

Perception of first aid among elementary school teachers

Percepção sobre primeiros socorros entre professores do ensino básico

Percepción sobre primeros auxilios entre profesores de enseñanza básica

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ABSTRACT

Objective: to evaluate the perception of elementary school teachers about first aid produced in the school context. **Method:** A descriptive, exploratory, qualitative approach developed in a municipal school system with 15 teachers. Recorded interviews were transcribed and then processed, analyzed by the Descending Hierarchical Classification. The findings were based on Ogden and Richards' Theory of Meaning. **Results:** Five classes were obtained: "Gaps in perception about first aid"; "Perception of urgency and emergency in school"; "Acting in the face of an urgent and emergency situation", "Training of professionals in first aid in school" and "Risk inherent to the school environment". **Conclusion:** The perception about first aid is based on their own daily experiences, the speeches still reflect the professionals' insecurities in acting in the face of a real need.

Descriptors: Education; First aid; School Teachers.

RESUMO

Objetivo: avaliar a percepção de professores do ensino básico sobre primeiros socorros produzidos no contexto escolar. **Método:** Estudo descritivo, exploratório, de abordagem qualitativa desenvolvido em rede municipal de ensino básico, com 15 professores. As entrevistas gravadas foram transcritas e posteriormente, processadas analisadas pela Classificação Hierárquica Descendente. Os achados foram fundamentados na Teoria Representacional do Significado de Ogden e Richards. **Resultados:** Obteve-se cinco classes: "Lacunas na percepção sobre primeiros socorros"; "Percepção sobre urgência e emergência no âmbito escolar"; "Atuação frente a uma situação de urgência e emergência", "Capacitação dos profissionais em primeiros socorros na escola" e "Risco inerentes ao ambiente escolar". **Conclusão:** A percepção sobre primeiros socorros é embasada em suas próprias vivências do cotidiano, as falas contidas nos discursos ainda refletem a inseguranças dos profissionais em atuar diante de uma real necessidade.

Descritores: Educação; Primeiros socorros; Professores Escolares.

RESUMÉN

Objetivo: evaluar la percepción de profesores de enseñanza básica sobre primeros auxilios producidos en el contexto escolar. **Método:** Estudio descriptivo, exploratorio, de abordaje cualitativo desarrollado en red municipal de enseñanza básica, con 15 profesores. Las entrevistas grabadas fueron transcritas y posteriormente, procesadas analizadas por la Clasificación Jerárquica Descendente. Los hallazgos fueron fundamentados en la Teoría Representacional del Significado de Ogden y Richards. **Resultados:** Se obtuvieron cinco clases: "Lacunas en la percepción sobre primeros auxilios"; "Percepción sobre urgencia y emergencia en el ámbito escolar"; "Actuación frente a una situación de urgencia y emergencia", "Capacitación de los profesionales en primeros auxilios en la escuela" y "Riesgo inherentes al ambiente escolar". **Conclusión:** La percepción sobre primeros auxilios se basa en sus propias vivencias de lo cotidiano, las conversaciones contenidas en los discursos todavía reflejan la inseguridad de los profesionales en actuar ante una real necesidad.

Descriptores: Educación; Primeros auxilios; Profesores Escolares.

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INTRODUCTION

Children in infant age spend 30% of their time in school, this environment can sometimes occur several accidents or adverse situation unplanned in that sense is the possibility of increased risk of injury and injuries, falls and medical emergencies due activities in this scenario .¹

According to the Centers for Disease Control and Prevention, sports and recreational-related injuries are reported annually in approximately 26 million children worldwide. In the international scenario, the involuntary damages that occur in the school environment involving children has been pointed out as a public health problem, mainly because it is characterized by a cause of morbidity and mortality.²⁻³

In developed countries like the United States a percentage of 70% of these injuries occurs during the school phase (between 5 to 19 years). In addition, there is an estimated 10 to 25% of child injuries occurring in school settings caused by unintentional injuries. It is conjectured that the vulnerability of children to physical damage in this age group involves developmental and behavioral characteristics, the lack of knowledge of threats and the physical activities developed in this context.³

First-aid work is still an incipient intervention among lay people, since the frequency of this care in the world varies from 10.7% to 65% and incorrect first aid occurs in 83.7% of cases of according to a systematic review that includes 10 studies from around the world.⁴

In spite of characterizing an unstable environment and susceptible to situations of risk and damage to children, in school there is still a gap with regard to professionals trained to act in such situations and teachers still lack simple knowledge and skills of first aid.⁵

When it comes to situations that require first aid action to be an emergency or emergency, time is a vital component in saving lives and avoiding major injuries. The teacher is one of the most suitable professionals to give the first aid to the students and the trainings or capacitations favor the empowerment of the same ones in this situation.⁶

From this perspective, this study aimed to evaluate the perception of elementary school teachers about first aid produced in the school context.

