





KNOWLEDGE OF ELEMENTARY SCHOOL TEACHERS ABOUT FIRST AID

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ABSTRACT

Objective: evaluate the knowledge of elementary school teachers on urgency/emergency care in the school environment.

Method: this is a quantitative, cross-sectional, analytical study. The study participants were 269 elementary school teachers – Cycle I, from 19 schools under the management of the Municipality of Marília – SP. Data collection occurred in September 2021 and the instrument used was a questionnaire prepared in the digital platform Google Forms, divided into three sections: the first containing the informed consent and socioeconomic questions, followed by objective questions about previous experiences of the participants and simulated cases of emergency in the school environment. The data collected was analyzed using the SPSS software (version 24.0), using the chi-square test for association of the proportion distribution with a significance level of 5%.

Results: among the participants, 53.2% had already witnessed some emergency situation inside the school, in which 11.9% had acted safely. Less than half (42.7%) of the teachers had content about the subject during their graduation, and 68.8% reported never having received training on school accident prevention and first aid.

Conclusion: based on the results, we identified that there is a need for teacher training regarding urgency and emergency situations related to the care of children in the school environment, thus trying to provide subsidies for coping with serious situations that may occur at school.

DESCRIPTORS: First aid. Child health. Accident prevention. School health. Emergencies.

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CONHECIMENTOS DE PROFESSORES DO ENSINO FUNDAMENTAL ACERCA DE PRIMEIROS SOCORROS

RESUMO

Objetivo: avaliar o conhecimento dos professores do ciclo fundamental I no atendimento de urgência/emergência em ambiente escolar.

Método: trata-se de um estudo de abordagem quantitativa, de caráter transversal, analítico. Participaram deste estudo 269 professores do ensino fundamental – Ciclo I, das 19 escolas que estão sob gestão do Município de Marília, SP. A coleta de dados ocorreu em setembro de 2021 e o instrumento utilizado foi um questionário elaborado na plataforma digital *Google Forms*, dividido em três seções: a primeira contendo o termo de consentimento livre e esclarecido e questões de cunho socioeconômico, seguida de questões objetivas sobre vivências prévias dos participantes e casos simulados de urgência em ambiente escolar. Os dados coletados foram analisados no *software* SPSS (versão 24.0), sendo realizado o teste do Qui-quadrado para associação da distribuição da proporção com o nível de significância adotado de 5%.

Resultados: entre os participantes, 53,2% já presenciaram alguma situação de urgência dentro da escola, em que 11,9% atuaram com segurança. Menos da metade (42,7%) dos professores tiveram conteúdo acerca do tema durante a graduação, e 68,8% relatam nunca terem recebido treinamentos sobre prevenção de acidentes escolares e primeiros socorros.

Conclusão: mediante os resultados, identificamos que há necessidade de treinamentos para os professores no que se refere às situações de urgência/emergência voltadas ao atendimento de crianças no ambiente escolar, procurando, desta forma, dar subsídios para o enfrentamento em situações consideradas graves que podem ocorrer na escola.

DESCRITORES: Primeiros socorros. Saúde da criança. Prevenção de acidentes. Saúde escolar. Emergências.

CONOCIMIENTOS DE LOS PROFESORES DE ENSEÑANZA PRIMARIA SOBRE PRIMEROS AUXILIOS

RESUMEN

Objetivo: evaluar los conocimientos de los profesores de enseñanza primaria sobre la atención de urgencia/emergencia en un entorno escolar.

Método: se trata de un estudio cuantitativo, transversal y analítico. Participaron en este estudio 269 profesores de escuelas primarias – Ciclo I, de las 19 escuelas que están bajo la gestión del Municipio de Marília, SP. La recolección de datos ocurrió en septiembre de 2021 y el instrumento utilizado fue un cuestionario elaborado en la plataforma digital *Google Forms*, dividido en tres secciones: la primera conteniendo el consentimiento informado y preguntas socioeconómicas, seguida de preguntas objetivas sobre experiencias previas de los participantes y casos simulados de emergencia en el ambiente escolar. Los datos recogidos fueron analizados en el *software* SPSS (versión 24.0), realizándose la prueba de Chi-cuadrado para asociación de la distribución de proporciones con el nivel de significación adoptado del 5%.

