


HEALTH EDUCATIONAL INTERVENTIONS IN ELEMENTARY EDUCATION I IN PUBLIC SCHOOLS: A SCOPE REVIEW

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ABSTRACT

INTRODUCTION: Health education is considered essential in child development, and it is recommended that the 1st Elementary School year include it in the school curriculum of pre-adolescents and children. In this context, it is important for the school to adopt an educational approach to promote knowledge and awareness about health in a broader context, which includes both the school and the family. **OBJECTIVES:** To conduct a scoping review on the influence of educational health interventions on the development of public elementary school students. **METHODOLOGY:** A scoping review was conducted in June 2024. The descriptors used were "Anatomy", "Child development", "Health Education" and "Educational intervention", as well as the equivalent terms in English, combined using the Boolean operators AND and OR. The search was conducted in the Scielo, Pubmed, Public Knowledge Project, Pesquisa, Ciência e Saúde and Eric databases. Experimental articles published between 1994 and 2024 were included in the review, with no language restrictions. The inclusion criteria involved studies that addressed topics related to anatomy, child development, health education, or educational intervention. Articles that did not detail the methodology or were not carried out in a school environment were excluded. **RESULTS:** The search in the databases resulted in 20 articles, among which 12 were selected for inclusion, 5 from Scielo, 2 from Pubmed, 3 from the Public Knowledge Project, 1 from Research, Science and Health and 1 from Eric. The present study revealed that, considering the time frame of the research, there is a scarcity of publications on the subject, which makes this study even more relevant. The inclusion of topics related to health education in the curriculum of Elementary School I is crucial for the integral development of children and pre-adolescents. The studies highlight the importance of educational approaches that promote knowledge and awareness about health, anatomy and well-being, considering the school and family context. **FINAL CONSIDERATIONS:** It is inferred that the addition of themes in education and health in Elementary School I can be beneficial for the physical, mental and social development of students and their communities. Education strategies should be tailored to be culturally relevant and accessible, ensuring that learners can apply the knowledge gained in their daily lives.

Keywords: Anatomy. Child development. Health Education. Educational intervention.

INTRODUCTION

Health education is considered essential in child development (UNICEF, 2001; UNESCO, 2002). Therefore, it is recommended that Elementary School I include it in the school curriculum of pre-adolescents and children. In this context, it is important that the school adopts an educational approach to promote knowledge and awareness about health in a broader context that includes both the school and the family, as well as other institutions related to the health sciences, such as colleges and universities, after all, as stated in the Statute of the Child and Adolescent (ECA), Children and adolescents are considered as subjects of rights, and they are guaranteed full protection and, therefore,

It is the duty of the family, the community, society in general and the public power to ensure, with absolute priority, the realization of the rights related to life, health, food, education, sports, leisure, professionalization, culture, dignity, respect, freedom, and family and community life (Brasil, 1991. p. 9).

At this juncture, the value of health education during childhood cannot be underestimated, as this phase is critical to establish health standards that have repercussions on quality of life. In this sense, the approach strategies, institutional and community partnerships, and the diversification of health themes should present formats that aggregate different needs and contexts due to an education for life. The development of the individual as a result of an educational system based on traditional (empirical) concepts is inadequate, because the task of education is to form critical people who can think, propose and act according to different worldviews (FORNAZIERO, 2009).

Educational interventions in children and youth, through health education, need to address aspects such as hygiene care, prevention of sexually transmitted infections (STIs), education for sexuality and violence, in addition to the prevention of drug use (licit and illicit). In addition, instilling the promotion of physical activity aimed at individuals of primary school age, associated with postural education, can be seen as an action that will help locomotor function throughout life (ARAÚJO, 2012).

The simple implementation of educational programs on hand hygiene is also capable of positively influencing the health of students and their families, as well as the community where they are inserted (COSTA, 2023). For example, the implementation of hygiene programs in schools, such as body and hand hygiene, is an indispensable strategy for health promotion (FERNANDES, 2009) and for overcoming states of health emergency such as the one experienced in 2020, on the occasion of the Covid 19 Pandemic. The inclusion of mental health education in schools emerges as a crucial tool to empower

children to understand and manage their emotions, providing skills and strategies that promote a solid foundation for their mental health throughout life (ROCHA, 2024).

