The importance of popularization of first aid in schools to save lives: An integrative review

RESUMO | Objetivo: Investigar o impacto da educação em primeiros socorros para escolares. Método: Realizada uma revisão de literatura do tipo integrativa, que utilizou a estratégia PICO para elaboração da pesquisa. A busca se deu entre os meses de maio a agosto de 2021 na Biblioteca Virtual em Saúde (BVS), a partir dos Descritores em Ciência da Saúde “Primeiros socorros, Ensino e Escolares” e no Medical Subject Headings (Mesh) “First Aid”, “Education” e “Students”, totalizando 07 artigos publicados no período de 2011 à 2021. Resultados: Identificou-se que os escolares que tiveram aproximação com a temática primeiros socorros, principalmente com metodologias ativas, simulações realísticas, ajudam na prevenção de acidentes e quando estes ocorrerem podem manusear as emergências mais comuns para o salvamento de vidas. Conclusão: Desta forma, os estudantes compreendem a importância desta temática abordada nas escolas para salvar vidas, através de ações didáticas que focam nas principais emergências acometidas pela sociedade.

Descritores: Primeiro Socorros; Ensino; Escolares..

ABSTRACT | Objective: To investigate the impact of education in first aid for schoolchildren. Method: An integrative literature review was carried out, which used the PICO strategy for research design. The search took place between May and August 2021 in the Virtual Health Library (VHL), from the Health Science Descriptors “First Aid, Teaching and Schoolchildren” and in the Medical Subject Headings (Mesh) “First Aid”, “Education” and “Students”, totaling 07 articles published in the period from 2011 to 2021. Results: It was identified that students who had an approach to the theme first aid, especially with active methodologies, realistic simulations, help in the prevention of accidents and when they do occur they can handle the most common emergencies to save lives. Conclusion: In this way, students understand the importance of this topic addressed in schools to save lives, through didactic actions that focus on the main emergencies affected by society.

Keywords: First Aid; Teaching; schoolchildren

RESUMEN | Objetivo: Investigar el impacto de la educación en primeros auxilios para escolares. Método: Se realizó una revisión integrativa de la literatura, que utilizó la estrategia PICO para el diseño de la investigación. La búsqueda se realizó entre mayo y agosto de 2021 en la Biblioteca Virtual en Salud (BVS), a partir de los Descriptores de Ciencias de la Salud “Primeros Auxilios, Enseñanza y Escolares” y en los Encabezamientos Médicos (Mesh) “Primeros Auxilios”, “Educación” y “Estudiantes”, totalizando 07 artículos publicados en el período de 2011 a 2021. Resultados: Se identificó que los estudiantes que tuvieron un acercamiento al tema primeros auxilios, especialmente con metodologías activas, simulaciones realistas, ayudan en la prevención de accidentes y cuando lo hacen pueden manejar las emergencias más comunes para salvar vidas. Conclusión: De esta manera, los estudiantes comprenden la importancia de este tema abordado en las escuelas para salvar vidas, a través de acciones didácticas que se enfocan en las principales emergencias afectadas por la sociedad.

Palabras claves: Primeros Auxilios; Enseñando; Niños de escuela

INTRODUCTION

A n accident is considered an unexpected and unplanned harmful event caused by an external force that generates bodily or mental damage and can affect any individual, anywhere and at any time. 1 Accidents in schools are very com-
mon as children and adolescents spend at least a third of their day in the school environment and in this context, it is colleagues, teachers and employees who will arrive first at the accident site and must be trained to provide first aid.

Children of preschool age are susceptible and vulnerable to accidents at school. In this way, teaching in first aid minimizes the effects caused by accidents in the school environment.

First aid is the immediate care provided to the injured victim and aims to stabilize the individual’s condition, preventing sequelae and more serious damage until the arrival of the health team for adequate assistance, therefore, these precautions in the first moments after the accident are essential for the satisfactory outcome of the situation that occurred.