Resultados: entre los participantes, el 53,2% ya había presenciado alguna situación de emergencia dentro de la escuela, en la que el 11,9% había actuado con seguridad. Menos de la mitad (42,7%) de los profesores tuvieron contenidos sobre el tema durante la graduación, y el 68,8% declararon no haber recibido nunca formación sobre prevención de accidentes escolares y primeros auxilios.

Conclusión: con base en los resultados, identificamos que existe la necesidad de capacitación de los profesores en relación a situaciones de emergencia y urgencia para el cuidado de los niños en el ambiente escolar, en el intento de proporcionar subsidios para el abordaje de situaciones graves que puedan ocurrir en la escuela.

DESCRIPTORES: Primeros auxilios. Salud infantil. Prevención de accidentes. Salud Escolar. Emergencias.

INTRODUCTION

Children, as a consequence of the characteristics of their developmental stage, are more vulnerable to emergencies¹. In Brazil, the largest number of infant deaths was due to external causes, such as falls, accidents, poisoning and drowning, with more than 28,000 deaths reported from 2008 to 2018². Accidents in childhood have been a serious problem for the health system, representing about 30% of all emergency care³.

School is a social environment where countless exchanges of knowledge occur and are part of children's education. In order to achieve better learning, in Brazil, since 2012, a full-time school system has been implemented, increasing the length of time children stay in the school environment and, consequently, the possibility of emergency situations assisted by teachers. Furthermore, the School Health Program is a government initiative, which aims to contribute with students through intersectoral coordination between primary healthcare professionals and the school, regarding health promotion and disease prevention, and to strengthen the relationship between public health and education networks⁴.

Due to the number of emergency situations in schools and the unpreparedness of teachers to act, in 2018, it became mandatory in the national territory the training in basic first aid for teachers and employees of public and private schools of Basic Education and children's recreation institutions through Law N° 13.722⁵, which is named Lucas Law in honor of the boy Lucas Begalli Zamora, of 10 years old, who died in September 2017 when he choked eating a snack during a school outing.

The law makes it the responsibility of institutions to train teachers and employees annually, taught by entities specialized in immediate and emergency aid practices to the population, and also provides for the presence of first aid kits according to specialized guidance in emergency. Failure to comply may lead to notification and fine for the educational institution⁵.

Children are the responsibility of families, communities, societies, and federations, and it is everyone's duty to prevent the occurrence of any threat or violation of their rights. It is the children's right to receive protection and help under any circumstance⁶.

The lack of knowledge about first aid is extended to the entire population, but teachers stand out when it comes to children, since it is at school that they have most of their childhood experiences. Moreover, it is common that, in emergency situations, fear and desperation influence decision making, which can be minimized when knowledge is obtained on how to proceed in these situations.

Thus, after reading the articles that represent our study objective, the following question emerged: what is the knowledge of elementary school teachers regarding care in urgency and emergency situations in a school environment?

In view of this issue, we proposed to carry out this research, with the objective of evaluating the knowledge of elementary school teachers about urgency/emergency care in the school environment.

METHOD

This is a quantitative, cross-sectional, analytical study carried out in the city of Marília, São Paulo. The population studied consisted of education professionals, including teachers with degrees

in Pedagogy, Physical Education or Visual Arts who work in one of the elementary schools – Cycle I under the management of the municipality of Marília. Regarding the distribution of the data collection instrument, it was sent to all schools in the municipality, totaling 19 schools and a total of 359 teachers, 269 of whom agreed to participate in this study. The professionals who, during the collection period, were away from their functions were excluded from the sample.

