# EDUCATIONAL ACTIONS IN HEALTH BY ELEMENTARY SCHOOL TEACHERS: A SCOPE REVIEW

## *AÇÕES EDUCATIVAS EM SAÚDE POR PROFESSORES DO ENSINO FUNDAMENTAL: UMA REVISÃO DE ESCOPO*

## *ACCIONES EDUCATIVAS EN SALUD POR PROFESORES DE LA ESCUELA PRIMARIA: UNA REVISIÓN DEL ALCANCE*


Marhla Laiane de Brito ASSUNÇÃO[1]
e-mail: marhlalba@gmail.com

Luciana Pedrosa LEAL[2]
e-mail: luciana.leal@ufpe.br

Diego Augusto Lopes OLIVEIRA[3]
e-mail: diego.oliveira@ufpe.br

Cleide Maria PONTES[4]
e-mail: cleide.pontes@ufpe.br



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[1] Federal University of Pernambuco (UFPE), Recife – PE – Brazil. PhD student in Nursing.
[2] Federal University of Pernambuco (UFPE), Recife – PE – Brazil. Professor of the Postgraduate Nursing Program at UFPE.
[3] Federal University of Pernambuco (UFPE), Recife – PE – Brazil. PhD student in Nursing.
[4] Federal University of Pernambuco (UFPE), Recife – PE – Brazil. Professor of the Postgraduate Nursing Program at UFPE.

**ABSTRACT**: The objective of this study was to identify and map strategies used by teachers for the health education process at school with elementary school students. This study is a scoping review, carried out in December 2021. This research used five databases and gray literature for data search. 4449 titles were found, after reading the titles, abstracts and applying the inclusion and exclusion criteria, 10 studies were included. The results describe epidemiological studies from several countries. The themes cover nutrition, oral health, physical activity, mental health and self-regulation of alcohol and tobacco use. The activities were primarily curricular integration or projects. The teachers always received training before carrying out the interventions. This research concluded that teachers are fundamental members of the health education process at school. The transversal activities are the path to effective intervention.

**KEYWORDS**: Health Education. Public Health. Education. Education, Primary and Secondary.

***RESUMO***: *Objetivou-se identificar e mapear estratégias utilizadas por professores para o processo de educação em saúde na escola com alunos do ensino fundamental. Trata-se de uma scoping review, realizada em dezembro de 2021. Utilizou-se cinco bases de dados e a literatura cinzenta para busca de dados. Foram encontrados 4449 títulos, após leitura de títulos, resumos e aplicação dos critérios de inclusão e exclusão, incluiu-se 10 estudos. Os resultados descrevem estudos epidemiológicos de vários países. As temáticas perpassam por nutrição, saúde bucal, atividade física, saúde mental e autorregulação do uso de álcool e tabaco. As atividades foram prioritariamente de integração curricular ou projetos. Os professores sempre receberam capacitação antes da realização das intervenções. Conclui-se que os professores são integrantes fundamentais do processo de educação em saúde na escola. As atividades transversais são o caminho para uma intervenção eficaz.*

***PALAVRAS-CHAVE***: *Educação em saúde. Saúde pública. Educação. Educação básica.*

***RESUMEN***: *El objetivo fue identificar y mapear las estrategias utilizadas por los profesores para el proceso de educación para la salud en la escuela con estudiantes de la enseñanza primaria. Se trata de una scoping review, realizada en diciembre de 2021. Se utilizaron cinco bases de datos y la literatura gris para la búsqueda de datos. Hubo 4449 títulos encontrados y después de la lectura de títulos, resúmenes y aplicación de criterios de inclusión y exclusión, se incluyeron 10 estudios. Los resultados describen estudios epidemiológicos de varios países. Los temas recorren nutrición, salud bucal, actividad física, salud mental y autorregulación del consumo de alcohol y tabaco. Las actividades eran principalmente de integración curricular o proyectos. Los docentes siempre recibieron capacitación antes de realizar las intervenciones. Se concluye que los docentes son miembros fundamentales del proceso de educación para la salud en la escuela. Las actividades transversales son el camino hacia una intervención eficaz.*

***PALABRAS CLAVE***: *Educación en Salud. Salud pública. Educación. Educación básica.*

## Introduction

The school is an educational environment conducive to promoting the health and well-being of students, staff and communities (WHO, 2021). The incorporation of health issues in the school context has evolved in accordance with educational reforms. Since 1971, with Law No. 5,692, the debate on health in school curricula has become mandatory (Brasil, 1971). The National Curricular Parameters (PCN) reinforce that health-related themes are integrated with other content and that they are contextualized from a transversal perspective (Brazil, 1997).

