

48 -ACCIDENTS TO CHILDREN IN THE SCHOOL ENVIRONMENT: A BIBLIOGRAPHIC STUDY

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INTRODUCTION

Children are constantly exposed to risk situations that come with the various stages of their growth and development processes, due to new experiences acquired over the years, especially in the school environment, what can be considered as a concern point for principals, teachers, students and family (FARIAS et al., 2004).

In this context, according to Briccius; Murofuse (2008), an accident can be defined as any unintentional event capable of causing physic or emotional damage, depending on their severity, and may happen anywhere, including at school.

Oliveira (2008) states that childhood accidents represent an important problem of public health, due to their high incidence and repercussion, occupying an important rank in statistics concerning morbi-mortality, in Brazil, as well as in many other countries, whose solution depends basically on preventive educational actions. In the case of accidents happened at school, it's not just the frequency that causes such an impact, but also the limitations caused in children. Unintentional injuries cause multiple sequels to motor, sensorial, cognitive and behavioral functions. They're mostly in the motor area, preventing children from getting around and carrying out their daily activities, such as bathing and getting dressed, among others.

It's important to emphasize that aspects related to traumas in children in the school environment are continuously studied, for they represent one of the greatest causes of preoccupation to parents and school staff, as well as one of the leading factors of childhood mortality. Children's age and immaturity in distinguishing risk situations increase the chances of vulnerability to several lesions (BLANK; LIBERAL, 2005).

According to Elgie; Sapien; Fullerton-Gleason (2005), 19% of injuries affecting children and adolescents in the United States of America (USA) happen at school. Costs with medical services due to traumas in students are quite high: 3,7 million children are affected by serious injury at school, with an annual cost of US \$3,2 billion. It's therefore observed that the school nurse and the teachers are the greatest responsible for actions of protection, prevention and health rehabilitation.

It must be noted that educators needs to know how to deal in urgent situations, since they work directly with the students and they are, therefore, totally responsible for them. This precaution is meant to ensure the students' safety and minimize potential consequences resulted from a trauma (FARIAS et al., 2004).

For this reason, it's emphasized the importance of parents, educators and health professionals acting with the school and kindergartens in prevention and protection measures in order to avoid any trauma that may happen, especially nursing professionals and teachers, who play as essential role in the prevention of injuries (BRICCIUS; MUROFUSE, 2008).

In this context, and considering school trauma as a serious problem, especially when it comes to the effects it may cause to children's health, leading even to death, the following questions arise: who are the children victims of trauma at school? What are the main injuries caused to these children? What's the time and school area in which these injuries occur? How is the prevention framework?

Based on these questions, we elaborated the following objectives: to characterize, according to the scientific literature, the children victims of trauma in the school environment; the main injuries and risk factors for such accidents; to identify the moment and school place of major occurrence of traumas and how the prevention of accidents is carried out.

MATERIAL AND METHOD

Given the proposed objectives, we decided to develop a bibliographic research, which is appropriate to analyze publications and to identify, among other aspects, their frequency, regularity, types, examined issues and methods employed, aiming to place the researcher in direct contact with what was written, said or filmed about a certain subject (CERVO; BERVIAN, 2007).

The research was conducted from May to July 2009, on the website of the Health Virtual Library/ Medicine Regional Library (BVS/BIREME), specifically on the database of LILLACS – Latin-American and Caribbean Literature on Health Science, in which we used the descriptors traumatism, preschool and child, according to the descriptors' classification in health sciences (DECS). In addition to these databases, the research was also developed in the CAPES journal - Coordination for the Improvement of Higher Education, where we searched in CINAHL's database using the following descriptors: health school and injuries.

For the research development, we adopted the criteria of using full text published over the last six years (2004-2009) written in Portuguese, English and Spanish. Finally, we excluded the papers that didn't conduce to our purposes, texts that weren't available in their full form and those that had been published before 2004. It's worth noting that the papers published in more than one database were counted only once. Data were processed through a structured form composed of issues in accordance with the study's purposes and were analyzed using descriptive statistics.

RESULTS AND DISCUSSION

In order to show the results and discussion of data obtained in this research, we begin by presenting Table 1, which refers to the articles distributions according to the searched databases.

TABLE 01 - Distribution of publications on trauma in school-aged children, according to online database, from 2004 to 2009.