Data collection took place in September 2021, using a questionnaire prepared in the digital platform Google Forms, which was sent by the coordinator of the elementary school of Marília by e-mail and via WhatsApp to the teachers. After sending the instrument, we waited for a period of 45 days for feedback, understanding that failure to meet the deadline would be due to lack of interest in answering the questionnaire.

The questionnaire was divided into three sections, with the first consisting of the informed consent form for the confirmation of consent to participate in the research, and six socioeconomic questions to characterize the profile of the study population.

The second was made up of seven objective questions that addressed previous experiences about the theme. In the last section, three simulated cases were presented, with illustrative and fictitious stories of emergencies in the school environment, of an objective nature, with four alternative actions, and only one correct alternative. The cases presented situations of a choking child, a child with convulsive crisis or cardiac arrest with updates of the COVID-19 scenario. The cases were built based on the experiences of the professional practice of the emergency service specialized in pediatrics, correlating with the indexes pointed out by the authors regarding the main urgency and emergency occurrences in children's health.

In the questionnaire, the teacher would have only one correct alternative, among the answers to be indicated by the researched teacher and which were already described and grouped. After returning the instrument, we categorized the information quantitatively, according to the teachers' answers.

The data collected underwent statistical analysis; therefore, the qualitative variables were described by the distribution of absolute (N) and relative (%) frequency and the Chi-square test for association was performed to analyze the differences in the distribution of proportion. The significance level adopted was 5% and the data were analyzed using the SPSS software (version 24.0).

The study was submitted to a Research Ethics Committee according to the criteria established in Resolution 466 of December 12, 2012.

RESULTS

Of the questionnaires sent to teachers, totaling 359, 269 responded, making a percentage of 74.93% of the teachers of elementary school I.

As for the characterization of the studied population, we chose to present it in frequency, percentage, and Chi-square test, revealing p-value for the answers of the professionals. Thus as shown in Table 1, regarding sex, most participants were female (91.8%). The predominant age range was between 40 and 59 years old (72.1%). As far as academic background is concerned, 97% had a degree in pedagogy. Among all the interviewees, 70.8% had more than 11 years of professional experience and 73.2% had been working in municipal schools for more than 10 years.

Table 1 – Presentation of results regarding sex, age, academic background and length of professional experience. Marília, SP, Brazil, 2021. (n=269)

Variable	n	%	p-value
Sex			
Male	22	8.2	<0.001*
Female	247	91.8	
Age range			
21-39	74	27.5	<0.001*
40-59	194	72.1	
>59	1	0.4	
Graduation			
Pedagogy	262	97.4	<0.001*
Arts	1	0.4	
Physical Education	6	2.2	
Length of profession			
<5 year	35	13.1	<0.001*
05 to 10 years	43	16	
10 to 20 years	105	39.2	
>20 years	85	31.7	

Among the participants (Table 2), 53.2% had already witnessed some emergency situation inside the school, but only 11.9% reported being confident when responding to it. As for being prepared to care for urgency/emergency situations, 63.9% did not feel prepared to perform first aid in children.

Regarding the knowledge acquired in the professional training period, it was observed that 42.7% of the professionals reported that they had approached the content related to our research purpose; however, it is noteworthy that, in the work environment, 68.8% pointed out that they had never received qualification and/or training on school accident prevention and first aid.

As for the updates on the practice of first aid in the pandemic scenario by Covid-19, 75.7% reported having no knowledge on the subject and, when necessary, 78.4% requested the Mobile Emergency Care Service (SAMU).

Table 2 – Presentation of the results regarding the experience of professionals for the care of children in urgent/emergency situations. Marília, SP, Brazil, 2021. (n=269)

Alternatives	n	%	p-value
Have you ever witnessed an emergency situation inside the school? If yes, did you need to respond or were you involved in performing first aid?			
Never have	126	46.8	<0.001*
I have seen it but did not respond	82	30.5	
I responded with difficulty	29	10.8	
I responded with confidence	32	11.9	

Table 2 – Cont.