METHODS

It was an exploratory research, with a qualitative approach, based on the assumptions of the Representational Theory of Ogden and Richards. The present theory has been applied as a methodological resource in the representation of the subject under study.⁷

According to this theory, the constructed meanings characterize the object of study. The understanding of a given object is subsidized by the elements: concept or meaning, expression or signifier and object or referent, these components contemplate how people construct their meanings from the experience of the reality itself.⁸

The study was carried out with the teachers of a municipal education network of the city of Oeiras-PI. The municipality has 14 schools and the state has 09, with a total of 23. The sample consisted of 15 teachers from a municipal educational institution. The definition of the number of participants was achieved from the saturation of speech criteria applied to the qualitative approach research. The study sample was reached through the determination of the meanings expressed by the participants, being interrupted when there was homogeneous information. Teacher recruitment was randomly matched to the inclusion criteria scored in the study.

As inclusion criteria, effective professionals of both sexes and over 18 years of age were teachers of the municipal school system with at least one year in the profession. Professionals who are licensed, removed from their work activities or enjoying holidays will be adopted as exclusion criterion. The data collection was carried out in the months of December 2018 and January 2019, with the application of a semi-structured questionnaire.

The semi-structured script used was previously tested in a pilot study with subjective questions, which explored the knowledge and practices of professionals in their daily life on first aid, the main conducts within the school environment and the main problems experienced by teachers in emergency situations and emergence within the school and closed questions that outlined the participants' profile for the development of the data collection technique, respecting the privacy and identity of the participants. The time to answer of the

questionnaire was free, but did not exceed the average of 30 (thirty) minutes.

The participant's willingness to participate or not to participate in the research was respected. The professionals who agreed to participate signed a Free and Informed Consent Form.

IRaMuTeQ software was used for data processing and analysis. The treatment of the data was by the method of the Descending Hierarchical Classification, which determines a classification of the texts in function of their vocabularies and the set of them is divided by the frequency of the reduced forms. By means of the crossings of text segments and words within the matrices (repeated X^2 tests), the descending hierarchical classification method was used and a definite and stable classification was obtained. This classification makes it possible to identify classes of text segments with vocabulary similar to each other, but at the same time different from the text segments of other classes.⁹

At the time of each collection, the research objectives, risks and benefits were presented so that the participants could express their desire to participate autonomously. There was no refusal and all participants signed the Free and Informed Consent Form. In order to preserve the identity of the nursing students, the alphanumeric system was chosen by means of the letter P (subject), adding the number corresponding to the sequence of delivery of the questionnaire.

The research project was approved by the Getúlio Vargas Hospital Ethics Committee of Teresina-PI and the research was carried out in

accordance with Resolution 466/12 of the National Health Council.

Of the 15 participants, 9 were women, ranging in age from 24 to 52 years, mean service time of 2 years and training time 10 years.

IRaMuTeQ recognized the separation of the corpus into 54 elementary text units, from 80 text segments. A total of 2736 occurrences were recorded, with 67.5% of the total corpus being used, a value considered high. By means of the Descending Hierarchical Classification, it was possible to identify and analyze the textual domains, besides the interpretation of the meanings, giving them names with their respective meanings in classes, as shown in Figure 1.

The way in which classes behave shows that the material has been consecutively

RESULTS

partitioned into three axes: the first one related to the main risks, whether of urgency or emergency, inherent in the school work environment (class 5), the second linked to importance of qualification of professionals as subsidy for these possible risks (class 4) and the third one that encompasses the other classes (classes 1, 2 and 3) related to the perception and performance of professionals facing a situation of urgency and emergency.

Each one of the classes was named according to the content that presents, represented by the words, interpretation of its thematic convergence, and identification of the central idea associated with it as it appears in the dendrogram (Figure 1).

