

ORIGINAL ARTICLE

Kindergarten and elementary school teachers' knowledge of first aid

O Conhecimento dos professores do ensino infantil e fundamental sobre primeiros socorros

Conocimientos de primeros auxilios de los profesores de preescolar y primaria

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ABSTRACT

Objective: to describe the knowledge of nursery and elementary school teachers about first aid. **Method:** a qualitative, cross-sectional and descriptive study carried out with 12 teachers working in four municipal schools. The information was collected in september 2019 using a semi-structured instrument and interpreted using content analysis. **Results:** the following categories emerged: the main incidents related to first aid experienced at school and teachers' knowledge of first aid and conduct in the face of the main incidents that may be experienced. **Conclusion:** it was clear that the majority of teachers do not have adequate knowledge of how to proceed in an emergency situation in the school environment. It is therefore suggested that health education be expanded through courses, training, lectures and workshops in order to contribute to this knowledge gap and improve teachers' ability to deal with these incidents. **Descriptor:** School Teachers; First Aid; Child; Health Education

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RESUMO

Objetivo: descrever o conhecimento dos professores do ensino infantil e fundamental sobre primeiros socorros. **Método:** estudo qualitativo, transversal e descritivo, realizado com 12 professores que atuam em quatro escolas municipais. As informações foram coletadas em setembro de 2019, através de instrumento semiestruturado e interpretadas por meio da análise de conteúdo. **Resultados:** emergiram as seguintes categorias: os principais incidentes relacionados a primeiros socorros vivenciados na escola e o conhecimento dos professores sobre primeiros socorros e condutas frente aos principais incidentes que poderão ser vivenciados. **Conclusão:** foi evidenciado que a maioria dos professores não possui conhecimento adequado sobre como proceder diante de uma situação de emergência no ambiente escolar. Com isso, sugere-se a ampliação da educação em saúde, por meio de cursos, capacitações, palestras e oficinas para contribuir com esta lacuna de conhecimento qualificando a atuação dos professores diante destes incidentes.

Descritores: Professores Escolares; Primeiros Socorros; Criança; Educação em Saúde

RESUMEN

Objetivo: describir los conocimientos de los profesores de educación infantil y primaria sobre primeros auxilios. **Método:** estudio cualitativo, transversal y descriptivo realizado con 12 docentes que trabajan en cuatro escuelas municipales. La información se recogió en septiembre de 2019 mediante un instrumento semiestructurado y se interpretó mediante análisis de contenido. **Resultados:** surgieron las siguientes categorías: los principales incidentes relacionados con los primeros auxilios experimentados en la escuela y el conocimiento de los docentes sobre primeros auxilios y el comportamiento frente a los principales incidentes que se pueden experimentar. **Conclusión:** quedó claro que la mayoría de los profesores no tienen conocimientos adecuados sobre cómo proceder en una situación de emergencia en el entorno escolar. Por lo tanto, se sugiere ampliar la educación en salud a través de cursos, capacitaciones, charlas y talleres para contribuir con esta brecha de conocimiento, cualificando la actuación de los docentes frente a estos incidentes.

Descriptor: Maestros; Primeros Auxilios; Niño; Educación en Salud

INTRODUCTION

First aid is defined as the initial care given to an injured victim, with the principle of reducing the injury and stabilizing the victim until specialized help arrives.¹ Although there is a cultural misconception that first aid should only be performed by doctors, nurses and nursing technicians, it is important to note that first aid can be performed by any trained person, and is not the exclusive responsibility of health professionals.²

In Brazil, accidents are the main causes of death among children aged between 1 and 14, mainly due to falls, nosebleeds, fainting, dental trauma, contusions, among others. In the school environment, accidents, together with other situations that require first aid, such as seizures, are objects of constant concern and require attention.²

In these places, situations can occur in which first aid is essential, with students being potential victims and teachers often



being the main witnesses to these events.³ It is therefore clear that there is a great need for trained teachers to be present to carry out initial care measures in such situations, as adequate knowledge of these practices will lead to a better prognosis, reducing the victim's level of harm.⁴

In this way, with a view to providing health education for the school community, there is the School Health Program (PSE), which was created by Decree No. 6.282/2007, with the aim of reducing the distance between school and health, always contributing to education through prevention and promotion. In addition, the PSE provides schools with a range of activities on essential and relevant topics in everyday life, with an audience aimed not only at students, but also at teachers and principals.⁵

Also, in October 2018, Law No. 13.722 was created, which makes basic training in first aid mandatory for teachers and school staff, making it essential to carry out research that describes their knowledge on the subject, assuming that there is a deficit with regard to knowing how to do first aid.⁶

The aim is to encourage teachers and the school community to think about this subject, so that they can seek training to overcome their lack of knowledge and contribute appropriately in situations where they need help. In view of this, this research

aims to describe the knowledge of nursery and elementary school teachers about first aid.