Alternatives	n	%	p-value
Do you feel prepared to perform first aid on children?			
I do not feel prepared	172	63.9	
Partially prepared	93	34.6	<0.001*
Completely prepared	4	1.5	
Did you get thematic content about first aid in the school environment in your training?			
I am not familiar with the topic	154	57.2	
I got little content about the topic	99	36.8	<0.001*
Yes, I got content about the theme	16	5.9	
Does the institution in which you work offer, or has offered, any training and/or education on school accident prevention and first aid?			
Never offered	185	68.8	
Offered	80	29.7	<0.001*
Offered regularly	4	1.5	
Do you know what updates are available on the practice of first aid in the Covid-19 pandemic scenario?			
Yes	65	24.3	
No	203	75.7	<0.001*
In the face of an emergency situation, which mobile service do you usually call?			
SAMU	211	78.4	
911	58	21.6	<0.001*

About the cases with simulated stories of a choking child, a seizure victim, and a cardiac arrest victim, the incorrect alternative for the assertive questions was pointed out in 58.6% for the first case, 82% for the second, and 91.7% for the third (Table 3). In this category, the Chi-square test revealed a p-value between 0.001 and 0.005, maintaining an important level of significance in relation to the cases presented.

Table 3 – Analysis of simulated story cases. Marília, SP, Brazil, 2021. (n=269)

Structured cases	Answer	Frequency	%	p-value
Case 1: Child victim of choking	Correct	156	58.6	
	Incorrect	110	41.4	<0.005*
Case 2: Child victim of a seizure	Correct	218	82	
	Incorrect	48	18	<0.001*
Case 3 Child victim of a cardiac arrest	Correct	22	8.3	
	Incorrect	243	91.7	<0.001*

DISCUSSION

Emergency is part of people's daily lives, and teachers have witnessed such situations in the school environment. Considering that about 26.3% of the urgency and emergency care services

provided to children and adolescents in Brazil took place at school, it is possible to understand that urgency and emergency situations occur in this environment, and therefore, discussing, researching and promoting issues on the subject are of utmost importance for the protection of children and teachers, as well as to meet the legal issues that guide the work process of professionals who work in school education⁷.

Lack of confidence and nervousness are rooted in a feeling of unpreparedness and lead the teacher to not performing the initial management or to inadequate management of the victim. A study conducted in the interior of the state of São Paulo showed that teachers reported having experienced emergency situations, and that they showed a significant increase in confidence in responding to these situations after the training conducted by the author⁸.

Autonomy and self-confidence are directly correlated to knowledge, because knowledge provides the confidence to make choices and take actions. It is understandable that teachers do not feel prepared to respond to urgency and emergency situations in the school environment if they did not have this content in their professional training. It is up to the educational institutions to mobilize themselves to include the discipline of first aid as part of teacher training, ensuring that they do not feel helpless and promoting children's rights.

Some countries present similar results. In Ethiopia, a study indicated that 41.1% of the teachers had good knowledge of first aid, and 85% of the participants had already witnessed a child needing first aid in their school⁹. Another study conducted in Jeddah (Saudi Arabia), showed that 57% of the teachers had had training in first aid and most of them (85%) agree that there is a need for training on the subject¹⁰. In Turkey, however, the results were different from this study, with good rates of knowledge of first aid among teachers¹¹.

It is still necessary to consider that health care is an area of knowledge that is constantly changing, with technological advances and the discovery of new challenges. Thus, it is not possible for health education to be occasional and episodic; it must be part of people's lives. Even if training institutions include first aid in their curriculum, which is extremely important, it is still necessary that municipal education managers provide resources for the continuity of knowledge in the workplace.