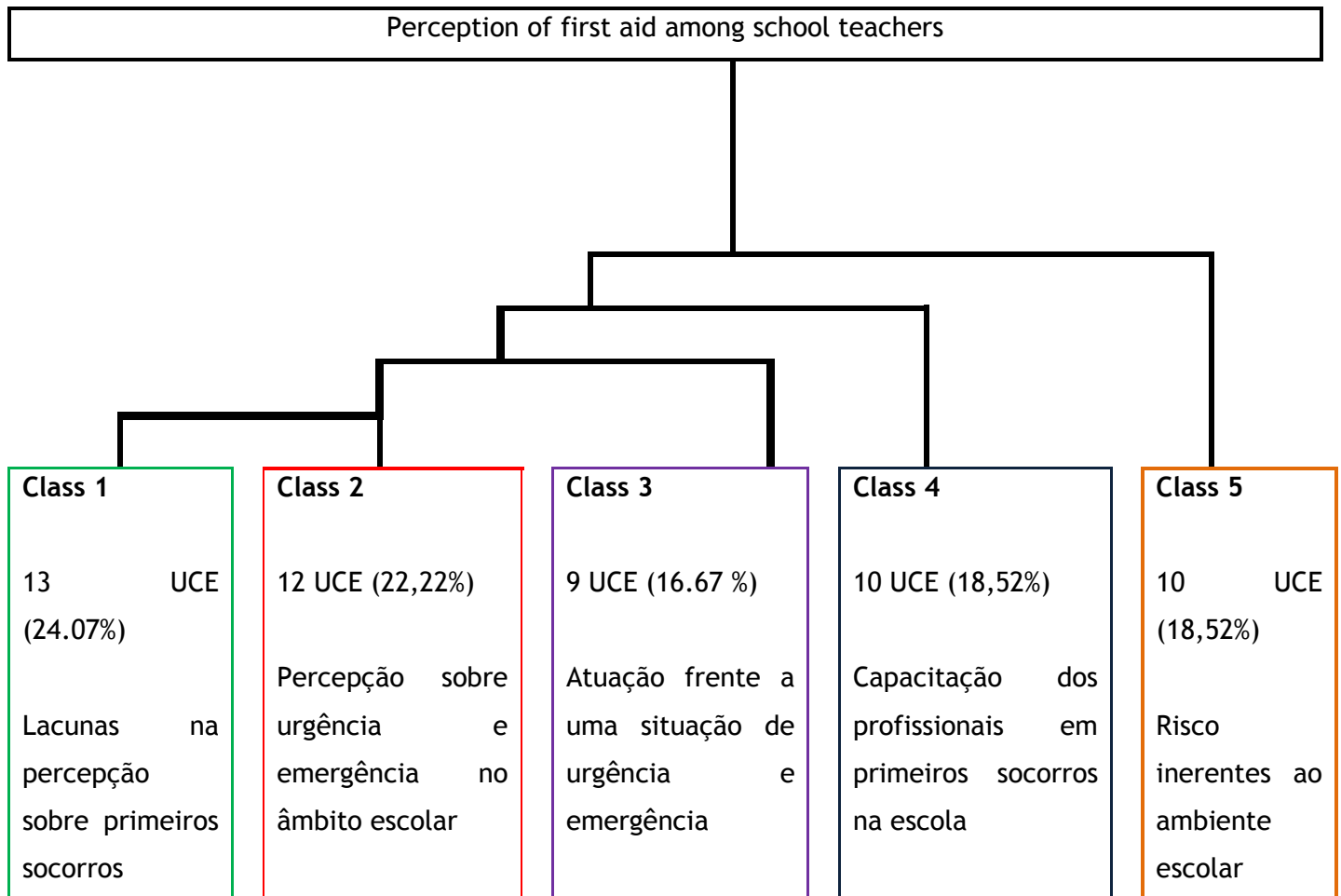


Figure 1 - Thematic structure of the teachers' perception about first aid care in the school environment. Teresina, 2019.

Class 1: Gaps in perception about first aid

This class pointed out the main gaps in first aid care in the school environment, professionals are limited in perception about the subject, even in the simplest situations of everyday life.