However, the analyzed studies show that students and professionals do not receive training to deal with these accidental situations in the school environment. In the study carried out by Tinoco et al., in trained children, it was evidenced that 75% of the children would know how to provide first aid in the event of drowning and 53% would know the correct conduct regarding an airway obstruction condition.

In this way, the teaching-learning process on first aid in the school environment is extremely important to train students, teachers and employees to provide adequate assistance in the initial moments after the accident, thus reducing the potential damage caused.

Permanent health education is necessary in schools for those who live in this space, making them multipliers of knowledge in their homes and community in which they are inserted, thus contributing to a better preparation of the population in the face of these situations and to accident prevention and health promotion. Given the above, the present study aims to investigate the impact of education in first aid for schoolchildren.

**METHOD**

To achieve the proposed objective, an integrative literature review was carried out. The method is built through materials obtained from studies on a particular theme or issue, allowing an improvement on the elaboration on the due theme, as well as an observation of the difficulties encountered. This study was designed according to the six methodological steps.

In the first step, referring to the formulation of the research question, the appropriate question was defined: What is the importance of investigating the impact of education in first aid for schoolchildren? This listed the use of the PICo strategy, which is focused on human experiences and social phenomena (Chart 1), the acronym in question is relevant to the set of letters referring to the words: population (P), interest (I) and context (Co).

In the second stage, the choice of theme and formulation of the research question will develop the literature search process. The search for articles in the literature was carried out between May and August 2021, in the Virtual Health Library (VHL), in the following databases: Latin American and Caribbean Literature on Health Sciences (LILACS), Online Medical Literature Analysis and Retrieval System (MEDLINE), Nursing Database (BDENF), ColeccionaSUS, Spanish Bibliographic Index in Ciencias de La Salud (IBECS), Peruvian Literature in Ciencias de La Salud (LIPECS), Second Formative Opinion (SOF - Segunda Opinión Formativa). Descriptors in Health Science (DeCS) were used: “Primeiros Socorros”, “Ensino” e “Escolares” and the Medical Subject Headings (MESH) “First Aid”, “Education” e “Students”. The data crossing was performed using the Boolean operator “AND” as follows: “Primeiros socorros and Ensino”, “Primeiros socorros and Escolares” e “Ensino e Escolares” e “First Aid” and “Education” “Firsat Aid” and “Students”, “Education” and “Students”.

The inclusion criteria were original, complete and freely available articles in full related to the theme the popularization of first aid, published in Portuguese and English over a period of ten years. Repeated articles and those that deviated from the theme were excluded.

In the third stage, data collection was carried out, where a table was prepared with the description of the following topics: authorship, year of publication, journal, country where the study was carried out, title, method, results and considerations. As the fourth step is the critical analysis of the selected studies, the exclusion of repeated articles that do not address the theme was favored.

As a result of this search, 237 articles were found. With the parallel reading of titles and abstracts, those who

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**Chart 1. Application of the PICo strategy**

<table>
<thead>
<tr>
<th>Definition</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Population</td>
</tr>
<tr>
<td>I</td>
<td>Interest</td>
</tr>
<tr>
<td>Co</td>
<td>Context</td>
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</tbody>
</table>

Source: Produced by the authors (2021)
fit the established inclusion and exclusion criteria were identified, 53 articles were not available for free in full, 176 were excluded for not addressing the theme of the study and 01 for repetition, being selected 07 articles published from 2011 to 2021 to compose the present study. (Figure 1)

In the fifth stage of the research, there was a discussion of the results based on theoretical evidence. The sixth stage is represented by the presentation of the integrative review, covering all the information that occurred in the process.

This research met the ethical criteria present in Law 12,853 of 2013, which refers to aspects of copyright when citations of articles were ensured during the study.

RESULTS

The analysis of the periodicals in the delimited period allowed the identification of 07 articles, for portraying the importance of first aid for schoolchildren, it is shown in Table 02. All articles were carried out in public and private schools with children and adolescents and highlighted the importance of first aid education for students.