The health debate in education is reinforced in the Common National Curricular Base (BNCC), a document provided for by the Federal Constitution of 1988, by the Law of Guidelines and Bases of National Education of 1966 (LDB) and by the National Education Plan (PNE), and presents the theme in different areas of knowledge, with a focus on well-being and human rights (Da Silva, 2020).

In Brazil, in 2007, the School Health Program (PSE) was proposed, which articulates the Family Health Strategy (ESF) with the school and proposes to improve the quality of life of basic education students. It is structured into five components: critical and psychosocial assessment of enrolled students; actions to promote health and prevent diseases and injuries; continuing education and training of Education and Health professionals and young people for the PSE; monitoring and evaluating student health; and monitoring and evaluation of the PSE (Brasil, 2007).

Even though there are legal provisions for the inclusion of the health topic in the school environment, there is a lack of implementation, and this occurs because the incentive to qualify education professionals in health topics is incipient, making them poorly prepared and unmotivated to prepare classes about the subject. Although, it is known that there is a positive attitude from school actors towards the discussion about health in this institutional space (Jesus; Figueiredo, 2017).

Another gap appears in teacher training. This was verified through an analysis of the Public Health disciplines of 173 curricula of national higher education courses in Physical Education. When subjects exist, they are isolated components, with content linked to biological science, limited workload, and there is no dialogue with health services. As a consequence, there is no expanded vision of health and the restriction of interdisciplinary, interprofessional and community care persists (Barboni; Carvalho; Souza, 2022).

The role of the teacher in health education at school is fundamental. However, several gaps were highlighted in the teacher's performance with the PSE since, many times, the actions

are already pre-established and there is no joint participation of health and education professionals. This fact becomes a challenge in approaching these themes of the social reality of students (Mulinari, 2018) and triggers the following question: how do teachers take advantage of this space of civic construction in the education of children and adolescents?

Furthermore, it is stated that the planning of health education activities at school is disjointed, punctual, normative and discussed in areas of knowledge focused on biological issues and the biomedical model. However, the need for integration between health and education stands out so that health education actions can be carried out effectively (Luquez *et al.,* 2021). This intersectorality is foreseen and based on the National Health Promotion Policy (PNPS) (Brazil, 2018).

With the paradigm shift of the health model, expanding the concept of health, which incorporated environmental, social, economic and behavioral dimensions, in addition to the biomedical, health actions require articulation with other sectors and government policies. However, it is necessary to establish the limit of teachers' competences and for the resolution of problems in the field of health to be effective, it is necessary to involve all the dimensions mentioned (Czeresnia, 1999).

Policies and legislation on health education at school impose the need to investigate the health education strategies that are implemented by teachers in elementary school, and how the subjects address the themes in a transversal way. This research provides support for interdisciplinary health practices in schools. The objective of the study is to identify and map strategies used by teachers for the health education process at school with elementary school students.

## Method

This is a scoping review type study. It aims to map and disseminate, through a rigorous method, the state of the art of a given topic, and allows the reader a descriptive view of the studies analyzed (Tricco *et al.,* 2018). The study was conducted according to the recommendations of the Joanna Briggs Institute (JBI) (2015) and the methodological steps of the Peters *et al.* (2020), JBI researcher:

- Initially, the objectives and research question must be defined and aligned;

- Then, develop and articulate the inclusion criteria with the research objectives and questions;
- It follows to build a planned approach to search for evidence, selection, data extraction and presentation of the collected data;
- After that, start the search for evidence; select them, extract the data and describe the results;
- At the end, the evidence should be summarized in relation to the research objective, and conclusions should be sought.

To respond to the objective, the mnemonic P (Population) was used, elementary school teachers; C (Concept), health education strategies; and C (Context), the elementary school. The structured research question was: "What health education strategies do teachers implement with their elementary school students?" And as a sub-question: "What health topics are discussed by elementary school teachers with their students?" The research protocol was registered with the Open Science Framework ( https://osf.io/89zu6/ ).