The experience of teachers in their work environment reveals the professionals' concern about acting in a situation of urgency and emergency and points out the importance of knowing how to lead in these situations. Within the curriculum of undergraduate courses there are no disciplines that prepare graduates to

provide assistance in first aid, but the work environment sometimes demands the performance of these behaviors. The insecurity of teachers on the subject is notorious, since when asked what their doubts about first aid care can be observed in the speeches:

"The right way to deal with risky situations at school." (P6)

"What is needed to stand in front of a situation." (P8)

"Notions of how to act in situations like these." (P10)

"At least the basics could be useful in any emergency situation." (P4)

"All knowledge is beneficial. With each course we participate we can add or recall some procedure." (P7)

Class 2: Perception about urgency and emergency in school

This class behaved as a complement to the previous one, extending and deepening the discussion about the professional's perception about first aid. In this case, the representation of first-aid care was anchored in definitions linked to the professional's daily routine.

The concept of first aid was not well built by professionals, referring only to medical and specialized work. There is the construction of an understanding about what first aid is characterized, but the speeches pointed out a superficial understanding, denoting a distance between knowledge and action. Attention was drawn to the report pointed out by the subjects about the distance from the understanding and the response to a first-aid action:

"Meet efficiently and quickly." (P2)
"Prior assistance before the arrival of the ambulance." (P5)
"Pre-service, until people arrive with adequate preparation for the rescue." (P12)
"First care before medical care." (P1)
"They are a support (help) that can save lives as long as done right." (P3)

Class 3: Acting in face of a urgent and emergency situation

In spite of complementing the previous one, the words belonging to this class stood out for explaining the performance of these professionals before a situation that needs assistance in first aid, the speeches emphasized that the professional felt insecure.

The presence of gaps on the first aid

topic and its superficial perception about the content may limit the decision making on how to act in these situations. When addressed on what can be done in a situation where someone needs to be rescued at school, the subjects emerged all their insecurity from a possible intervention:

"I would be very distressed." (P3)
"Unprepared." (P2)
"Nervous." (P15)
"To help. I do not know much, but I seek help." (P4)
"Stay calm and act only if you are sure of what you are doing, otherwise call qualified people." (P5)
"To help. I do not know much." (P7)

Class 4: Training of professionals for first aid in school

The contents seized in this class point out a concern of the professionals as the action in front of a situation of urgency and emergency with the students. The apprehended representations of the subjects denote the professional's concern to promote training courses.

The most important speeches point out the positive importance of providing training on teachers' actions in relation to these situations at school, the absence of basic mastery impedes any decision making in the face of an emergency issue in their school.

"During the period in which I teach in this school there was no training." (P2)
"It is important to provide training to professionals." (P1)
"Lack of knowledge about first aid leaves teachers unsafe." (P6)

Class 5: Risks inherent in the school environment

This class, as well as the contents that it entails, involves all the others and points out that the school environment is susceptible of accidents and situations of risks to the students. The experience of the teachers points out the presence of this risk in this macro-scenario and reflect the difficulty of teachers in dealing with these adverse situations in the work environment.

The testimonies report the most common situations in the daily work in the school environment and the aspects that are interrelated with the presence of an environment favorable to accidents within the schools. According to the statements, they showed such situations as:

"Agitations, jokes." (P8)

"Unruly activities." (P9)

"The person feels pressure, agitation or euphoria." (P10)

"The rush in the corridors." (P11)

"The student agitation, jerks." (P12)

"The students' agitation, because they have no idea of the danger. They run, they jump and do not have the patience to do things calmly." (P13)

DISCUSSION

The school is recognized as an environment that is susceptible to the occurrence of accidents due to several aspects, there is a concern on the part of the teachers regarding the presence of these accidents among the students in the school environment and the importance of the qualification in first aid as a form of subsidizing action of professionals in schools.

There is recognition about what is first aid, however this understanding was built by the

daily life of each professional and the action in the face of an emergency situation is expressed in an incipient way, anchored in feelings of fear and insecurity.

The incipient knowledge of professionals within the school environment about first aid can provide several problems, from the incorrect manipulation of the victim, as well as the activation of the specialized service in an unnecessary way.¹⁰

The lack of information and the lack of knowledge about the behaviors adopted in a situation of urgency and emergency weakens the decision-making process in the face of a serious accident, providing a poor quality care to the victim or often wrong care.¹¹

There is a gap in the conception of teachers regarding their performance in a situation of urgency and emergency, since their graduations do not prepare these professionals to deal with these adversities in the work environment, however there is a concern on the part of these professionals regarding the theme. It is urgent to act quickly against an imminent risk of death in the face of emergency and emergency situations, since rapid action can avoid possible sequelae, making the environment safer, since rapid care is crucial and determines preservation of life.