The analyzed studies highlighted a profile of students between 04 and 17 years old attending elementary and high school, the number of study participants ranges from 10 to 6,690 children and the approach time also varies according to each study, ranging from days to months.

It was characterized by different methodologies, such as realistic simulations, workshops, theaters, lectures, etc. The duration time varies between 50 to 60 minutes. In all the studies analyzed, it was highlighted the use of pre-tests with objective questions of multiple choices, containing the themes addressed to assess the students’ prior knowledge before the educational actions and the use of post tests with the same questions where a significant improvement in the knowledge and ability of the students after training is noticeable.

In all studies it was seen that the involvement of parents and guardians is minimized, they are usually included only to sign the consent forms. With regard to teachers, they were practically not mentioned. Only in Bollig’s study 9, the teachers helped in the courses provided by acting as victims, pretending to be unconscious for the children to start the care properly.

DISCUSSION

The professionals who work with schoolchildren advising on first aid are mostly health professionals, nursing students and academics in the health area. The multiprofessional team is composed of nursing, physiotherapy and psychology residency in Urgency and Trauma in approaches to health promotion and prevention. To contribute to the teaching practice of students’ activities, training them for first aid, also improving their own learning in the assistance and care of high complexity and population.

The main requirements for the study consisted of teaching and preparing students to recognize basic first aid situations. In their study analysis, students were tested and evaluated, and demonstrated despite little knowledge and experience that they would be able to provide basic first aid support. Emphasizing the importance of expanding education within school environments, not only being made available to higher or technical school level, but covering schoolchildren at elementary and secondary levels, stimulating health education, favoring safer environments within educational institutions.

The impact of education in first aid in the school community was notorious, since the levels of knowledge, skill and interest on the part of the students increased after the teachings and training in first aid training. Therefore, sharing this content is totally effective for involvement and creation of a new perspective in the face of an emergency situation in the school environment.

The knowledge acquired by schoolchildren can save lives, because

Figure 1: Study selection flowchart.

Source: Produced by the authors (2021)
### Chart 2. Synthesis of articles related to the popularization of first aid in schools from 2015 to 2021.