Databases searched	N° of articles found	N° of excluded articles	N° of selected articles
LILACS	195	190	05
CINAHL	31	26	05
TOTAL	226	216	10

In Table 01, we can observe that, among the 226 articles found, 216 were excluded, since they didn't meet our inclusion criteria. In LILACS, 195 articles were found, from which, however, only five were selected. And in CINAHL, from the 31 found, five were selected.

As a result, after refinement, we analyzed 10 articles, from which five were published in English and the other five, in Portuguese.

Different authors found in their work that boys are the main victims in the school environment. Josse et al. (2009) observed that the prevalence of injuries occurs to male children, aged between 10 and 14 years, representing 54%, followed by children aged between 05 and 09 years (26,7%), and adolescents between 15 and 19 years old (18,4%)

Gaspar (2004) also observed that most injuries occur to male children (69,7%), but the most affected age group was the one between 15 and 19 years old. In the author's view, a possible reason for this difference when it comes to the girls and boys statistics, is that male children have higher risked behaviors.

Oliveira (2008) found similar results concerning the predominance of injuries in boys rather than girls, at all age groups, what can be explained by the peculiarity of each gender's activities: boys are more likely to have dynamic activities involving more risks, whereas girls tend to have blander activities. Another factor cited by the authors may be that, social and culturally, boys acquire freedom earlier than girls and start to do activities with less direct adult supervision and, then, have a longer exposure to the situations that precede accidents. In terms of age, the author found that the greater number of accidents involved children from 9 to 13 years old (33,4%), followed by the age group from two to five years (27,2%), from five to nine years (25,5%) and less than two years old (13,9%).

Blank; Liberal (2005) and Josse et Al. (2009) pointed out the following situations as the main causes of injury: falls, transportation, burns, other students' aggressive behavior, accidents in the classroom or the use of the school's amusement park in bad conditions.

According to Jones et al. (2007) and Hudson; Olsen; Thompson (2007), falls are the leading causes of injuries at school, having fractures as a main consequence.

Oliveira (2008) also found that, in Brazil, lots of papers dealing with childhood accidents point out falls (46,9%) as the most important and usual cause of skull-brain traumas. Literature shows that, most part of the accidents involving school-aged children that require medical attention, happen at school. More than a third of the accidents are related to sports and recreational activities and, close to one third, the ones resulting from falls during other activities.

Sena (2006) found the same result and points out falls as the most common causes of non-fatal accidents and also relevant causes of death resulting from accidents to children and adolescents.

We notice, therefore, that falls are the main responsible for injuries occurrence at school.

Sena (2006) affirms that wherever he or she is, at any time, the student is exposed to a series of risks: in the classroom, hallways, stairs, restrooms, laboratories, library, playground and sports areas, determining that the accidents happen subtly and in a sudden way, although they're generally predictable. This predictability justifies the investigation of risk factors so that it's possible to develop preventive conducts and, then, diminish the number of accidents.

In a study by Salminen; Lounamaa; Kurenniemi, (2008), in nine Finnish schools, during two school years, 1.135 children suffered from traumatism. They observed that it's more frequent that boys get hurt during school breaks, whereas girls were more wounded during sports activities, like gymnastics.

Moreover, the same authors found that girls showed more wounds in the lower limbs, whereas boys presented more wounds in the face and head, besides also being hurt by other students' intentional actions. Boys also needed health care, in centers or hospitals, more often than girls, what justifies their higher rates of absenteeism at school. Besides that, the authors observed that the number of wounds were directly proportional to age. They also emphasized the importance of a better supervision by school's officials, especially during school breaks, in order to decrease the frequency of traumas (SALMINEN; LOUNAMAA; KURENNIEMI, 2008).

The study by Loder (2008) used the Injury Surveillance System in school playgrounds and found 22.728 visits to the emergency department due to injuries happened in the environment. Results showed that the most part of traumas at school happened to boys (54,3%), due to swings and slide (83,9%), and the five most frequent injuries were fractures (39,3%), contusions/abrasions (20,6%), lacerations (16,6%), sprains (9,9%) and traumatic brain injury (TCE) (8,5%).

For Sena (2006), playgrounds are among the most common places of accidents involving children. He found that, for students aged between five and nine years old, the moment and place in which accidents happen more often are, respectively, the school break and the playground. For students aged between 10 and 19, however, most accidents occurred during sports activities and in the classroom.