The inclusion criteria were established based on the Population, Concept and Context (PCC) mnemonic strategy to meet the research objectives; therefore, studies developed on all continents on health education actions carried out by teachers and health education strategies with elementary school students will be included.

To answer the research question, the articles needed to explain health education strategies in elementary school subjects applied by teachers. Studies describing educational activities carried out by health professionals or the School Health Program (PSE), curricular educational strategies, such as physical education, even though they were carried out in elementary schools, were excluded. Documents such as letters to the editor, abstracts in event annals, research protocols and studies in development were not included in this review.

The search strategy followed three steps. First, a search was carried out in five NCBI/ *PubMed* databases*; Scopus*; LILACS, via Virtual Health Library (VHL), Scielo and *Cochrane Library*. After that, a search was carried out in the gray literature using Google Scholar and, finally, the references of the selected articles were analyzed.

Search strategies for each database or electronic repository were developed without restrictions on year of publication or language. When the search strategies were inserted into the databases, they were exported to *EndNote Web* to exclude duplicates. Soon after, the data was entered into the *Rayann software* so that the inclusion and exclusion analysis took place

double-blind. The selection of studies took place in December 2021, independently, by two researchers from the team from the research group "Nursing in Women's Health in the context of the family" at the Federal University of Pernambuco. In cases of conflict, a third researcher was invited to carry out the analysis.

The search strategy was built with controlled health vocabulary via Health Sciences Descriptors (DeCS) and *Medical Subject Headings* (MeSH) in line with the PCC mnemonic (Table 1). To define these descriptors, a broad search was carried out in the *Pubmed and Google Scholar* databases using PCC terms. Soon after, articles related to the research question were selected and the words contained in the titles and abstracts were observed, followed by the selection of descriptors.

**Table 1 –** Descriptors used for search strategy. Recife - PE. 2022

| P | W | W |
|---|---|---|
| • School Teachers<br>• Elementary school Teachers | • Health Education<br>• School Health Promotion | • Elementary school<br>• Education, Primary, and Secondary |

Source: Authors themselves, 2022

The Boolean operators *AND* and *OR were used in the search.* It is worth noting that each database has its own particularities, making it necessary to adapt the search strategy in each of them, described in Table 2.

**Table 2 –** Search strategy used for each database. Recife - PE. 2022

| |
|---|
| **Pubmed**<br>("School Teachers" OR "Elementary School Teachers") and ("Health Education" OR "School Health Promotion") and ("elementary school" OR "Education, Primary and Secondary") |
| **Lilacs**<br>"Elementary education teachers" and "health education" and school<br>"Elementary education teachers" and "health promotion at school" and "basic education"<br>"health promotion at school" and "elementary education" |
| **Scopus**<br>"School Teachers" OR "Elementary School Teachers" and "Health Education" OR "School Health Promotion" and "Elementary School" OR "Education, Primary and Secondary" |
| **Scielo**<br>"Elementary education teachers" and "health education" and school<br>"elementary education teachers" and "health promotion at school" and school<br>"health promotion at school" and "elementary education" |
| ***Cochrane Library***<br>"School Teachers" OR "Elementary School Teachers" and "Health Education" OR "School Health Promotion" and "Elementary School" OR "Education, Primary and Secondary" |
| **Google Scholar**<br>"elementary school teachers" and "health education" and "school" |