The deficit in knowledge on the subject is perpetuated when teachers, throughout their professional careers, report that they have never had capacity building or training by the institutions they work for⁸⁻¹². The protocols are always up to date; therefore, isolated trainings are not enough, they have to be held frequently⁷. The proof of the statement that knowledge in health is mutable is the new coronavirus, the SARS-Cov-2, considering that, on March 20, 2020, the community transmission of this disease was declared throughout the national territory, which modified lifestyles, health actions, and first aid practices and, by December 2021, took more than half a million Brazilians to death¹³.

Although the children had a lower mortality rate than other age groups in relation to coronavirus infection, there was a high social impact on their lives. There was a movement for the return of classroom lessons due to their importance for the psychosocial and intellectual development of these children and, for this return, it would be essential to prepare the teachers for the new health practices in the perspective of prevention, promotion, and health rehabilitation. The guidelines found in the literature for the return to school refer to the prevention of virus transmission, but no guidelines were found for schools regarding first aid within this scenario¹⁴⁻¹⁵. However, they do exist: the American Heart Association (AHA), responsible for the publications of cardiopulmonary resuscitation guidelines, updated the basic life support (BLS) protocol due to COVID-19¹⁶.

It is noteworthy that the lack of health education on urgency and emergency is extended to the entire population. Such content should be included in early childhood education and in elementary, high school, and university education, being part of the educational training of Brazilians and especially of teachers¹⁷. In some countries such as the United States of America and China, the subject has been

included for children and adolescents in school education¹⁸⁻¹⁹. A study conducted in Norway showed that children aged 4 to 5 years are already able to learn to apply basic handling and reinforced the importance of first aid training for the population, stating that most people do not perform it for fear of making mistakes²⁰.

It is worth reflecting on how much the health teams and educational institutions in health have been concerned in conducting educational processes on urgency and emergency for the population, especially in school environments. It is clear that it is the duty of health professionals to spread this knowledge, thinking about health promotion and in order to minimize damage to society, avoiding irreversible damage and deaths.

In a study published in 2021, 40% of the teachers who participated had already witnessed situations of choking children in the school environment, but only 26.7% of the participants were correct about the actions that should be performed²¹. Choking is characterized as airway obstruction by a foreign body when an object or substance causes a total or partial occlusion in the air passage to the lungs. It ranks third among accidents that cause death among children, which can be explained by the fact that it is easier for children to put objects in their mouths, added to the anatomy of the bronchi, which are aspects of child development²².

The actions to remove the foreign object vary according to the child's age group and whether the obstruction is total or partial. Partial obstructions are recognized when the child can still make sounds and should be encouraged to cough. In children with total obstruction, the indication is to use back blows as the first choice, and it has been suggested that abdominal compressions be used in adults and children over one year of age when back blows are ineffective, until the airway is clear. This was prompted by concerns that the limited protection of the upper abdominal organs by the lower ribs may mean that the potential harm from abdominal compressions outweighs the benefit. It should be emphasized that if the child is unconscious, it is necessary to initiate a cardiopulmonary resuscitation maneuver²³.

Research indicates that about 18 to 20% of teachers have experienced convulsive crises in a school environment, and most of them were successful in managing the seizures²⁴. The convulsive crisis, or epileptic seizure, is the occurrence of transient signs and symptoms caused by abnormal and excessive neuronal activity. Over a lifetime, about 10% of the population may experience at least one epileptic seizure, and even if the event is a single one, it may be a sign of a serious neurological alteration. Among children, about 2 to 5% have seizures, most of them of febrile origin²⁵.

The seizures are usually self-limited and, when they reach healthcare professionals, the children are usually out of the crisis, but some care should be taken to minimize the damage: place the child on the floor and, if possible, in a padded place and keep surrounding objects away, avoiding possible head trauma. One should not try to interfere in the convulsive movements, trying to hold the victim, but lateralize him/her to avoid possible asphyxia²⁶. Proper management, even if it seems simple, prevents serious complications in the life of the child in convulsive crisis, because a fall with cranial trauma or bronchoaspiration can lead to serious sequelae.

