilized to improve their practice and, through the First Brazilian Forum on School Nursing, presented successful experiences, as well as deciding to recognize the category and in favor of creating the Brazilian Association of School Nursing.⁽³⁰⁾

With regard to the recognition of specialization in School Nursing, it should be mentioned that in 2018, the Federal Nursing Council (COFEN) issued Resolution No. 581/2018 which, among other actions, approved the list of specialties and included school health in its scope.⁽³¹⁾ This is relevant both for COFEN, which has come to recognize a field of activity that lacks policies for qualification, but above all for the professionals themselves who aim to achieve the strengthening of the category through the creation of associations/societies, as was proposed at the event held in 2020.⁽³⁰⁾

According to a survey on the Ministry of Education's website, there are three specialization courses in school health in the country, the oldest of which dates back to 2014. The courses are offered by two public institutions, in person (in Bahia and Piauí), and in a private institution, in the distance education modality. However, the two public institutions have not offered vacancies in recent years. The workload of the specializations varies between 360 and 420 hours.⁽³²⁾ With regard to the syllabus, there is a similarity between some subjects and a discrepancy in others, which may be indicative of the lack of structuring of the school nursing specialist's praxis.⁽³³⁻³⁵⁾

As this is not the purpose of this study, it will not go into depth in discussing the subjects and syllabuses of the specializations identified, but it should be pointed out that future studies can be developed with a view to covering these gaps. In addition, it would be useful to get to know the professionals who have completed these specializations, i.e. the profile and actions of this group of specialists, their places of work, remuneration, interests, difficulties, and prospects.

The main limitation of this study is related to the scarcity of publications on the subject in the context of school nursing, especially at a national level. As the results show, since this is recent and incipient literature, conducting a scoping review could help analyze scientific production and expand the location of studies and other documents on the subject studied. It should also be noted that the heterogeneity of the studies included in this review made it difficult to carry out a standardized assessment of methodological quality, which may have an impact on the generalization and interpretation of the findings.

The results of this review prompt reflection on the role of school nursing from the perspective of HL for children and adolescents. It also highlights the urgent need to include this topic in undergraduate courses and to expand postgraduate courses, including those at the *stricto sensu* level, in Brazil.

CONCLUSION

Scientific production on the work of nurses in the school context on HL is scarce and limited. In the survey, only seven articles were found, and the articles selected were published in developed countries, which reinforces the lack of study of the subject in less favorable contexts. Despite the need to broaden the debate, the literature highlights HL as an opportunity to expand access to primary care and build health-literate organizations.

In addition, studies have highlighted the role of nursing in leading school health programs. However, in the Brazilian context, this is not a reality. Initiatives for *latu sensu* training are still in their infancy, with little recognition of the category's actions which, in many realities, tend to be limited or developed by other professional groups. In this sense, we advocate investment in qualification policies, both at the undergraduate level and in *latu sensu* courses, which highlight the school as an important area of activity for Brazilian nursing.

CONTRIBUTIONS

Contributed to the conception or design of the study/research: Sousa-Leal PH, Alencar NS. Contributed to data collection: Sousa-Leal PH, Alencar NS. Contributed to the analysis and/or interpretation of data: Sousa-Leal PH, Alencar NS. Contributed to article writing or critical review: Sousa-Leal PH, Alencar NS, Gouveia MTO. Final approval of the version to be published: Sousa-Leal PH, Alencar NS, Gouveia MTO.

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