In this path, access to basic notions of anatomy and physiology also allows children to understand how their bodies work, as the study of the human body in the early years of Elementary School can instigate students, encouraging them to question and turn their gaze to their own body, which is in a phase of constant change, and expand previously acquired scientific knowledge (RABELLO, 1994).

These notions facilitate the teaching of basic first aid and help to enable the child to react appropriately in emergency situations. This knowledge can be vital at critical times, such as in times of cardiorespiratory arrest, promoting personal safety and the ability to help others (AMERICAN HEART ASSOCIATION, 2020). In addition, anatomical learning can help prevent abuse, as children get to know about body parts and body limits, in order to promote healthy understanding. They learn that they have the right to refuse unwanted touching and the importance of respecting people's boundaries (UNICEF, 2021). Therefore, sexual abuse prevention programs should be part of the school curriculum.

When approached appropriately and sensitively, body education provides children with the tools they need to recognize, resist, and report abusive behavior. Therefore, the promotion of an environment of trust in schools, in which children know that they can communicate any uncomfortable situation without fear of punishment, is crucial for the prevention of violence and the strengthening of security and, consequently, for the promotion of children's emotional balance, so indispensable for the development of cognitive faculties.

It is essential that children know how to communicate any uncomfortable situation to a trusted adult (AMERICAN ACADEMY OF PEDIATRICS, 2023) and that this adult is qualified to identify, welcome, and guide children and their families to find emotional balance and security, whether through health education or access to the bodies and institutions responsible for guaranteeing the rights of the human person. In this aspect, health education can help children know that they will not be punished for reporting disrespectful acts by others and so that they feel safe to seek help. Therefore, the existence and availability of well-prepared educators is fundamental for teaching concepts related to health and well-being. They must have adequate resources and strategies to address sensitive topics and identify signs. In view of this, implementing clear child protection policies in schools ensures that everyone knows how to proceed in cases of reporting abuse (GUASTAFERRO et al., 2024).

Parents also play a vital role in their children's health education. Therefore, educational programs that involve parents, providing them with information to discuss health, abuse prevention and myths on the subject are essential. These policies create a safe and trusting environment.

In this sense, health education in schools can be a powerful tool not only for the emotional and physical development of children, but also for their social development, since it allows children to get closer to health professionals, which can arouse their interest in the study of health sciences, since, By introducing relevant content on disease prevention, health care and healthy habits, educational interventions create a space for interaction between students and professionals, facilitating children's access to scientific and methodological information that might otherwise be unknown and, from this perspective, active participation in practical activities, such as lectures, dynamics or visits to health units, It can awaken vocations in children for the areas of biomedicine, nursing, medicine and other fields of health, favoring the formation of a new generation that is more aware and interested in contributing to the development of these areas.

In addition, health education activities stimulate children's curiosity and engagement with science, contributing to the understanding of the importance of research and scientific evidence in solving everyday problems, cultivating a critical and investigative posture that is fundamental for their academic and personal development, especially in public schools where access to resources and environments suitable for scientific development are scarce (SENA, 2014).

Under these biases, health education in Elementary School I is necessary for the integral development of children, as it can promote healthy habits, through the understanding of the human body, social and ethical skills, and the ability to prevent and report abuse, which contributes to the creation of a solid foundation for a healthy and conscious adult life. Investing in health education early, therefore, is an essential strategy to build a more informed and responsible society (UNESCO, 2002; UNICEF, 2001). Thus, this study is justified by the need to investigate how health education can contribute to the integral formation of children, with the objective of evaluating the impact of these interventions on the physical, social and mental development of Elementary School students.

METHODS

A scoping review of the literature was conducted in June 2024, selecting 12 articles. The search was conducted in the *Scielo*, *Pubmed*, *Public Knowledge Project*, Research,

Health and Science and Eric databases. The descriptors used were "Anatomy", "Child development", "Health Education" and "Educational intervention", as well as their equivalent terms in English. These descriptors were combined using the Boolean operators AND and OR.