The term "cardiac arrest" is used when there is a cessation of cardiac mechanical function associated with hemodynamic collapse, and can be used in events in which there is still a possibility of the return of spontaneous circulation through cardiopulmonary resuscitation (CPR). In the prehospital setting 11 to 13% of children survive, but there is great difficulty in assessing neurological prognosis²³. The studies, even before the update due to COVID-19, portrayed the knowledge deficit in performing CPR, since, although most of the teachers (95.5%) had knowledge about identifying the cardiac arrest and calling the mobile emergency service, only 8% of the interviewees knew the importance of chest compression and the correct way to perform it⁸. The correct answers about cardiopulmonary resuscitation among the studies ranged from 8% to 44%, which is in agreement with this research^{8,12,21}.

The out-of-hospital pediatric cardiac arrest chain of survival consists of prevention, activation of the emergency medical service, high-quality CPR, advanced resuscitation, post-cardiac arrest care, and recovery. After the recognition of cardiac arrest and the activation of the emergency service, CPR should follow the order C – A – B, starting with chest compressions, which compress the heart and increase the intrathoracic pressure, optimizing the oxygen supply to the brain and heart, making the similar movement of systole and, during the compression recoil, the movement of diastole, which is always necessary for effective CPR. It would be ideal if CPR always included ventilations interspersed with cardiac compressions, since the greatest cause of cardiac arrest in children is hypoxia; however, mouth-to-mouth ventilation is not recommended, nor is the use of the pocket mask at this time of pandemic, but these can be performed if the lay rescuer is willing and able to²³.

Cardiac arrest is the greatest of all emergencies, because if nothing is done, the victim will progress to death, and the time between the cardiac arrest and the beginning of chest compressions is directly linked to the chances of survival and prognosis, that is why it is so important that the population, especially teachers, know the proper management procedures and begin compressions until the arrival of the mobile emergency service so that children in these situations can have a chance to survive without severe neurological deficits.

CONCLUSION

Municipal school teachers' knowledge about urgency and emergency care in the school environment is not enough for them to perform the appropriate care to the urgency and emergency needs of children who choke, have convulsive crisis, and have cardiac arrest. Thus, there is a need for training and capacity building to qualify these professionals, seeking to provide subsidies to face the urgencies/emergencies that may occur in the workplace.

REFERENCES

1. Calandrim LF, Santos AB, Oliveira RL, Massaro LG, Vedovato CA, Boaventura AP. Primeiros socorros na escola: Treinamento de professores e funcionários. *Rev Rene* [Internet]. 2017 [cited 2021 Jan 20];18(3):292-9. Available from: <https://doi.org/10.15253/2175-6783.2017000300002>
2. Brasil. Ministério da Saúde. Óbitos p/ Residência por Faixa Etária segundo Causa – CID-BR-10 Faixa etária: 1 a 4 anos, 5 a 9 anos. DATASUS [Internet]. 2019 [cited 2021 Jun 20]. Available from: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sim/cnv/obt10uf.def>
3. Gonçalves AC, Araujo PBA, Paiva KV, Menezes CSA, Silva AEMC, Santa GO, et al. Acidentes na infância: Casuística de um serviço terciário em uma cidade de médio porte do Brasil. *Rev Col Bras Cir* [Internet]. 2019 [cited 2021 Jan 20];46(2):e2104. Available from: <https://doi.org/10.1590/0100-6991e-20192104>
4. Brasil. Ministério da Saúde. Portaria interministerial nº 1.055, de 25 de abril de 2017. Redefine as regras e os critérios para adesão ao Programa Saúde na Escola – PSE por estados, Distrito Federal e municípios e dispõe sobre o respectivo incentivo financeiro para custeio de ações [Internet]. Brasília: Diário Oficial da União; 2017 [cited 2023 May 03]. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/pri1055_26_04_2017.html
5. Brasil. Lei 13.722, de 04 de outubro de 2018. Torna obrigatória a capacitação em noções básicas de primeiros socorros de professores e funcionários de estabelecimentos de ensino públicos e privados de educação o básica e de estabelecimentos de recreação infantil [Internet]. Brasília: Diário Oficial da União; 2018 [cited 2021 Feb 5]. Available from: http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2018/lei/L13722.htm

