

Health Education Intervention on First Aid in School: Integrative Review

REVIEW

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Abstract

Objective: To analyze the scientific evidence related to health education interventions on first aid in school.

Method: Integrative review performed by searching publications in the LILACS, MEDLINE and CINAHL databases and the Cochrane library using the keywords: Schools, First Aid and Emergencies.

Results: Six studies were selected in which it was found that educational interventions on first aid were held with various publics at school. The activities performed with the teachers were present in two studies that found an improved knowledge on the subject.

Conclusion: The findings reflect the need of preparation for first aid in school and of studies on the subject, in order to subsidize an evidence-based practice to the professionals performing educational activities in this context.

Keywords

Health Education; First Aid; Schools; Emergencies.

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Introduction

First aid consists of assessing the need for intervention and performing conducts, which can be done by someone who witness an injury [1]. Thus, the first aid subject cannot be restricted to the health professionals' agendas or university centers, but should be democratized to provide security to those facing risk situations [2].

The school environment is a place where children and adolescents spend about a third of their day and, in it, students are often affected by clinical and traumatic injuries. In Brazilian capitals, 45.7% of the victims of fall that are treated in emergency services belong to the age group of 0-19 years and there is a statistical association between such incidents in adolescents and its occurrence in the school environment [3]. In approximately 25% of emergency care provided to adolescents victims of external causes, the school environment was the place of the injury [4]. Given these findings, studies have raised the importance of the school in preventing and treating accidents involving children and adolescents [5-6].

Many of the educators have taken part in first aid educational activities [7]. Despite that these activities need to occur grounded in research results and not empirically, studies that document and evaluate the first aid teaching process are rarely found [8]. Thus there is a need to survey researches concerning the subject, making it easier to access studies on first aid approach in the school environment. Health professionals that work in educational interventions in school may direct their actions based on scientific support, and the education professionals who have no training in providing first aid, but are faced with accidents in their daily lives, may benefit from the possibility of having access to the scientific evidence that guides this theme.

Given the above, the present study aims to analyze the scientific evidence about health education interventions on first aid in school.

Method

This study consists of an integrative review, a method that is used to gather and synthesize the results of research and to delve into a particular topic in order to direct and support the practice. In carrying out this review, the following steps were used: the elaboration of the guiding question on the subject of the review; the determination of the criteria for

inclusion and exclusion of the articles and the selection of the studies for composing the sample; the gathering of the information to be extracted from the selected studies; the analysis of the studies included in the sample; the discussion of the results and the presentation of the review [9].

The data collection took place in January 2015 and was conducted through online search of articles that answer the following research question: What is the scientific evidence about the health education interventions on first aid in school?

The data collection was conducted through virtual access to the International Literature in Health Sciences (Medline), the Latin Literature American and Caribbean Health Sciences (Lilacs) and the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and the Cochrane library databases. The keywords used were schools, First Aid and Emergencies and their respective standard translations in "Descriptors in Health Sciences" (DECS).

An integrative review operationalization should deal with a methodological rigor that includes the search for studies by two separate reviewers and with clearly defined criteria for the selection of the sample [9]. In compliance with these criteria, in the present study, two researchers standardized the keywords sequence and the intersections in the databases and then conducted the search separately.

The inclusion criteria for the selection of the sample were: articles that were published in the last 10 years (2005-2014) in English, Portuguese or Spanish, available in full, and that consider health education interventions on first aid in school. Book chapters, news, editorials, dissertations, theses and reports of experience were excluded. The articles that were duplicated in more than one database were considered only once.

For the extraction of the data from the studies, it was used an instrument [10] already validated, which included aspects related to the study authors; the place, year and country of its development; the level of evidence; the objective; the results and their conclusions with respect to the guiding question.

According to the methodological approach found in the studies, it was possible to perform a hierarchical classification in the levels of evidence, which are divided into: I- systematic review of controlled, randomized, well outlined studies; II- controlled, randomized studied with an appropriate outline and size; III- well outlined studies without randomization, with time series, case control study or pre and post cohort; IV- non experimental, well outlined studies and qualitative studies; V- experience or case reports; VI- descriptive studies, authoritative opinions or expert committee reports [11].