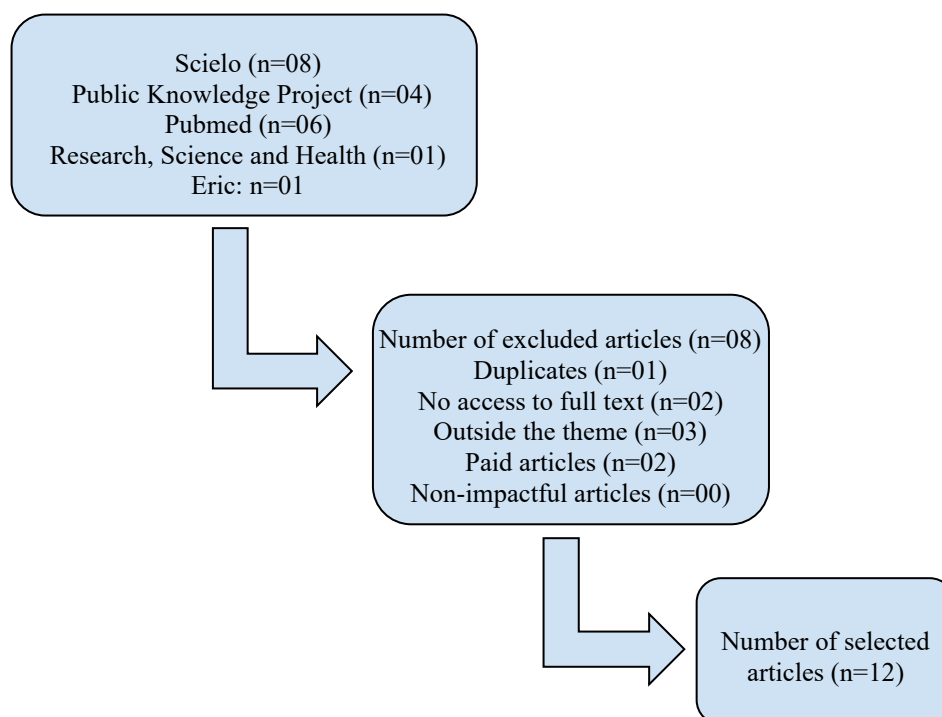
Experimental articles published between 1994 and 2024 were included, with no language restrictions. For the selection of studies, the following inclusion criteria were adopted: approach to the theme related to anatomy, child development, health education or educational intervention. Articles that did not fit these criteria were excluded.

After the initial search, the titles and abstracts of the articles were reviewed to determine the relevance of each study in line with the objectives proposed by the review in question. The selected articles were then read in full for further evaluation. In addition, we performed manual searches in bibliographies of relevant articles to identify additional studies that could be included.

RESULTS

The search in the databases resulted in 20 articles, of which 12 were selected for the present review, 5 from *Scielo*, 2 from *Pubmed*, 3 from *the Public Knowledge Project*, 1 from Research, Science and Health, and 1 from Eric. The search and selection strategy of articles is shown in Figure 1. The scoping review revealed that the integration of health education themes in the Elementary School I curriculum is important for the integral development of children and preteen. The included studies highlight the importance of educational approaches that promote knowledge and awareness about health, anatomy and well-being, considering the school and family context, as shown in Chart 1.

Figure 1. Search and selection flow for articles for the scoping review



Source: Authorship, 2024.

Table 1. Educational interventions in health in Elementary School and possible impacts on student development

AUTHORS	YEAR	INTERVENTION/THEMATIC	RESULTS/IMPACTS
Araújo	2012	Health education and anatomy	It contributes significantly to the knowledge and well-being of students.
Arsolino Almeida	2022	Playful and interactive activities in health education	Significant impact on learning and the promotion of healthy habits.
Costa et al.	2023	Playful and interactive activities (games and workshops)	They promote student learning and engagement.
Engers et al.	2023	Culturally relevant educational strategies	They facilitate the application of the knowledge acquired in the students' daily lives.
Fernandes et al.	2009	Periodic evaluations and preventive programs	They involve students, parents and teachers in the promotion of postural health.
Fornaziero et al.	2010	Integration of anatomy, environment, and health education	Holistic approach that enriches learning and promotes public health
Kawamoto, Campos	2014	Integration of school and family in the educational process	It promotes awareness and knowledge about health and anatomy.
Menotti et al.	2018	Postural education for children and adolescents	Improper postures can lead to health problems; The intervention aims to prevent these problems.