In this way, actions related to external causes will culminate with the concept of prevention, the anticipated action that aims to intercept or cancel the evolution of happenings, avoiding injuries through the practice of physical, material, emotional and social care. It's, therefore, understood that prevention is the most effective way to decrease the high rates of childhood accidents. For these reasons, it's necessary that educational programs be developed from pre-school classes and with the community (MARTINS, 2006).

CONCLUSIONS

We conclude that most part of injuries happen with male children. There is, however, a discrepancy among the authors when it comes to the age group in which most traumas occur; it was between 10 and 19 years old. The fall, among others, is pointed out as leading cause for injuries. We also found that school breaks and sports activities are the most propitious moments for the occurrence of accidents and that the classroom and, above all, the playground, are the hotspots. Besides that, we also realize how important preventive actions are, using educational means that call children's attention to the prevention of accidents and reducing people's suffering, the loss of human potential, including death.

In this perspective, we were able to identify that the school plays a key role in health protection and children welfare, being responsible for the creation and maintenance of safety plans and emergency procedure practices, aiming to reduce the number of accidents, the suffering of parents and children, as well as, ensuring a safe environment to play and for school activities. We also realized that school personnel must be concerned about these facts and that they need to adopt safety actions against injuries, such as an appropriate supervision, children with appropriate age to play in the playground, equipment in good conditions and repairs when necessary. They should know how to anticipate danger and problems that could result in an injury, and understand which behaviors are appropriate or not for children.

It's worthy emphasizing the importance of remaining at school so that children be able to obtain more and better knowledge on the risk situations that follow them, because as they don't have enough maturity to recognize these situations, they are very vulnerable. In this way, school greatly contributes to the maturity of the students in relation to the risk situations that may compromise their health integrity, always seeking for the collective and individual welfare.

Besides that, we verified the importance of the nursing professionals in this environment when it comes to preventing

unintentional injuries, since they are concerned about the need of an appropriate supervision in order to provide children with security. In addition, these professionals can use educational means to make these children aware of the various dangers which they are exposed to, such as the presentation of videos, DVDs, guest speakers, among others.

KEYWORDS: schools, child, injuries, nursing.

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ACCIDENTS TO CHILDREN IN THE SCHOOL ENVIRONMENT: A BIBLIOGRAPHIC STUDY

ABSTRACT

Introduction: Bibliographic study, performed from May to July 2009, on LILACS and CINAHL's databases, in which we respectively used the descriptors: trauma, child and pre-school children, according to the descriptors classification in health science (DECS), and health school and injuries. Objectives: to characterize, according to the scientific literature, children victims of trauma in the school environment; the main injuries and risk factors for these accidents; to identify the moment and the school area of major occurrence of trauma and how prevention to accidents is carried out. Results: Most accidents occur to male children belonging to the age group between 10 and 19 years old. Falls, among others, appear as the leading cause of injuries at school, for which the most propitious moment and place are school breaks and the playground, respectively. In this perspective, we realize how important it is that professionals develop awareness activities with children so that they can be able to identify the danger they are exposed to, aiming to avoid accidents and, as a consequence, improving the quality of life and the attendance to classes. Conclusions: we conclude that the school must play a key role in health protection and children welfare, aiming to ensure a safe environment for playing and developing school activities. The action of nursing professionals become, therefore, essential in the care of the victims, and it's also their competence to develop preventive actions.

KEYWORDS: schools, child, injuries, nursing.

