



Knowledge and Practices of First Aid among Basic Education Professionals in a School in Belém, Pará, Brazil

**Larissa Satie Souza de Lima ^a, Dheisen Moraes Rodrigues ^a,
Rejany Cristina Santana da Silva ^a,
Elma Adalgisa Lima Teixeira ^a,
Danielle Iasmim Sarmiento Pinheiro ^a,
Elyson Fernanda Ribeiro da Conceição ^a,
Ryane Oliveira Neves ^b, Wênia Gilmara da Silva ^a,
Cielma Amaral da Silva ^a, Thayrla dos Santos Duarte ^a,
Maria Luisa Freitas Rodrigues Lima ^a, Acsa Lino Geraldo ^a,
Tamires de Nazaré Soares ^b,
Natasha Cristina Oliveira Andrade ^b,
Perla Katheleen Valente Corrêa ^c
and Mayara Annanda Oliveira Neves Kimura ^{c*}**

^a Universidade da Amazônia (UNAMA), Ananindeua, Pará, Brasil.

^b Programa de Pós-Graduação em Biologia Parasitária na Amazônia, (PPGBPA/UEPA/IEC),
Universidade da Amazônia (UNAMA), Ananindeua, Pará, Brasil.

^c Programa de Pós-Graduação em Virologia, Instituto Evandro Chagas (PPGV/IEC), Universidade da
Amazônia (UNAMA), Ananindeua, Pará, Brasil.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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*Corresponding author: Email: mayara_annanda@hotmail.com;

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ABSTRACT

Introduction: School life is an important part of children's lives, which has a direct impact on their physical and mental health. School is an environment where accidents can occur with children. First Aid must be the immediate care provided to a victim after an accident. This initial care generally occurs by professionals who work in schools, making them responsible for correct and effective care actions. Part of the knowledge of health promotion and prevention activities are strategies to reduce the impact of illnesses and emergencies on society.

Methods: This is descriptive fieldwork, with a quantitative basis for data analysis, whose collection period took place in October 2023. In a private school, all employees who worked at the educational institution were interviewed.

Results and Discussion: Teachers and employees at the educational institution where the research was carried out found that 56% of professionals did not have training to provide First Aid care, although a significant percentage (56%) of these professionals had already witnessed a school accident. Thus, it was observed that, in accidents, they are usually the first to provide immediate assistance to children, making it necessary for them to feel confident and capable of carrying out an appropriate intervention. Regarding the existence of a first aid kit at school, only 5 (9.43%) said they were aware of it. Furthermore, when asked where to find this kit, 5 (9.43%) responded that they knew where to find it and the majority 11 (14.86%) responded that they did not know.

Conclusion: Training education professionals with effective first aid assistance techniques is a prevention strategy that will contribute to a safer childhood. It is important to promote discussions and actions for the implementation of a preventive public policy, which guarantees the professional qualification of professionals working in basic education, and/or the insertion of nursing professionals in the school environment.

Keywords: Nursing; first aid; Health Education.

1. INTRODUCCION

First aid (FI) is the care and procedures provided immediately to a victim after an accident or in situations that put them at risk and is essential to maintain the victim's health status before professional care is provided. For these procedures to be performed correctly, it is necessary to have knowledge of the appropriate techniques, so that this care is of quality (Aguirre; Ricardo; Andrade, 2021).

An accident is an event that causes damage, harm or even death, and it happens unexpectedly and quickly (Grimaldi, et al., 2018). According to the Brazilian Society of Pediatrics (SBP), 90% of accidents involving children can be prevented. Among the main causes of accidents involving children, the most frequent are suffocation, falls, poisoning, burns, drowning, transport accidents, poisoning and electric shocks (Brazil, 2022).

The Mortality Information System (SIM) in 2018 showed that external causes were one of the

main reasons for the deaths of children between zero and nine years of age in Brazil. Traffic accidents stood out (19.86%), followed by drowning (19.76%) and other respiratory risks. These unintentional events occur unexpectedly, causing accidents (Brazil, 2018).

These eventualities are recurrent in schools because there is a large flow of children and adolescents and also because they are a more vulnerable population, due to restlessness and curiosity that can cause accidents at any time, especially during break or mealtimes. Due to this factor, teachers and school professionals need to be guided and trained to provide first aid (Ferreira; Borges; Schwiderski, 2019).

First aid is already taught in schools in the United States and European countries, which include this subject in their curricula, enabling proper training for the entire population. In Brazil, Presidential Decree N°. 6.286 of 2007 established the Health in Schools Program (PSE), expanding health actions for students in

the public school system. However, even after the presidential decree, health professionals have had difficulty in entering the school environment (Jesus, Dias, Souto, 2024).

Teachers and other school staff are the first to witness emergencies in the school environment, which imposes on them the responsibility of providing emergency care (Antunes, et al., 2022). Therefore, it is essential to train them in basic emergency care knowledge, as these professionals are closest to the victim at that moment. This assistance can be provided by a lay person who receives appropriate training and education (Rodrigues, et al., 2022).