METHOD

This is a qualitative, exploratory and descriptive study carried out in 4 municipal nursery and primary schools in the most populous district of the city of Pelotas in Rio Grande do Sul. Twelve teachers who worked in the four selected schools took part. Three teachers were interviewed in each school, one from the nursery school and two from the elementary school.

Inclusion criteria for the study were: to be over 18 years old; to be a nursery and/or primary school teacher; to be a teacher in municipal schools; to be willing and interested in taking part; to allow the interviews to be recorded; to agree to sign the free and informed consent form (FICF) in two copies and to allow the data to be published in scientific media.

The interviews took place in September 2019. Initially, the principals were contacted to ask for permission to carry out the study, after which the teachers who met the pre-established criteria for participation were contacted and the proposal was presented, followed by signing the ICF and then reading the questionnaire to those who consented to participate. Each interview lasted approximately 10 minutes

and took place on the school premises so as not to affect the flow of work.

In order to achieve the proposed objectives, as well as to answer the problem question, we opted for a semi-structured interview script made up of open and closed questions developed by the researchers themselves, which included socio-demographic data, professional training, knowledge of first aid and how to act in the main urgent/emergency situations that can affect students.

All the information was audio-recorded. The method used to analyze and interpret the data was content analysis. In this, we discovered the nuclei of meaning that were part of the interviewees' communication and whose frequency of appearance meant something to the chosen analytical objective. Therefore, three distinct stages were developed: 1) pre-analysis; 2) exploration of the material and 3) treatment of the results and interpretation, as described by Minayo.⁷

All the interviews were conducted anonymously, preserving the integrity of the study participants. In this sense, the teachers were identified with the letters PI (for early childhood teachers) and PF (for elementary school teachers) followed by the cardinal number according to the order of the interview.

The study complied with the ethical precepts established by Resolution 466/2012, which deals with the guidelines and regulatory standards for research with human beings. In compliance with current legislation, the study was assessed and approved by the Research Ethics Committee of the Catholic University of Pelotas (UCPel), under substantiated opinion No. 3.524.581, dated August 22, 2019 and CAAE protocol No. 18841819.8.0000.5339.

RESULTS AND DISCUSSION

Twelve teachers took part in this study, all of whom were female. In terms of age, the interviewees were between 30 and 62 years old. In terms of time since graduation, this ranged from 6 to 36 years and in terms of postgraduate studies, 2 had already completed a master's degree and 6 had completed specializations.

The following are the thematic categories that emerged from the study: "The main incidents related to first aid experienced at school" and "Teachers' knowledge of first aid and how to deal with the main incidents that may occur".

The main first aid incidents experienced at school

Accidents that occur in childhood in the school environment are preventable in most cases, provided that the teaching staff



is aware of what to do in each situation, thus avoiding damage that can be irreparable in the child's life, such as neurological deficits with long-term impacts.⁸ The main childhood accidents are drowning, falls, burns, electric shock and poisoning, resulting in 5,000 deaths and an average of 137,000 hospitalizations per year in the country. Of these, 90% of cases could be avoided, and it is important to highlight the child's stage of development, age and other situations that facilitate the risk of child accidents.⁹

In this study, four teachers reported not having experienced any situation that required first aid. Among the incidents mentioned by eight teachers were seizures, nosebleeds and falls.

I've had children with problems like that [...] I've had students with seizure problems and that wasn't uncommon. (PI-1)

[...] there's a step at the edge of the sports field and we were playing, it was Iron Man, I picked some up and one of them, who was my helper, slipped and he hit the fountain on the step [...] he immediately collapsed. (PF1)

[...] out of nowhere he started bleeding from the nose. (PI-2)

[...] some time ago I experienced a boy who fainted because of that problem, what do you call it? [...] he keeps shaking, you know? I think it's a convulsive crisis by definition. (PF-8)

Personally, I haven't experienced any, because we don't participate in everything that happens at school, but what we hear most about is drowning in food and seizures. (PF-2)

According to the reports, the incidents described by the interviewees are in line with the literature, which shows that around

2% to 5% of pre-school children tend to have at least one episode of seizure, with febrile seizures being a frequent neurological dysfunction and can also be associated with epileptic seizures.¹⁰

Nasal bleeding is the discharge of blood from one or both nostrils, often as a result of trauma, climatic changes due to age-related capillary fragility, increased blood pressure or the introduction of foreign bodies. It's a very common situation in schools, and although it's simple to solve, it still causes teachers to be indecisive about what to do.⁸