<table>
<thead>
<tr>
<th>No.</th>
<th>Author/Year/Journal/Country</th>
<th>Title</th>
<th>Method</th>
<th>Result</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>MARGARIDA MYKAELLA CRISTINA et al. 2021, REVISTA Online, Brazil</td>
<td>Experience of multiprofessional residents in first aid guidance and accident prevention in schools (Experiência de residentes multiprofissionais na orientação de primeiros socorros e prevenção de acidentes nas escolas)</td>
<td>Descriptive and cross-sectional study</td>
<td>The institutional program “HUGOL nas Escolas” managed to reach 6,690 students from state schools in the northwest region of Galícia during its 31 editions. The study demonstrates the relevance of teaching first aid to schoolchildren, since schools are accident-prone environments and pre-hospital care provided by laypeople can provide a good recovery to victims, as well as a service performed wrongly can make it difficult for the rescue team to arrive at the pre-hospital environment and later the hospital team.</td>
<td>The study brings the experience and importance of multiprofessional residents in a health promotion and prevention project in schools in which they train children, adolescents and young adults in the school environment to provide first aid in the face of accidents and also to prevent those that are avoidable.</td>
</tr>
<tr>
<td>02</td>
<td>MESQUIA THA-LITA MARQUES et al. 2017, Revista Ciência Plural, Brazil</td>
<td>Educational resource in first aid in the teaching-learning process in children from a public school (Recurso educativo em primeiro socorros no processo ensino-aprendizagem em crianças de uma escola pública)</td>
<td>Analytical study with a quantitative approach</td>
<td>An exposition of subjects related to the theme of first aid was carried out and in the class that the educational resource was used, the meeting flowed better, with greater interest from the students. In the class that only had a lecture, the interest of the students declined during the meeting and the performance was lower.</td>
<td>The study addresses the relevance of using other resources in addition to the lecture, because, in this way, students can better absorb the content taught. The authors also emphasize the importance of teaching first aid to children and adolescents to prevent injuries related to accidents.</td>
</tr>
<tr>
<td>03</td>
<td>ALBUQUERQUE ADRIANA MONTEIRO et al. 2015, Revista de Enfermagem UFPE Online, Brazil</td>
<td>Saving lives: assessing the knowledge of adolescents from a public school about first aid (Salvando vidas: avaliando o conhecimento de adolescentes de uma escola pública sobre primeiros socorros)</td>
<td>Exploratory, field study, with a quantitative approach</td>
<td>During the eight months of the extension project, ten workshops were held at the public school and it was observed in the target audience, the predominance of adolescents in the 9th grade, most of them female and aged between 13 and 15 years, the students participating in this research never had contact with first aid, at school or outside it.</td>
<td>The study demonstrates the relevance of health education for children and adolescents on the subject of first aid and the knowledge of participants before and after the workshops evaluated in the pre and post-test, proving the effectiveness of health action in the school environment.</td>
</tr>
<tr>
<td>04</td>
<td>SANTANA MORAIS MARA et al. 2020, Revista de Enfermagem de UFSC, Brazil</td>
<td>Educational intervention in first aid for basic education students (Intervenção educativa em primeiros socorros para escolares da educação básica)</td>
<td>Quasi-experimental, interventionist study</td>
<td>Participated in the research 67 students enrolled in the eighth year of public school, between 12 and 17 years of age and predominantly male. The educational intervention was considered effective as evidenced by the improvement in post-test results with a statistically significant difference for almost all variables analyzed.</td>
<td>The article portrays the definition of urgency and emergency and first aid, and how care should be performed in a school environment. In addition to the deficiency in relation to students’ knowledge on PCR and CPR topics. After the educational intervention, there was an improvement in knowledge about hemorrhages, epistaxis, seizures, fractures and dislocations.</td>
</tr>
<tr>
<td>05</td>
<td>BOLUG GEORG et al. 2011, Scandinavian Journal of Trauma, Reanimation and Emergency Medicine, Norway</td>
<td>Effects of first aid training in kindergarten - a pilot study</td>
<td>Mixed methods approach using quantitative and qualitative methods</td>
<td>Ten children participated in the study. 5 girls and 5 boys. Three of them were four years old and seven were five years old. 70% of children correctly assessed consciousness and knew the correct emergency phone number. 60% were found for correct assessment of breathing and the other tasks were performed correctly by at least 40% of the participants.</td>
<td>The study brings its results about the research carried out with children aged 04 and 05 from the kindergarten of a school in Norway, in which the instructor and two kindergarten teachers instructed these students on basic first aid with 06 workshops of 30-40 min and the study demonstrates that after these workshops they were able to provide this first aid to colleagues and adults in other test situations during the follow-up period, being extremely important to teach basic first aid to kindergarten children.</td>
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</table>
their brief participation in educational activities that address the forms of prevention, evaluation and conduct to be taken in the face of the emergency scenario, providing the first care to the victim, can contribute to an improvement of autonomy making them confident to disseminate this learning in the community in which they are inserted, favoring the promotion of health and prevention of eventualities inside and outside the school environment. 

The school is an environment that contributes positively to the construction of an individual’s knowledge and character. Therefore, the inclusion of first aid in the teaching schedule will ensure that students acquire a quick reasoning about an eventual accident, as well as a critical sense and scientific basis on the definition of first aid and the myths that surround it. 

The analyzed studies demonstrated the relevance of implementing the teaching and popularization of first aid for schoolchildren in order to reduce the rates of complications and deaths caused by the lack of adequate assistance, since the initial approach is inadequately performed due to a lack of theoretical-practical knowledge, which may negatively affect the care provided by the pre-hospital team. 

It is important to evaluate the resources that can be used to train students, they should be playful and use active methodologies such as realistic simulation since they are more dynamic and result in better learning, as well as allowing to put what was taught into practice. Questionnaires can be used to analyze the level of knowledge before and after the workshops are held, showing the results of the actions carried out in the schools.
Teaching didactics can help in the absorption of knowledge, stimulate interactivity and encourage interest in the topic. It is understood that the authors emphasize the importance of knowledge in first aid for schoolchildren.