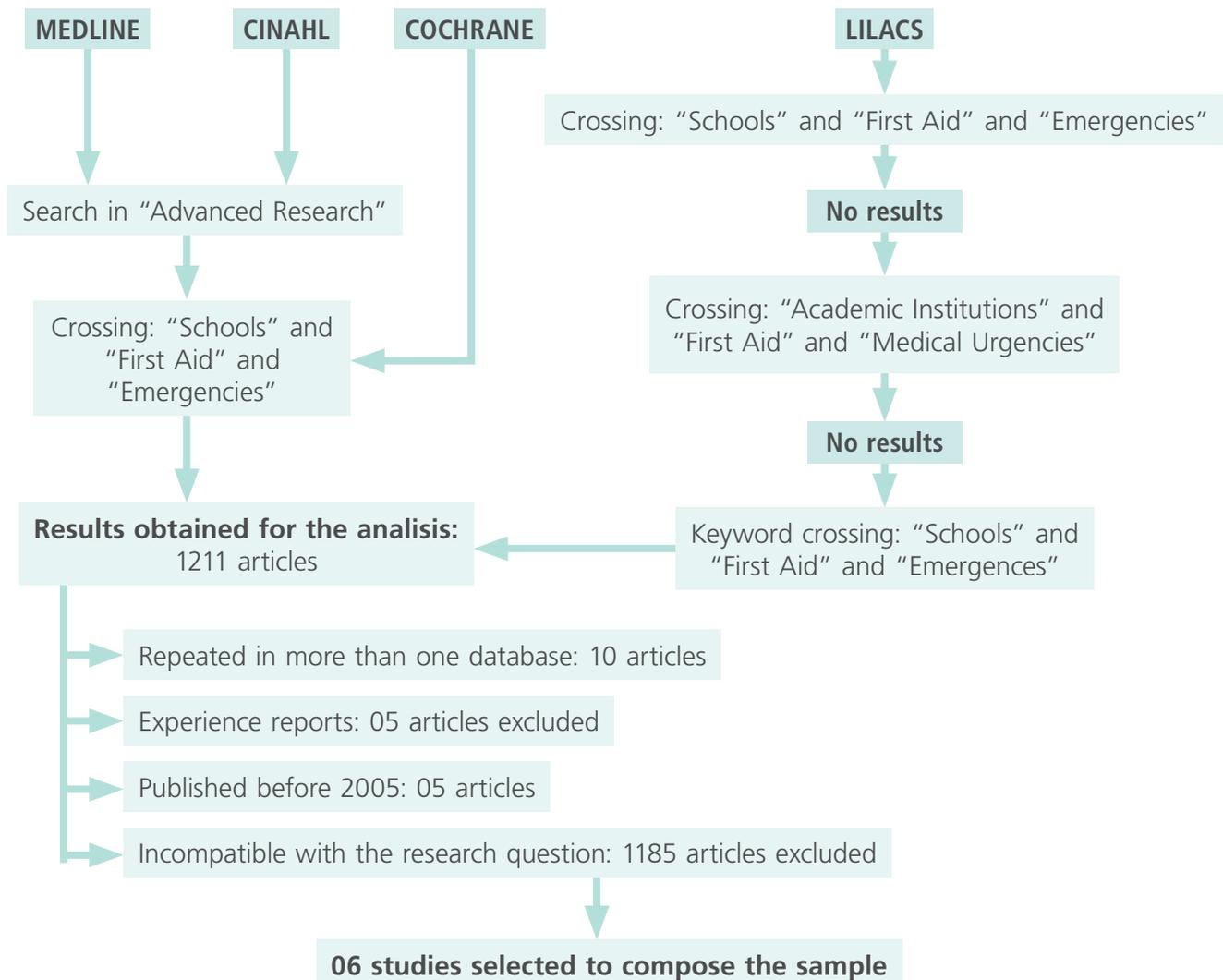
From this search, a total of 1211 results were obtained, from which six articles remained for com-

posing the sample after the adjustment to the established inclusion and exclusion criteria (**Figure 1**).