This training was established and sanctioned through Law 13.722, of October 4, 2018, known as the Lucas Law, which “makes training in basic first aid mandatory for teachers and staff of public and private elementary schools and children's recreation establishments” (Brazil, 2018). Despite the mandatory nature of the Lucas Law in Brazil, the lack of technical-scientific knowledge of ED and adherence to this Law leads to an increase in injuries in schools. Therefore, it was necessary to identify the knowledge of teachers and staff of a school about basic ED care in an emergency situation (Moreno; Fonseca, 2021). In this process, nurses have a strategic position, given the holistic nature of their training and their participation in the School Health Program (PSE) (Ilha, et al., 2021). Due to accidents in the school environment, there is a great demand to address the topic of HP in schools, especially in early childhood education, considering that most teachers, staff, and principals demonstrate unpreparedness and lack of knowledge to offer adequate support to students in the event of an emergency (Alvim, et al., 2019). Accidents have contributed significantly to the increase in deaths in all age groups. Worldwide, on average 25% of these deaths occurred in people between the ages of 0 and 18 (Costa, et al, 2021).

In Brazil, school accidents are the leading cause of infant death, as they affect a younger population, children aged 1 to 14, mainly in daycare centers and preschools (Silva, et al., 2023).

With few exceptions, the curriculum of undergraduate courses does not include a subject that teaches basic emergency procedures. Consequently, teachers do not know how to act in situations that compromise the

health of children, creating a risk to the vital state of the school (Silva et al., 2023).

According to Souza et al., (2020), a study was carried out in Pará, in which it was found that 81% of teachers stated that they had not received any training in first aid techniques. This demonstrates the low level of knowledge, skill and lack of care preparation, and there is a need to qualify and train schools and staff for extra-hospital care. Nursing is the one who provides health care, using clear and common language to teachers, students and everyone involved in the school environment, disseminating theory and practice, raising awareness and minimizing the risks and harm caused by the school environment or even at home, offering greater safety for children (Amadigi, et al., 2022). In view of this, the question was asked: What is the knowledge and practices of basic education professionals regarding first aid?

2. METHODOLOGY

This research was configured with a quantitative approach, with which it was possible to analyze the data for the best evaluation of knowledge and practices regarding first aid of the professionals of the institution of this study. It was carried out in a school in the city of Belém- PA, Pará. The sample of this study was composed of teachers and employees of an educational institution that has a total of 13 teachers and 3 assistants in the morning and afternoon work shifts. According to the current data of the semester, there were 250 regularly enrolled students in the age range of 03 to 15 years. To implement, analyze and interpret the data obtained in the research, the following methodological path was followed: the information was stored in a database in the software, where a spreadsheet was developed to organize the distribution of the data. The research complied with the ethical precepts established in Resolution No. 466-2012, of the National Health Council (CNS), which considers respect for human dignity and the protection of participants in scientific research involving human beings (BRASIL, 2012), having received a favorable opinion from the Research Ethics Committee of the University of the Amazon.

3. RESULTS AND DISCUSSION

16 professionals who work at the early childhood education institution participated in this study. There was a predominance of 16 females

(100%), the majority of whom were aged between 31-49 years old (81.25%), followed by those under 30 years old (12.50%) and over 50 years old (6.25%). As for the professional training variable, there was a predominance of pedagogues 10 (62.50%). Regarding the time of experience, there was a predominance of time less than 5 years (62.50%), as seen in Table 1.

Table 1. Profile of employees who work at the private educational institution, Belém, PA, 2023

Variables	N°	%
Sex		
Feminine	16	100%
Masculine	0	0%
Age		
<30	2	13%
31-49	13	81%
>50	1	6%
Professional Training		
pedagogue	10	63%
Historian	1	6%
room assistant	1	6%
Administrative Assistant	1	6%
Neuropsychopedagogue Professor	1	6%
Cleaning assistant	1	6%
Physical Education Teacher	1	6%
Professional experience		
<5	10	63%
06-10	3	19%
>11	3	19%
Sample Total	16	100%

In Table 2 it is possible to identify first aid knowledge and practices, demonstrating that 9 (12.16%) professionals responded that they had not received any specific training and 7 (13.21%) that they had already received it. Despite the potential risk of accidents associated with the school environment, the majority of respondents, 56%, do not feel safe providing first aid and only 7 (44%) responded that they feel capable. Regarding the existence of a first aid kit at school, only 5 (31.25%) were aware of it and 11 (68.75%) were unaware. Furthermore, when asked where to find the kit, 5 (31.25%) responded that they knew where to find it and 11 (68.75%) responded that they did not know. When asked whether they had ever witnessed any sudden illness (fainting, dizziness, partial loss of vision or seizure), most of the interviewees responded that not 9 (56%), but 7 (44%) had already seen it. However, 44% feel

afraid to provide care, the majority, with 10 (62.5%) reporting that they never had training during their time at work and 6 (37.5%) answered yes.