According to Albuquerque, training in first aid for adolescent students was of great value. Also, the importance of continuing to carry out training on basic principles of first aid in schools is emphasized, thus encouraging health education.  

The method used consisted of adapting the students' needs and skills to provide first aid. The scenarios set up differentiated each situation in care for each type of victim; in these scenarios, it included the students themselves, inserting them into the scene as the victim or the rescuers, teaching the procedures for each emergency situation. The use of realistic simulation-based learning leads the student to observe the situation and act accordingly.  

Sharif, brings the importance of first aid in teaching adolescents in the school stage, addressing basic life support. It states that the high levels of accidents transform the dangerous environment for the development of adolescents, so it is necessary to make them capable of providing first aid.  

In this sense, the school is highlighted as the main environment for the development of the cognitive functions of children, adolescents and young people. The school is a place where the systematic teaching-learning process takes place for the formation of an individual, complementing the family education received by the same. Furthermore, other studies have also highlighted the importance of teaching the topic First Aid to children and adolescents, since every individual has a role and a responsibility towards society, being a transforming agent of different scenarios outside the school environment.  

And according to Bollig, learning in first aid should therefore include both knowledge transfer and motivation to provide first aid in kindergarten, it could likely lead to first aid as normal activities of daily living.  

In this study, didactics were used, using games in realistic simulation with different stages within the 4 months of pre and post training in first aid, carried out with classes on PCR in practice with maneuvers, each day consisted of passing on a respective knowledge of the topics covered. At the end of the studies carried out by the students, it was possible to identify, up to what age group the students are able to demonstrate skills and knowledge to save lives.  

The topics addressed were focused on first aid in order to help students understand what to do in the face of an adverse accident situation. The incidences found in most articles were accidents in schools due to choking, suffocation, fever, convulsions.  

They were similar between the studies, namely: cardiopulmonary arrest (CPA), choking, burns, cardiopulmonary resuscitation (CPR), convulsive crisis, hemorrhage, OVACE, electric shock, accidents by venomous animals, sprains, asphyxia and exogenous intoxication. The materials used in the analyzed actions, in the studies, were a playful box with gauze, water, soap, clean cloth, toothpaste, butter; external automatic defibrillator, bag-mask-valve, materials to simulate wounds such as makeup and syrup; plastic bags, cloths, backpacks, books, magazines, folder handles and cardboard; mannequins.  

The authors referring to the articles that were used had a common approach to encourage the spread of teaching first aid in schools, aiming to reduce the incidence of health problems in the face of accidents in the school environment.  

The conduct and approach of the aforementioned authors was similar, through data collection in order to obtain information on the level of knowledge of the school members, filtering the main types of accidents and focusing on imparting first aid knowledge to all school members.  

In general, the articles used as research show that although some authors use different methods, they have a common objective, which is to apply methods and different ways of transmitting first aid knowledge throughout the educational environment.

CONCLUSION

The analyzed studies were published between 2011 and 2021 and narrate the importance of popularizing first aid for schoolchildren, because it allows students to understand the theme and act when necessary, helping to prevent injuries and save lives, whether in the practical scenario or in the face of younger students calling the ambulance number and asking for help.  

In this way, first aid offers health promotion in schools, since schoolchildren, through didactic actions, help in the prevention of accidents and when they occur, they can handle the most common emergencies, being extremely relevant to save lives.  

This integrative review was limited because of the articles that deviated from the proposed theme/objective, in addition to duplicate articles. Therefore, it is important to encourage the production of future research that broadly address the issue with a scientific basis and tools to carry out these practices successfully and effectively.

Thus, through this work, new articles can be developed on the teaching of first aid for schoolchildren and encourage the creation of public policies aimed at preventing diseases related to the health of schoolchildren, promoting health promotion and learning among schoolchildren and encouraging professionals working in the school community.
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