Rocha, Vechia, Martins	2018	An educational approach that values practice and integral health	Health education as a continuous and critical process for the construction of identity and promotion of healthy habits.
Sacomanno et al.	2023	Promoting oral health in schools	Children successfully learn about dental hygiene through interactive sessions.
Taylor et al.	2017	Human body and interaction with the environment	They make the teaching of anatomy more relevant and applicable to social reality.
Vieira, Castro	2018	Inclusion of health education in Elementary School I	Recommendation to include health in the school curriculum, reinforcing its impact on child development.

Source: Authorship, 2024.

DISCUSSION OF THE RESULTS

The results of this review reiterate the importance of health education as a pillar in the integral development of children. The implementation of educational programs on hand hygiene, nutrition education, physical activity and mental health in schools are practical examples of how health education can be incorporated into the school curriculum (RABELLO, 1994).

The impact of educational interventions in health on the learning and development of students should not be considered only as a simple transfer of knowledge. Instead, it should be seen as an opportunity to create a meaningful and transformative learning experience for learners. This suggests adopting a more student-centred approach to teaching, which is shaped to meet individual needs, learning styles and interests, thus adapting to create an impact on students' curiosity, creativity and autonomy through their involvement as active agents in their own learning.

Some studies report results contrary to what is expected in health promotion programs in schools, which may present limited or even negative results. These results can be attributed to structural factors, such as the lack of engagement of multiple groups. Interventions that focus exclusively on children, without involving other groups, such as parents and teachers, tend to have more restricted results. The inclusion of multiple providers, such as external experts, and different target groups is essential to generate more significant impacts (ZURC, 2023).

In addition, short interventions or without adequate follow-up often do not result in sustainable effects. Studies show that interventions with only one segment, carried out long

after the end, are less successful in maintaining benefits (ZURC, 2023). Finally, structural barriers, such as the lack of time in the school curriculum and the pressure for results in core subjects, such as mathematics and reading, reduce the time available for health interventions, compromising their effectiveness (PEREIRA, 2015).

In addition, the discussion on the integration of anatomy teaching with environmental and public health issues highlights the importance of contextualized education that is relevant to the lives of students. This involves not only providing theoretical information but also empowering them with practical skills and knowledge that can be applied in their communities and in the real world. By connecting academic learning with real-world experiences, students are encouraged to become critical, reflective, and engaged citizens on health and social issues (FORNAZIERO, 2009).

Therefore, the teaching of anatomy in Elementary School I can play a crucial role in the integral development of children, promoting self-knowledge and understanding of bodily functions. This approach arouses scientific curiosity and teaches preventive health practices that positively impact children's routines. Didactic activities, such as first aid workshops and dynamics on body posture and organ function, make learning meaningful and practical. Studies show that this approach not only improves anatomical understanding, but also reinforces critical skills for children's daily lives, such as autonomy and conscious decision-making (TAYLOR et al., 2017; ABDELLATIF et al., 2022).

The promotion of oral and postural health, in turn, should not be restricted only to a matter of teaching correct techniques, but also of cultivating healthy habits and preventive behaviors from an early age, which requires a multidisciplinary approach, which involves not only health professionals, but also educators, parents and other members of the community. By creating a culture of health inside and outside of school, we can provide students with the tools and support they need to adopt healthy and sustainable lifestyles throughout their lives (SACCOMANNO, 2023).

Thus, the discussion proposed by this investigation shows that health education goes beyond the teaching of theoretical concepts; it should be a transformative experience that empowers children to manage their emotions, understand their ever-changing body, and apply scientific knowledge to their daily lives (AMERICAN ACADEMY OF PEDIATRICS, 2023). In this way, the inclusion of basic notions of anatomy and physiology, for example, allows children not only to learn about their body, but also to develop skills to react in emergency situations and understand the importance of respecting bodily limits (RABELLO, 1994).