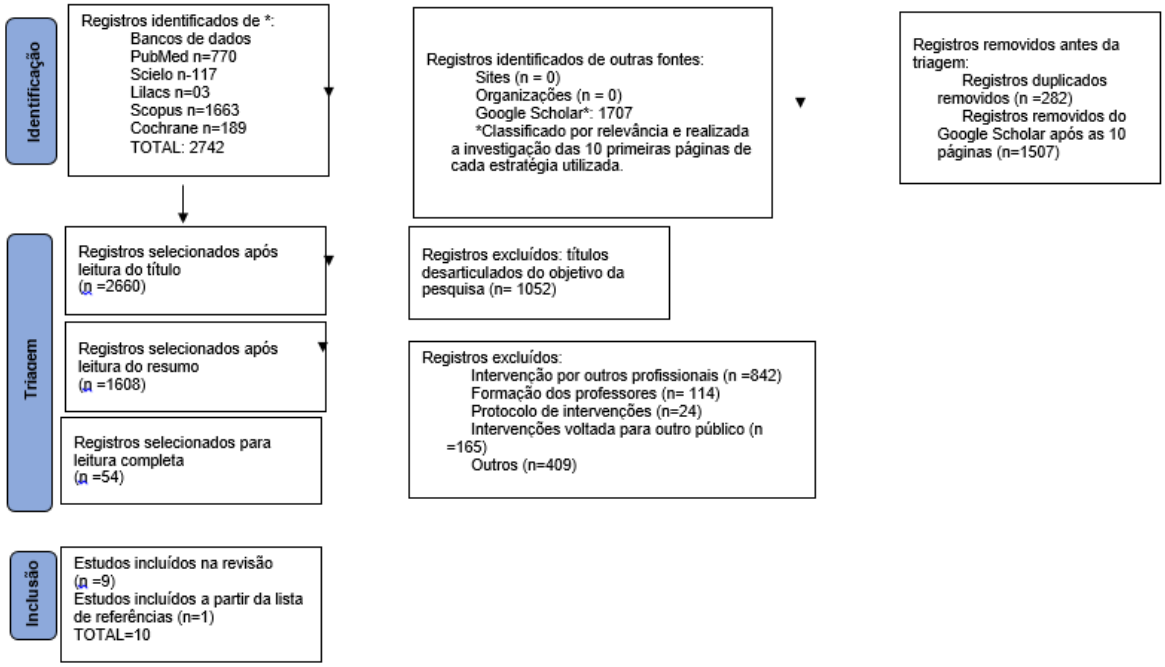
| "elementary school teachers" and "health promotion at school" |
|---|

Source: Authors themselves, 2022

Data extraction was carried out with the aid of electronic forms created for the two researchers to complete independently, with the following information: type of health education strategy, teaching materials, contextualized themes, target audience for each theme, discipline/ content that addressed the theme, location, year.

The findings of this review were reported through the PRISMA Extension for Scoping Reviews PRISMA- ScR (Tricco *et al.,* 2018). To describe the results of the search and selection of studies, the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analyses) flowchart was used, as shown in Figure 1.

**Figure 1** – PRISMA- ScR * flowchart of manuscript inclusion




Source: Authors themselves, 2022

## Results

From the databases and repository, the search strategies made it possible to identify 2742 publications and 1707 from gray literature, totaling 4449 titles. After applying the inclusion criteria, 54 records were selected for full reading; Of these, nine were elected to take part in the study, plus one study selected based on the analysis of the references of the articles listed.

In this review it was possible to identify that all studies are epidemiological, published between 2007 and 2021: one observational (Menezes *et al.,* 2020) and nine experimental (Carraway-Stage *et al.,* 2016; Brennan *et al.,* 2021; Hawkins *et al.,* 2021; Shum *et al.,* 2019; Habib-Mourad *et al.,* 2020; Naidu ; Nandlal , 2017; Brandstetter *et al.,* 2012; Panunzio *et al.,* 2007; Parker *et al.,* 2014). Regarding the place where research was developed, the United States of America stood out with three studies (Carraway-Stage *et al.,* 2016; Brennan *et al.,* 2021; Hawkins *et al.,* 2021) and the other countries with one each, China (Shum *et al.,* 2019), Lebanon (Habib-Mourad *et al.,* 2020), India (Naidu; Nandlal, 2017), Germany (Brandstetter *et al.,* 2012), Brazil (Menezes *et al.,* 2020) and Italy (Panunzio *et al.,* 2007). In one of the studies (Parker *et al.,* 2014), the location in which it was developed was not found (Table 3).

**Table 3** – Characterization of the articles included in this review. Recife, PE, Brazil

| **Author/Year/ Country/Magazine** | **Goal** | **Design** |
|---|---|---|
| 1. CARRAWAY-STAGE, V. et al/2016/UNITED STATES OF AMERICA/American journal of health education | Examining the effect of the Food, Mathematics, and Science Teaching Enhancement Resource (FoodMASTER) Intermediate (FMI) | Quasi-experimental |
| 2. PARKER, AE et al./2014/ IT WAS NOT DESCRIBED/ *Advances in school mental health promotion* | Conduct an assessment of the feasibility and effectiveness of a new mindfulness education, substance abuse prevention program for 4th and 5th grade children | Experimental |
| 3. SHUM et al./2019/CHINA/J Med Internet | Determine the effectiveness of The Adventures of Do Re Mi fa | Quasi-experimental |
| 4. MENEZES KM et al./2020/ BRAZIL/Revista de Educação Popular | Analyze the process of building a project-based teaching-learning proposal and investigate the contributions of this proposal to health education in elementary school. | Longitudinal and prospective, with a qualitative and quantitative approach. |