Table 3 shows that the interviewees have already taken a specific first aid course outside their work environment in person (43.75%) and blended (12.50%). The majority of respondents (87%) were unsure about carrying out an emergency intervention in the following situations: fractures, bruises, hemorrhages and fainting. Regarding choking intervention, (68.75%) responded that they would perform the unblocking maneuver; Fainting (56.25%) loosening clothes and raising legs; fracture, 11 (68.75%) responded not to move, and regarding seizures, 10 (62.50%) responded to move the child away from dangerous places and protect the head, but 6% did not know how to proceed. Based on the knowledge and learning of professionals who work at the early childhood education institution, they were asked how important it is to have knowledge of first aid in a school from 0 to 5. There was a predominance of 16 (100%), in which 5 is extremely important.

In schools, professionals are the first to provide immediate assistance to children, making it necessary for them to feel confident and able to provide appropriate intervention. A study carried out in Turkey, with 331 teachers, demonstrated that professionals at the early childhood education institution had information about first aid, but did not feel confident and qualified to provide assistance (Schmitz, et al., 2018). Associated with this, it was found in the current research data that the majority of education professionals did not undertake First Aid training, as guided by the Lucas Law. In comparison to another study, which indicated the relevance in order to preserve their lives (Lima, et al., 2021).

The researchers sought to investigate care situations in the face of a convulsive crisis. During a convulsive crisis, there is still knowledge among lay people that one should place a finger or some object in the victim's mouth, which is not considered correct. The correct procedure is to move the person away from dangerous places and protect the head, in order to make them safe from the possible damage that the seizure can cause (Brito et al., 2020).

Table 2. First aid knowledge and practices questionnaire

QUESTIONS				
Nº	YES	%	NO	%
Q1-First Aid Training	7	44%	9	56%
Q2- Have you ever witnessed a sudden illness?	7	44%	9	56%
Q3- School Accident	9	56%	7	44%
Q4- First Aid Training Offered by the School	6	38%	10	63%
Q11- Is there a first aid kit at school?	5	31%	11	69%
Q12- First Aid Kit Location at School	5	31%	11	69%
Q14- Fear of Providing Care	7	44%	9	56%
Q15 - Do you feel qualified to provide first aid?	7	44%	9	56%

Table 3. First aid knowledge and practices questionnaire

Questions	N	%
Q5- Have you ever taken a specific first aid course outside of your country? your work environment, if so, what type of work?		
In person	7	44%
Blended	2	13%
EAD	0	0%
I didn't take any course	7	44%
Sample Total	16	100%
Questions	N	%
Q6 – Among the situations below, which do you feel confident in carrying out an emergency intervention?		
Fracture	2	13%
Bruises	4	25%
Bleeding	2	13%
Fainting	4	25%
None	4	25%
Sample Total	16	100%
Q7- Choking		
Try to remove the object by hand	0	0%
Perform unblocking maneuver	11	69%
Ask the child to cough	0	0%
Raise your arms	5	31%
QUESTIONS	16	100%
Q8- Fainting		
Try to wake the victim	0	0%
Check Vital Signs	7	44%
Loosen clothing and elevate legs to return blood flow	9	56%
Sample Total	16	100%
Q9- Fracture		
Immobilize, check if the fracture is open or closed	4	25%
Don't move	11	69%
I didn't know how to answer	1	6%
Sample Total	16	100%
Q10- Convulsion		
Hold the person and the tongue	1	6%
Keep the child away from dangerous places and protect their head	10	63%
Protect your mouth with an object to avoid biting your tongue	3	19%
I didn't know how to answer	2	13%
Sample Total	16	100%
Q16- The importance of knowledge in first aid scales from 0 to 5		
0 to 4	0	0%
5	16	100%
Sample Total	16	100%

However, despite this popular attitude, around 62.50% of those interviewed responded to the correct attitude of caring for a victim who is suffering a seizure. The knowledge of professionals at early childhood education institutions about fractures is limited, as it is not a skill that anyone can perform or act effectively. Therefore, it is necessary to have a quick assessment, knowledge and necessary care, since handling a fractured arm or leg incorrectly can cause injuries to the limbs (Silva, et al., 2023).

However, the present study proves this statement, as 68.75% of those interviewed chose not to touch the victim, for fear of causing harm. Choking is one of the most common accidents in the school environment, and is considered the most fatal if there is no quick and effective intervention in its care. In accordance with this, it was analyzed in the present study that the interviewees know how to perform the clearance maneuver (Heimlich Maneuver), but the smallest number (31.25%) of the interviewees still do not have the basic knowledge (Olasveengen, et al., 2020).

4. CONCLUSION

The results obtained in this study highlight the importance of training early childhood education professionals, with the main purpose of ensuring that all school employees know how to act in an emergency situation. This situation is weakened by the lack of professional training in terms of providing fast and effective first aid.

As a contribution, this study allowed to expand several discussions on the topic and the importance of first aid training through educational actions, with the purpose of preventing injuries and accidents involving health professionals, including nurses, for infant mortality due to preventable causes.

ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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