6. Brasil. Presidência da República. Constituição da República Federativa do Brasil 1988. Brasília: Presidência da República [Internet]. 1988 [cited 2021 Jan 20]. Available from: http://www.planalto.gov.br/ccivil_03/Constituicao/Constituicao.htm
7. Cruz KB, Luchesi BM, Cunha PHB, Godas AGL, Cesario GS, Martins TCRM. Intervenções de educação em saúde de primeiros socorros, no ambiente escolar: Uma revisão integrativa. *Enferm Actual Costa Rica* [Internet]. 2021 [cited 2021 Nov 20];40. Available from: <https://doi.org/10.15517/revenf.v0i40.43542>
8. Zonta JB, Eduardo AHA, Ferreira MVF, Chaves GH, Okido ACC. Autoconfiança no manejo das intercorrências de saúde na escola entre professores da educação infantil e fundamental I. *Rev Lat Am Enfermagem* [Internet]. 2019 [cited 2021 Nov 20];27:3174. Available from: <https://doi.org/10.1590/1518-8345.2909.3174>
9. Workneh BS, Mekonen EG, Ali MA. Determinants of knowledge, attitude, and practice towards first aid among kindergarten and elementary school teachers in Gondar city, Northwest Ethiopia. *BMC Emerg Med* [Internet]. 2021 [cited 2023 May 03];21(1):73. Available from: <https://doi.org/10.1186/s12873-021-00468-6>
10. Alsulami M, Madkhali AA, Alharbi MT, Alzahrani AR, Aljohani IN, Al-Thaqafy MS, et al. Knowledge and attitude of paediatric first aid among elementary schoolteachers in Jeddah, Saudi Arabia. *J Family Med Prim Care* [Internet]. 2022 [cited 2023 May 03];11(11):6795-800. Available from: https://doi.org/10.4103/jfmpc.jfmpc_369_22
11. Kaya AA, Ayker B. Assessment of knowledge, emotion, and attitude levels of kindergarten and elementary school teachers on the disaster management and pediatric first aid. *Disaster Med Public Health Prep* [Internet]. 2022 [cited 2023 May 02];17:e130. Available from: <https://doi.org/10.1017/dmp.2022.39>
12. Lima PA, Oliveira TMN, Moreira ACMG, Martins EAP, Costa AB. Primeiros socorros como objeto de educação em saúde para profissionais de escolas municipais. *Rev Enferm UFSM* [Internet]. 2021 [cited 2021 Nov 20];11:e10. Available from: <https://doi.org/10.5902/2179769243292>
13. Brasil. Ministério da Saúde. Painel coronavirus. DATASUS [Internet]. 2021 [cited 2021 Dec 20]. Available from: <https://covid.saude.gov.br/>
14. Brasil. Ministério da Educação. Guia de recomendação de protocolos de retorno das atividades presenciais nas escolas de educação básica [Internet]. Brasília: Ministério da Educação; 2020 [cited 2021 Dec 20]. Available from: <https://www.gov.br/mec/pt-br/assuntos/GuiaDeretornodasAtividadesPresenciaisnaEducaoBsica.pdf>
15. São Paulo. Secretária da Educação. FAQ Volta as aulas 2021 [Internet]. 2020 [cited 2021 Dec 20]. Available from: <https://www.educacao.sp.gov.br/wp-content/uploads/2020/12/FAQ-Volta-a%CC%80s-aulas-2021.pdf>
16. American Heart Association. Interim Guidance for Basic and Advanced Life Support in adults, children, and neonates with suspected or confirmed COVID-19. *Circulation* [Internet]. 2020 [cited 2021 Dec 20];141(25):933-43. Available from: <https://doi.org/10.1161/CIRCULATIONAHA.120.047463>
17. Vendruscolo C, Trindade LL, Maffissoni AL, Martini JG, Silva Filho CC, Sandri JVA. Implication of the training and continuing education process for the interprofessional performance. *Rev Bras Enferm* [Internet]. 2020 [cited 2021 Dec 20];73(2):e20180359. Available from: <https://doi.org/10.1590/0034-7167-2018-0359>
18. Wang MF, Wu Y, Chien C, Tsai L, Chen C, Seak C, et al. Learning effectiveness assessment between primary school students and adults in basic life support education. *Emerg Med Int* [Internet]. 2021 [cited 2023 May 03];2021:5579402. Available from: <https://doi.org/10.1155/2021/5579402>
19. Goedde E, Combe LG, Bowlen B, Kerry B. Teaching elementary school students to be emergency responders. *Ame J Nurs* [Internet]. 2022 [cited 2023 May 03];122(5):59-62. Available from: <https://doi.org/10.1097/01.NAJ.0000830772.77819.7f>