| | | |
|---|---|---|
| 5. BRENNAN SF et al./ 2021/ UNITED STATES OF AMERICA/ International Journal of Behavioral Nutrition and physics Activity | To evaluate the improvement in quality of life, well-being, dietary knowledge and eating habits related to children's health through two multicomponent interventions. | Randomized controlled factorial design |
| 6. HABIB-MOURAD, C et al./2020/LEBANON/ BMC Public Health | Describe the effectiveness of a school-based intervention when delivered by a non-nutritional specialist (trained school teachers) compared to a nutrition specialist. | Randomized Clinical Trial |
| 7. HAWKINS, M. et al./2021/UNITED STATES OF AMERICA/ | Examine the feasibility and effectiveness of a professional development series in the first year of the program to improve teacher self-efficacy and student nutritional literacy. | Quasi-experimental |
| 8. NAIDU, J.; NANDLAL, B.;/2017/INDIA/ J Int Soc Prev Community Dent | To evaluate the effectiveness of a Primary Preventive Oral Health Education Program conducted for primary school children aged 6 to 12 years in Mysore City. | Intervention Study |
| 9. BRANDSTETTER S et al./2012/GERMANY/ Obesity facts | Report the effects of URMEL-ICE on BMI (primary outcome) and other measures of fat mass, as an effective intervention should slow increases in all anthropometric parameters in the intervention group. | Cluster Randomized Controlled Trial |
| 10. PANUNZIO, Michele F. et al./2007/ ITALIA/ **Nutrition Research** | To evaluate the effectiveness of a classroom intervention by teacher(s) compared to a nutritionist intervention in promoting fruit and vegetable consumption in elementary school children. | Cluster Randomized Controlled Trial |

Source: Authors themselves, 2022

The age range of the students participating in the interventions varied between three and 12 years old. Several subjects were integrated into the interventions: science, mathematics, English language and physical education, however, five studies did not present specific subjects (Parker *et al.,* 2014; Hawkins *et al.,* 2021; Naidu; Nandlal, 2017; Brandstetter *et al.,* 2012; Panunzio *et al.,* 2007) and three mentioned it as multidisciplinary or multicomponent (Shum *et al.,* 2019; Menezes *et al.,* 2020; Brennan *et al.,* 2021). In all studies, it was evident that prior to the intervention, there was training with the teacher, carried out by health professionals, on the topic that would be addressed. The description of the strategies implemented by teachers with their students, the disciplines involved, the theoretical support used by the authors and the contextualized theme are presented in Table 4.

**Table 4** – Health Education Strategies carried out by teachers in elementary school, based on the articles included. Recife, PE, Brazil, 2022

| Description of strategies | Disciplines involved | Theoretical Reference | Topic covered |
|---|---|---|---|
| 1. The IMF was implemented as a supplement to the 4th grade curriculum. It consists of 10 chapters with 24 practical 45-minute science lessons that cover basic concepts relevant to food and nutrition education: Measurement; food security; vegetables; fruits; milk and cheese; meat, poultry and fish; eggs; grains; fats and meal management. Each chapter contains at least one hands-on classroom experiment that illustrates a scientific pattern or concept related to food and nutrition. Teachers received a handbook for themselves, student workbooks, online access to curriculum materials, equipment (e.g., toasters, hotplates), kitchen supplies, perishable foods, and gift cards to purchase necessary perishable foods for classes during the school year. | Science and mathematics | It was not described | Nutrition education |
| 2. Curriculum-integrated mindfulness education program focusing on substance abuse prevention for elementary school students. The program includes five key ingredients: mindful breathing, mindful journeys, mindful movement, real-world applications, and daily practice; everyone worked in partnership to provide students with unique skills to use in their everyday lives. | They were not described | It was not described | Self-regulation for alcohol and tobacco use |
| 3. The Adventures of DoReMiFa was a digital game-based mental health improvement program. | Multidisciplinary | Cognitive-behavioral therapeutic approach and positive psychology. | Mental health |
| 4. Video recording of students' observations. Guiding question: Can food influence my health? Dietary recall (individual task; Approach to specific topics through scientific concepts; Approach to reality: creation of food pyramids; Survey on parents' lifestyle and eating habits; Problematic question: "How can I have a healthier life? " Preparation of informative pamphlets; Presentation of food pyramids | Languages (Physical Education and Portuguese Language) and Natural Sciences (Sciences) | Project-Based Learning | Healthy eating and physical activity |
| 5. Curriculum pedagogical practice entitled "Nourish" and "Engage". 'Nurture' was an intervention aimed at changing the school-wide food environment, providing food-related experiences and exposure to locally produced foods. 'Engage' was a | Multicomponents | It was not described | Food, nutrition science |