As far as falls are concerned, they are more prevalent in children due to their developmental period, taking into account their curiosity and lack of motor coordination, and are more prevalent in boys. This is due to the behavioral differences between the two sexes, as well as cultural issues, which influence the choice of different types of recreational activities.¹¹ This information corroborates a study carried out in Pernambuco, where 64.1% were children and 62.7% were male.¹²

In the city of Pelotas/RS, falls have also had a major impact on the lives of many children. According to a study, this problem was the main cause of accidents in the 0-12 age group, accounting for 53.7% of cases. In these situations, it is extremely important that the teacher assesses the scene of the fall

and calms the student whenever possible, as well as notifying the school management so that they can contact the person responsible. If the case worsens, quickly call the specialized service on 192.¹³

Teachers' knowledge of first aid and how to deal with the main incidents that could occur

Although school-age children are also susceptible to accidents in the home or anywhere else, most of the time these events occur inside the school. Faced with this scenario, teachers find themselves in a stressful situation as they are the ones responsible and the first to have to take action, and this stress is even greater when they have no basic knowledge of first aid. In addition, an incident that occurs at school can have implications for the institution in terms of legal liability, since according to the Brazilian penal code, the omission of help or failure to provide assistance when it is possible without personal risk is a crime under the terms of the law.³

In this respect, it is believed that safety in this area is fundamental, making it necessary to train everyone to know how to act in certain situations, starting with assessing the victim and acting quickly to save lives, reduce suffering and sequelae, because a person treated by someone who does not have adequate knowledge may

have bigger problems, even die.³ Health education is therefore essential.

Given that teachers are the ones who live most closely with students in the school environment, and also because they can contribute to teaching first aid, it is considered that they are the professionals who most need to have knowledge about this subject.¹⁴ Corroborating the description below, most of the interviewees' reports showed a lack of knowledge about the subject, as shown below:

To be honest, I know the basics [...] but they're things like that, that sometimes we don't even know if it's the right thing to do. (PI-1)

I know very little [...]. If someone choked in front of me, I'd be so nervous that I'd die together and I wouldn't know what to do. (PF-6)

I'll tell you the truth, I've been on courses [...] that had workshops and I did first aid, but if you asked me today what you had to do with something, I wouldn't be able to tell you. (PI-3)

I don't have any idea what to do, and I think it would be more of a hindrance than a help during an emergency. (PF-2)

Actually, there's almost nothing to do, I have some idea because I'm a science major, you know, biology, so I know a few things, but if I had to actually do something, I wouldn't risk it. (PF-3)

Teachers' knowledge of the subject seems to be lacking, as it is still little explored. Most educators don't know how to proceed in certain situations and end up acting in the wrong way, often harming themselves and the child, as they take the risk of providing care but don't know how to do it.³ In order to change this situation, it is necessary for the subject to be worked on constantly in schools, providing dialogue

and an exchange of knowledge, so as to achieve greater learning.

Given that many teachers have witnessed situations where they needed help quickly and sometimes were unable to do so or felt insecure, periodic training in first aid is recommended on an annual basis in order to consolidate learning and approach new professionals, as well as using protocols that are available and up-to-date.¹⁵ To help with these issues, it would be interesting to see interdisciplinary action between municipal authorities, health professionals and the fire department, with a view to working together to improve these aspects, and consequently reducing hospitalization costs.

When asked about the correct way to deal with the main situations involving first aid for children, many interviewees found it difficult to describe what to do. However, some of them also showed knowledge of the correct actions to be taken, for example, with regard to airway obstruction, popularly known as choking, which is conceptualized as an obstruction caused by a foreign body, most often by objects that make a false journey during swallowing, and is an emergency situation, because if not reversed, complications can occur and lead to death.¹⁶

During the interview, more than half of the participants answered in accordance with what is scientifically presented, according to some statements:

[...] I know that we have to stand behind the child and squeeze the stomach area and keep pressing until the choking stops [...]. (PI-1)

You have to squeeze the mouth of the stomach and press firmly upwards. (PF-2)

Look, I don't know what the name of the maneuver is, you put it here (in the stomach area) and you do it like this (press) on the mouth of the stomach. (PI-2)

It should be noted that the rest of the teachers were unsuccessful in their responses regarding adequate knowledge, thus using common sense behaviors:

I would hit the child on the back and call SAMU. (PF-1)

When you choke, there's that thing they say about slapping your back. I'd do that and then ask someone nearby for help. (PF-5)

[...] it's what I've learned in life, to pat him on the back, or grab him from behind and hit him hard until he gets better. (PF-8)