Results

Among the six articles that were part of the sample, five were published in English [12-16] and one in Portuguese [17]. Among the countries where the studies were conducted are China, United States, Wales and Brazil. Regarding the years in which the articles were published, it can be considered that a part is updated, since three were published from 2010 onwards. Concerning the professional category, the authors were nurses, dentists and doctors.

Figure 1: Strategy for searching and selection of articles in the databases. Recife-PE, 2015.



In the scientific publications studied, educational interventions were conducted by covering various type of injuries that may require first aid actions, among which stood out burns, fractures [12], bleedings [12-17], airway obstruction [12-14] Cardiopulmonary Resuscitation (CPR) [14], dental avulsion [15, 17] and convulsive crisis [12, 14-17].

The educational intervention durations were described in three studies so that, in one study [12] the intervention workload lasted four hours; two other studies [13, 15] reported that the interventions lasted two and six weeks, respectively, but they did not mentioned the workload of these. The educational strategies and the adoption of a theoretical framework in the interventions were

not described. Regarding the use of material resources, a study described the use of a poster [15] and another make references to educational videos [13]. The remaining four studies did not mention the materials used in the educational interventions. Regarding the professionals responsible for the implementation of the interventions, only two studies have mentioned that this was done by the school nurses, a nursing specialty that exists in the United States [14, 16].

The synthesis of the publications is described in the **Table 1**, where the studies were identified by the authors in ascending order of level of evidence.

Table 1. Synthesis of the results as to the main variables. Recife-PE, 2015.

Authors/Year /Database/Level of Evidence	Objective	Type of study/Educational Intervention	Main results
Li Sheng, Zhang et al. [12] 2014 MEDLINE II	To track the effect of first aid training on teachers, evaluated immediately after the intervention and 4 months, 6 months and 4 years after it.	Randomized, Controlled Study. Pediatric first aid training for teachers.	First aid training improves in the short and long term the knowledge of the teachers.
Young, Wong Cheung [15] 2013 MEDLINE II	To investigate the poster effectiveness on the teachers' level of knowledge about dental trauma.	Randomized, Controlled Study. Exhibition of educational posters on dental trauma in primary and secondary schools.	The teachers in the schools intervened showed a statistically significant improvement in their knowledge.
Carruth, Pryor, Cormier et al. [13] Vesting 2010 MEDLINE III	To evaluate the training about rural medical emergencies for students from a rural school.	An almost experimental study. Training in rural medical emergencies for rural school students.	There was an improvement after the training, although there was no statistical difference in the knowledge about rural first aid between the control group and the intervention group.
Olympia, Wan, Avner [14] (2005) MEDLINE VI	To examine the schools' preparation to respond to life-threatening and mass disaster emergencies.	Descriptive, exploratory study. Cardiopulmonary Resuscitation training taught by school nurses to teachers, administrative staff and students.	The schools need to improve the training frequency and increase the availability of the Automated External Defibrillator.
Flower [16] 2009 CINAHL VI	To address safety issues in school activities for children with epilepsy and planning for emergencies.	Updating article. School nurse guidelines to the family, teachers and staff of schools with children with epilepsy.	Better confidence, self-esteem and proper preparation of the school professionals involved with the child.
Fioruc, Molina, Vitti Junior et al. [17] (2008) LILACS VI	To evaluate the knowledge of school staff before and after the training on first aid.	Descriptive exploratory study. Training on first aid for teachers and school staff.	After the training, the participants' knowledge improved, confirming the importance of such training at school.

Discussion

In any field of knowledge, it is important to have updated and available studies so that the practice occur based on recent evidence and not empirically or based on outdated findings. According to the search criteria established in this review, the number of studies found, which were made in the last five years, is limited to three articles. Moreover, the lack of studies with a level of evidence I and the small number of studies with a level of evidence equal to II are shown as an aggravation to the Evidence-Based Practice (EBP) for professionals who want to perform educational interventions on first aid in school and cannot count on a sufficient number of studies to support scientifically accepted conducts. This research gap is due to the fact that the documentation and assessment of the process of teaching first aid, in scientific research, are rarely found [8].