ACCIDENTS ENFANTINS DANS LES ÉTABLISSEMENTS SCOLAIRES: ÉTUDE BIBLIOGRAPHIQUE

RESUMÉ

Introduction: étude bibliographique réalisée de mai à juillet 2009 dans les bases de données du LILACS et de la CINAHL dans laquelle nous employâmes, respectivement, les descripteurs traumatisme, pré-scolaires et enfant, selon le classement des descripteurs en sciences de la santé (DECS) et health school and injuries. Objectifs: caractériser conformément à la littérature scientifique les enfants qui sont victimes de trauma à l'école; les principales lésions et les facteurs de risque pour ces accidents; identifier le moment et le lieu de l'école où les traumatismes se produisent et comment la prévention des accidents se fait. Résultats: la plupart des accidents impliquent des garçons entre dix et dix-neuf ans. Les chutes figurent, entre autres causes, comme les principales génératrices de lésions à l'école, et le moment et les lieux les plus propices sont la récréation et le playground, respectivement. Dans cette perspective, nous voyons combien il est important que les professionnels élaborent des activités de conscientisation pour que les enfants fassent attention aux dangers qui les entourent, en vue de la prévention des accidents et, comme conséquence naturelle, il y aura l'amélioration de la qualité de vie et une meilleure fréquence en classe. Conclusions: nous concluons que l'école joue un rôle fondamental dans la protection de la santé et du bien-être enfantins, devant assurer un espace sûr pour le divertissement et les activités scolaires. Les actions des infirmiers professionnels sont donc indispensables dans le

secours aux victimes, ainsi que dans l'élaboration d'activités de prévention.

MOTS CLES: Ecoles, Enfant, Lésions, Soins D'infirmier.

ACCIDENTES ESCOLARES EN NIÑOS: ESTUDIO BIBLIOGRÁFICO

RESUMEN

Introducción: estudio bibliográfico realizado en el periodo comprendido entre mayo a julio del 2009, en las bases de datos LILACS y CINAHL, en el cual fueron utilizados los descriptores traumatismo, pre-escolares, niños, según la clasificación de los descriptores en ciencias de salud (DECS) y health school and injuries. Objetivos: caracterizar de acuerdo con la literatura científica, los niños víctimas de trauma en el ambiente escolar; las principales lesiones y los factores de riesgo para estos accidentes; identificar el momento y lugar de la escuela con la mayor ocurrencia de los traumas y cómo se realiza la prevención de accidentes. Resultados: la mayoría de los accidentes ocurre en los niños del género masculino, los grupos etáreos varían entre 10 a 19 años. Las caídas figuran entre otras causas como las principales generadoras de lesiones en la escuela; los intervalos entre las clases y el playground destacan como el momento y lugar de mayor accidentabilidad respectivamente. En esta perspectiva constatamos la importancia que los profesionales desarrollen actividades de concientización para que los niños conozcan los peligros a los cuales están expuestos, para prevenir los accidentes y consecuentemente mejorar la calidad de vida. Conclusiones: Concluimos que la escuela desempeña un papel fundamental en la protección de la salud y bienestar infantil, apuntando a garantizar un ambiente seguro para los juegos y actividades escolares. Son imprescindibles las acciones de los profesionales de enfermería para la atención de las víctimas y el desarrollo de actividades orientadas a la prevención.

PALABRAS CLAVES: Escuela, Niños, Lesiones, Enfermería.

ACIDENTES EM CRIANÇAS NO AMBIENTE ESCOLAR: ESTUDO BIBLIOGRÁFICO

RESUMO

Introdução: estudo bibliográfico, realizado no período de maio a julho de 2009, nas bases de dados do LILACS e da CINAHL, na qual utilizamos, respectivamente, os descritores traumatismo, pré-escolares e criança, segundo a classificação dos descritores em ciências da saúde (DECS) e health school and injuries. Objetivos: caracterizar de acordo com a literatura científica, as crianças vítimas de trauma em ambiente escolar; as principais lesões e os fatores de risco para esses acidentes; identificar o momento e local da escola de maior ocorrência dos traumas e como é feita a prevenção dos acidentes. Resultados: a maioria dos acidentes ocorre nas crianças do sexo masculino nas faixas etárias entre 10 a 19 anos. As quedas figuram, dentre outras causas, como as principais geradoras de lesões na escola, e o momento e os locais mais propícios são o intervalo das aulas e o playground, respectivamente. Nesta perspectiva, constata-se o quanto é importante que os profissionais desenvolvam atividades de conscientização para que as crianças atentem para os perigos aos quais estão sujeitas, com vistas à prevenção dos acidentes e, consequentemente, melhoria da qualidade de vida e maior frequência às aulas. Conclusões: concluímos que a escola deve desempenhar um papel fundamental na proteção da saúde e bem-estar infantil, visando garantir um ambiente seguro para as brincadeiras e atividades escolares. Torna-se imprescindível as ações dos profissionais da enfermagem no atendimento às vítimas, cabendo a eles também desenvolverem atividades de prevenção.

PALAVRAS CHAVE: Escolas, Criança, Lesões, Enfermagem.

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