From this perspective, the combination of anatomy teaching and public health issues expands the educational impact by offering a practical and socially relevant context. Through concrete examples, such as the effects of basic sanitation on public health or the relationship between nutrition and functional anatomy, students understand the connection between the human body and environmental factors. In addition, these interdisciplinary practices stimulate reflections on citizenship and social responsibility, preparing students to act as agents of change in their communities (FORNAZIERO, 2009; HEPTONSTALL et al., 2016; TAYLOR et al., 2017).

In this regard, it is evident that understanding the functioning of the human body is essential to strengthen children's self-esteem, especially during phases of body changes, such as puberty, as accessible and contextualized anatomical education contributes to the reduction of insecurities by favoring a safe space for discussions about body limits, consent and mutual respect. These initiatives promote not only learning, but also emotional and social development, by establishing a more welcoming and inclusive school culture (ASRI, 2024).

In this sense, sex education, when properly approached, provides essential tools for the recognition, resistance and reporting of abusive behaviors, promoting a safe and trusting environment. (AMERICAN ACADEMY OF PEDIATRICS, 2023). Parental participation and educator preparation are crucial to the success of these initiatives, ensuring that child protection policies are effectively implemented.

From this perspective, in addition to transferring knowledge, educational interventions in health should be seen as opportunities to create meaningful and transformative experiences for students. A student-centered approach, tailored to their individual needs, learning styles, and interests, is key. This involves interactive and playful activities that encourage students' curiosity, creativity, and autonomy (ENGERS, 2023), which leads to greater involvement in the teaching and learning process.

The evidence provided in the investigated articles also indicates that, despite the limitations found in some schools, such as the lack of didactic resources and restricted time in the curriculum, innovative strategies have made it possible to overcome these challenges. In these experiences, accessible resources such as educational apps, recyclable materials, and 3D-printed anatomical models make learning more dynamic and inclusive. For Wang et al. (2024) and Grimwood et al. (2020), tools such as augmented reality and interactive games also offer immersive experiences that enhance student engagement, while hybrid strategies increase theoretical and practical understanding, being resources that strengthen students' critical thinking (NAIDOO et al., 2021).

That said, active technologies have stood out as transformative tools in education. Methods such as flipped classrooms and the integration of digital platforms were widely used during the COVID-19 pandemic, which promoted greater student engagement and contributed to better learning outcomes (GRAFFAM et al., 2007; NICHAT, 2023). These methods encourage collaboration, self-assessment and the construction of knowledge, bringing students closer to reality (HURTUBISE, 2015).

In view of the above, the results presented reinforce the view that health education should be a continuous journey of discovery and critical reflection, involving teachers and students in a collaborative process that respects and values the social realities of the populations studied (RABELLO, 1994). Thus, the importance of a more student-centered and contextualized approach in health and anatomy education is highlighted. By fostering meaningful learning experiences, connecting academic teaching with real-world issues, and cultivating health care culture, one can empower students to become not only learners but also agents of change in their communities and society at large (ENGERS, 2023).

Therefore, this information is fundamental for the development of students through education, allowing them not only to assimilate knowledge, but also to disseminate it in the contexts in which they live. In this way, they are no longer mere receivers of information and start to act as agents of transformation of reality, playing an essential role in building more conscious and healthy communities.

FINAL CONSIDERATIONS

The integration of health education topics into the Elementary School curriculum is essential for the holistic development of children and preteen. This educational approach is capable of promoting knowledge about health, anatomy, and well-being, preparing them for a healthy and responsible life. In addition to contributing to academic knowledge, educational interventions can also positively impact students' emotional and social well-being. The cultural relevance of these strategies is crucial to relate knowledge to everyday experiences, and the training of education professionals is essential to implement them effectively. In short, the inclusion of health education themes in Elementary School I is an important basis for the development of children and preteen, enabling them to contribute positively to society.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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