The high proportion of nursing professionals among the study authors that address health education interventions on first aid is justified by the inherent characteristics of the work of this professional category. They operate in various health care services, which include providing emergency care, what makes them suitable to interact with the population on the subject of health education interventions. Furthermore, educational practices are inserted in the nursing assistance practice and they contribute to the aggregation of the popular know-how to the professional know-how, which makes the nurse a potential agent of change, that broadens the discussions between the common sense and scientific evidences [18].

The existence of studies that highlight the importance of the school nursing specialty points to the need for the discussion and reflection on the part of the Federal Nursing Council about the need to create this specialty in Brazil. This may promote an expertise assistance in the school context and the health education about first aid in school, as well as contribute to the decentralization of the actions

of the School Health Program, currently under the responsibility of the Family Health Strategy (FHS), which sometimes is overloaded with cumulative assignments [19].

The target audience of the educational interventions on first aid in school ranged from students, administrative staff and teachers. Noteworthy is the presence of teachers as a target audience of educational interventions in five studies [12, 14-17] so that this finding may be justified since, faced with an accident situation or a clinical injury, which affects any person in the school environment, there is a high probability that the teacher witness the incident or has a quick access to the victim and thus need to be prepared to act in these situations. Moreover, in the face of urgent and emergency situations, teachers adopt inadequate conducts, needing therefore to be prepared to act properly in this situation [7].

In order to achieve the proposed objective in an educational intervention, it is important that the studies analyze the effectiveness of the different teaching strategies. The educational interventions on first-aid in the school resulted in an increased knowledge of its target audience after the intervention [12-13, 15, 17], which corroborates the results of another study that evaluated the effect of training students of a private college and also found an improvement in the knowledge of the participants after the intervention [20].

An important step in the teaching and learning process is the selection of the content that will be taught, so that the themes addressed in the educational interventions on first aid in school should be relevant to the characteristics of the school environment. The proliferation of the information about the proper procedure to be performed in cases of burns, dental avulsion and fractures is relevant since these incidents are some of the main causes of accidents with children [1, 21-22]. These may occur at school, as shown in a study conducted in southern Portugal, whose results showed that 18.5% of the injuries treated in pediatric first aid posts occurred

in the school environment [23]. The occurrence of such injuries at school may be related to the children preference for intense motor recreational activities [24].

The proper first aid conducts in cardio respiratory arrest situations need to be disseminated in the population, since the beginning time and the quality of the CPR maneuvers are related to the presence and severity of the sequelae and the victim's survival [25].

The health education held in the school environment reinforces the School Health Program, a result of the partnership between the Ministry of Health and Ministry of Education, which seeks the expansion of the health activities in the school environment and is the responsibility of the ESF, which covers the area of the school location. In this context, the approach of first aid for teachers can be included in the third axis that makes up the policy, which deals with the continuing education and training of health professionals to promote education for the school environment [19]. Furthermore, the implementation of educational interventions on first aid in schools reinforces the National Policy on Morbidity and Mortality Reduction by Accidents and Violence, which includes continued public information on first aid in various places, being the school among them [26].

Conclusion

Given the results, it was found that the educational interventions were aimed at students, teachers and administrative staff and that their knowledge improved after the interventions. It is noteworthy that the first aid approach in school included cases of airway obstruction, bleeding, cardiac arrest, convulsive crisis, burns, fractures and dental avulsion. However, this study had the limitation of the restricted search of the publications in the surveyed databases, which restricted the results and culminated in the paucity of publications in the period studied.

The Evidence-Based Practice, in this context, demands more research on this subject to increase the scientific evidence and expand the development of health education activities on first aid in school that deal with the construction and validation of educational materials and evaluation of the teaching strategies in order to contribute to the process of teaching and learning in the various existing realities in the school environment.

Partnerships between higher and vocational education institutions should be articulated to enable the health education process on first aid in schools. Such partnerships can take place through research, preparation and implementation of interventions or even by means of the didactic and pedagogical training of health professionals so that they are instrumented to perform their health education role.

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