Unlike the reports above, the literature mentions that the correct approach to airway obstruction should be to use blows to the interscapular region followed by five chest compressions for children under one year old. For those aged one year or more, the same technique or the Heimlich maneuver is recommended, which consists of standing behind the person and, with your hand closed at the level of the epigastric region, performing rapid compressions with an anteroposterior movement and then upwards, forcing the object out of the airway. This is considered the most reliable way of clearing the airway in cases of foreign body aspiration.¹⁶ A study in Fortaleza, Ceará, showed that choking was the subject that generated the most doubts among teachers and, according to the results, none of them knew the correct way to act, using only common sense knowledge.¹⁷

Another very frequent accident in schools is dental trauma, which was also addressed in the questionnaire, where the interviewees answered partially correctly in relation to how it should be done, reporting that in this case the priority would be to call the parents to refer the child for care and then to a dental service, as shown in the following statements:

[...] I'd go to the management and call the parent or guardian, take them somewhere, you know [...]. (PF-3)

Look, I think [...] it wouldn't be a case of SAMU [...] I'd call the family, I wouldn't touch it [...] and suddenly take them somewhere that could provide proper care. (PF-2)

[...] I would go to the school management and ask them to call someone responsible for the child and then explain how the incident happened. (PF-3)

As mentioned above, it is recommended to contact the parents or even a dentist, as this type of trauma involves damage that can cause serious problems in terms of function and aesthetics. The answers were considered partially correct, as they could ask the child to bite down on a gauze roll in the event of active bleeding. It is also important, in cases of tooth avulsion, to collect the tooth, holding it by the crown and never by the root and, if it is a permanent tooth, to place it in a bottle with milk until the dentist arrives.¹⁸

According to the literature, 32% of dental trauma cases occur at school and in children under the age of five. A study carried out in Paraíba shows that 91.3% of

educators have never received training to provide initial care in this situation and the little they have learned has been acquired through television. However, there is nothing to stop them from seeking knowledge via the internet or physical materials, since learning is easier today.¹⁸

In this study, another aspect addressed was intoxication, which is defined as the ingestion, inhalation or introduction into the body, accidentally or otherwise, of toxic substances. This is a fairly common occurrence in schools and can be caused by: animals (arachnids and insect species), plants, chemical products and contaminated food.¹⁹ When addressing the subject, it was clear that the teachers are unprepared and afraid to deal with this situation, as was evident from their statements:

I have no idea how to act in this situation. (PI-1)

[...] I don't know, I wouldn't know what to do. (PI-3)

[...] I thought about giving water." (PF-6)

[...] in this case I wouldn't know what to do, I think I'd sit the person in an airy place. (PI-4)

(PF-8)

[...] I don't know. (PF-7)

In this case, it is important for the teacher to analyze the student's attitudes, inform the parents and, if the situation worsens, call for specialized care, which was not mentioned by the interviewees. However, it is important to emphasize the importance of proper conduct, where the source of the intoxication must first be known, and then

the student must be encouraged to eliminate what has been ingested through emesis.²⁰

These results corroborate a study carried out in a private school in Rio Grande do Sul, in which it is possible to observe the teachers' lack of preparation when faced with accident situations, citing the use of egg white on burns and any type of ointment in the case of injuries.³ On the other hand, a pre- and post-test study carried out in Santa Maria/RS showed that the teachers had satisfactory results in relation to the incidents mentioned above, and that the results were even better when they received health education carried out by professional nurses.¹⁵

Even so, in general, teachers' knowledge of first aid is insufficient, and they are very unprepared for the situations that can occur in the school environment, as many of them have popular or outdated practices. In order to reduce these cases, training, booklets, prevention and health promotion actions should be carried out, thus reducing teachers' insecurity in the face of intercurrents, avoiding failures and harm to the victim's health.³

CONCLUSION

This study analyzed the current situation of 12 teachers who work in 4 municipal schools in the most populous district of the city of Pelotas, in relation to

their knowledge of first aid in the event of accidents at school.

According to the results, it was clear that most teachers do not have adequate knowledge of the subject. As a result, this study sought to assess the main problems encountered at the school, thus demonstrating the correct way to act in cases of school incidents until the specialized service arrives. It is therefore essential that staff who have contact with children are properly trained to provide qualified care when they need to, in accordance with Law No. 13.722 of October 2018.

It is therefore believed that in order to reduce the problems encountered, nurses can be the link contributing to health education actions, through courses, training, lectures and workshops to improve and add to the knowledge of the teachers who are part of this environment, helping them to act with greater security and confidence in relation to the care provided to children in emergency situations, and that this study can make a scientific contribution to the health area.

The limitations of this study refer to the fact that it was only carried out in public schools and did not address the issue in private schools. We also found a low level of evidence in most of the studies, showing the need for more robust research to broaden this discussion.



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