20. Bolling G, Myblebust AG, Ostringen K. Effects of firstaid training in thekindergartenpilotstudy. *Scand J Trauma Resusc Emerg Med* [Internet]. 2011 [cited 2021 Dec 20];19(1):13. Available from: <https://doi.org/10.1186/1757-7241-19-13>
21. Pereira JP, Mesquita DD, Garbuio DC. Educação em saúde: efetividade de uma capacitação para equipe do ensino infantil sobre a obstrução de vias aéreas por corpo estranho. *Rev Bras Multi* [Internet]. 2020 [cited 2021 Dec 20];23(2):17-25. Available from: <https://doi.org/10.25061/2527-2675/ReBraM/2020.v23i2Supl828>
22. Shimoda-Sakano TM, Sako IK, Ikari NM, Foronda G, Tanaka ACS. Suporte básico de vida em pediatria atualização da diretriz de ressuscitação cardiopulmonar e cuidados cardiovasculares de emergência. *Soc Bras Cardiol* [Internet]. 2019 [cited 2021 Dec 20]. Available from: <http://publicacoes.cardiol.br/portal/abc/portugues/2019/v11303/pdf/11303025>
23. Olasveengen MT, Mancini ME, Perkins GD, Brooks S, Castrén M. International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations. *Circulation* [Internet]. 2020 [cited 2021 Dec 20];142(16):41-91. Available from: <https://doi.org/10.1161/CIR.0000000000001017>
24. Cabral EV, Oliveira MFA. Primeiros socorros na escola: conhecimento dos professores. *Rev Práxis* [Internet]. 2019 [cited 2021 Aug 20];11(22). Available from: <https://doi.org/10.47385/praxis.v11.n22.712>
25. Brito JG, Oliveira IP, Godoy CB, França APSJ. Efeito de capacitação sobre primeiros socorros em acidentes para equipes de escolas de ensino especializado. *Rev Bras Enferm* [Internet]. 2020 [cited 2021 Dec 20];73(2):e20180288. Available from: <https://doi.org/10.1590/0034-7167-2018-0288>
26. Saker TS, Katson M, Herskovitz SE. Knowledge and emotional attitudes of health care practitioners regarding patients with psychogenic nonepileptic seizures. *Arq Neuropsiquiatr* [Internet]. 2022 [cited 2023 May 03];80(11):1097-103. Available from: <https://doi.org/10.1055/s-0042-1758646>

NOTES

ORIGIN OF THE ARTICLE

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