| | | | | |
|---|---|---|---|---|
| | cross-curricular, age-appropriate educational intervention about food, agriculture, nutrition science and related careers. | | | |
| | 6. The intervention was composed of three coordinated modules. The first consisted of twelve culturally appropriate classroom sessions with fun and interactive activities, incorporated into the school curriculum and held once a week to address the determinant of knowledge and self-efficacy influencing individual behavior. The second, a family module consisting of meetings, health fairs and informational packets sent home with recipes and food samples. Third module, a food service intervention targeted school stores and lunch boxes sent by families. Modeling significant others and the availability of healthy choices at home and school were key environmental factors addressed by the program. A complete toolkit consisting of detailed lesson plans and educational material (posters, pamphlets, booklets...) was shared with the trained teachers. | Sciences | Social Cognitive Theory | Eating behavior and physical activity |
| | 7. Teachers in intervention schools participated in a five-session Professional Development (PD) series designed to equip them with the skills, knowledge, attitudes, and materials to teach nutrition concepts in core subjects. | They were not described | Social ecological model | Nutritional Education |
| | 8. Physical education teachers and teachers from participating classes received training on oral health. Participating teachers were guided on the methodical use of standardized teaching material. Physical education teachers educated children regularly , bi-weekly, during physical training classes using flipcharts and models to demonstrate brushing, while class teachers were instructed to carry out regular oral health class readings during zero/science period morals. | They were not described | It was not described | Oral Health |
| | 9. The URMEL-ICE intervention consists of material for one school year, including 29 teaching units (each 30-60 min), two short blocks of physical activity exercises per day (each 5-7 min), six family homework assignments (tasks that cannot be performed by the child themselves without the help of a parent) and materials for training and informing parents. | They were not described | Social Cognitive Theory | physical activity, TV time and soft drink consumption |
| | 10. The teachers were initially trained by nutritionists. During the following 12 weeks (second period) teachers participated in 12 two-hour | They were not described | It was not described | Healthy eating |

| | | | |
|---|---|---|---|
| meetings based on the same themes, emphasizing nutrition teaching materials such as posters, songs, poems and stories, thus simulating classes for students. | | | |

Source: Authors themselves, 2022

## Discussion

Health education strategies at school, although they are international recommendations (Langford *et al.,* 2015) are still restricted and not very widespread, which may hinder the replication process in other institutions. In Brazil, the link between the school and health education is established by the PSE, whose adherence strategies, to a large extent, are external to the school and the teacher's planning. This may make it difficult for actions to be effective (Mulinari, 2018).

The construction and execution of health education strategies at school with the participation of the teacher strengthens the achievement of the proposed objectives. This review showed in all studies that the teacher's participation in the construction process promoted their adherence to the implementation of health education activities. In this sense, it is mandatory that the development of practices is carried out jointly between health and education professionals.

The teacher's participation and performance in the health education process is effective, since, in addition to the bond established in the teacher-student relationship, these professionals, when qualified, generate results. In India, the implementation of oral health programs by these professionals at school was recommended, since human resources in developing countries are limited, and this qualified workforce offers a viable and economical alternative that, to this day, has been underutilized (Naidu; Nandlal, 2017). The same proposition was made by Habib-Mourad *et al*. (2020) in health education actions in the area of nutrition.

Trained teachers, when compared to nutrition professionals, offer effective interventions. Engaging teachers to implement nutrition themes can support obesity prevention in the primary school setting (Hawkins *et al.,* 2021). This is because the teacher has more opportunities to integrate food and nutrition concepts into all lessons and classroom activities, compared to a brief lesson provided by a nutritionist (Panunzio *et al.,* 2007).

This need for qualification is a constant in the studies included, as teachers expressed that they were unprepared to address health topics in their classes. Therefore, when it comes to the health debate with schoolchildren, prior training for the teacher is essential.

The development of Health Education from a pedagogical perspective, which contributes to scientific literacy, requires teacher training and theoretical-methodological reflections, in the construction of teacher knowledge as well as in their interdisciplinary practice (Venturi, 2018). There is, therefore , no way to plan and seek favorable results without prior teacher qualifications, with dialogical and contextualized strategies.

Intersectorality, widely addressed in the PSE, is practiced in a peripheral and superficial way. On many occasions, health actions at school are fragmented and centralized by health professionals. There is little coordination between the health, education, management and government sectors, as well as the continued training of the professionals involved so that the actions have a prominent role and become effective (Rockenbach; Schmitt; Fassina, 2021). In Brazil, intersectoral strategies and the involvement of various components are already a priority for the PSE and must be implemented more effectively (Brasil, 2007).

Health actions in the school environment require a strategy consistent with the target audience. In the results of this research, focusing on elementary school students, none of the strategies occurred in isolation. For themes focused on healthy eating and nutrition, kits were used with online materials, equipment, kitchen materials (Carraway-Stage *et al.,* 2016); trigger questions: “How can I have a healthier life?”; preparation of informative pamphlets; presentation of food pyramids; experiences and exposure of regional food produced (Brennan *et al.,* 2021); family involvement and analysis of snacks offered by the school and those sent by families were also part of the strategies (Habib-Mourad *et al.,* 2020); the analysis of nutrition concepts (Hawkins *et al.,* 2021) and educational materials such as posters, songs, poems and stories (Panuzio *et al.,* 2007).

The topic of mental health was addressed with the help of the DoReMiFa program through digital games and face-to-face meetings with students (Shum *et al.,* 2019). As for alcohol and drug use among students, the daily practice of breathing, journeys and conscious movements was instituted by teachers (Parker *et al.,* 2014). When the focus is physical activity, practicing sports becomes an effective strategy (Naidu; Nandlal, 2017; Brandstetter *et al.,* 2012).

Playful strategies had a positive effect on the health education process and are consistent with the age group of the target audience. Educational actions with interdisciplinary and multi-professional characteristics with the involvement of health and education professionals were successful. Interdisciplinarity must transcend the school walls to encompass families and the entire school community.

Although, in the results of this research, there are programs and strategies included in the curriculum, there is no monitoring and continuity of actions, in most cases. Schools receive different projects with positive results, but they are not leveraged. The plans arrive and end up being inserted into the school schedule, always thinking about the teachers' class time, without the construction of the proposal being truly interdisciplinary (Schneider; Magalhães; Almeida, 2022). Therefore, project management and collective construction are essential to the success of the proposed objectives.

The development, review and implementation of curriculum (including content and pedagogical strategies) and association with tools (e.g. assessment, lesson plans, audiovisuals) to promote health and wellbeing across subject areas (all school domains) are strategies presented by the World Health Organization (WHO) and the United Nations Educational, Scientific and Cultural Organization (Unesco) "*Making every school a health-promoting school: Implementation guidance*" (WHO, 2022).

As a limitation of this scoping review, the incipient number of studies, nationally and internationally, is highlighted, despite the breadth of the established inclusion criteria. In some of these studies, it was not possible to identify the connection between the discipline and the implemented pedagogical strategy, making it difficult to deepen the analysis. Another limiting aspect was the heterogeneity of methodologies and strategies used by teachers, which prevented comparisons between studies from being carried out.

## Final remarks

Although publications on health education interventions carried out by teachers are restricted, there are different strategies focusing on an integrated, multidisciplinary, and multicomponent curriculum. In Brazil, these strategies are school health perspectives.

The health topics argued by teachers are still related to health behaviors with an emphasis on nutrition and physical activity. Therefore, it is necessary that health and education professionals, together, know the reality in which the school is inserted and that the generating themes are implemented from a collective perspective, including student participation.

It is no longer acceptable that the planning of health education actions is indicated only by the health professional and is carried out at school. For its success, it is essential to build dialogue with teachers and for these actions to be implemented by them. However, it is still essential that there is prior training of these teachers by health professionals. In this review, the

selected studies presented gaps regarding the evaluation and effect of health actions carried out by teachers in the long term. Therefore, more studies need to be carried out in the proposed scope, focusing on the effect of health education and evaluating the self-efficacy of these students who participated in health education actions.

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