In developing countries such as Brazil, the insipient knowledge of teachers facing emergency action worries and draws attention. Similarly, other countries such as China and Nigeria reflect this same reality, demonstrating the magnitude of this problem experienced in other realities.¹²⁻¹⁴

Although the professional recognizes an urgency and emergency in the school environment, action is limited, filling the gaps within the school environment, feelings of insecurity, fear, anguish and unpreparedness are very evident. The most emphasized attitudes involve the activation of a health professional and an emergency mobile service. In developing countries like Africa and India the results corroborate with our findings.¹⁵⁻¹⁶

The school environment is recognized by an accident-prone place, both for its architecture, for the cluster of people, and for being an environment of activities, authors acknowledge that this place sometimes contemplates a large number of children in the process of development and interaction, working different sports interactions favoring the accidents. In addition, the length of stay of students can reach a third of their time.¹⁷⁻¹⁸

In this perspective it is possible to emphasize that the teacher has great chances of witnessing and acting in a context of urgency and emergency, several risks are indicated as conducive to accidents such as falls and trauma, fainting, convulsion, bleeding, cuts, cardiorespiratory arrest, extremity fractures, seizures, airway obstruction, burns, nasal bleeding and wounds.¹¹

Training is still characterized as an urgent intervention in schools is immeasurable the burden facing a misconduct and lack of training contributes to this situation. In developed countries like Australia already requires the obligatoriness of personnel trained within the schools and equipment available for every need. In the United States, the reality goes further,

since approximately 36 states already require training before a cardiorespiratory arrest within schools.¹⁹

The Brazilian reality does not meet the current requirements of the interfaces related to health promotion with a focus on the school environment. There is a law that protects the compulsory training of the professional teacher in basic first aid, Law No. 13,722 of October 04, 2018, said law establishes this obligation between public and private institutions.²⁰

The effectiveness of training for the contribution of knowledge and skills among the public involves a few pillars as a time to perform this intervention of at least 3 hours, involve a didactics compatible with the culture of the region, include practical components that involve first aid and educational resources must fit each specific context of the target audience.¹⁹

In addition to the implementation of training, it is imperative to emphasize the importance of arranging equipment to carry out first aid actions and favorable environments to stimulate the practice among all involved. A study conducted in the United States at 100 schools identified that some points need to improve as the availability of External Automatic Defibrillator (AED) and other important inputs to the practice of first aid.⁶

The study design and the reduced sample constitute an important limitation, since they do not allow to establish statistical evidences and relations of causes and effects.

Identifying the perception of primary school teachers about first aid has helped to understand the reality and the problem

experienced by teachers in their work environment. This discussion contributes to fostering critical reflection on the training and knowledge of teachers and on the skills needed for their professional performance as co-responsible in the management process in emergency situations.

CONCLUSION

The teachers' perceptions about first aid were built based on the daily practice lived in the daily life, there is no scientific basis. Although the professionals recognize what first aid means and the importance of their performance in the school context, there is a gap regarding their performance in the face of a real need.

According to the discourse, there is a fragility regarding the knowledge of the emergency and emergency situation and the ability and attitude to perform first aid. This weakens decision-making in a life-threatening situation. Feelings of impotence and fear are evoked from a situation that requires rapid intervention in first aid.

Training is an action emphasized as urgent in the school environment, as it promotes the ability to provide care in a possible need. Providing care when subsidized through prior preparation empowers professionals and minimizes possible harm to those involved.

REFERENCES

1. Joseph N, Narayanan T, Zakaria Sb, Nair AV, Belayutham L, Subramanian AM. Awareness, attitudes and practices of first aid among school teachers in Mangalore, south India. *J prim health*

care [Internet]. 2015; 7(4): 274-281. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/26668832>.

2. National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS). Sports injuries. Childhood sports injuries: a common and serious problem. National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS): Bethesda, USA; June 2013 [Cited 2019 Mar 8]. Available from: http://www.niams.nih.gov/Health_Info/Sports_Injuries/child_sports_injuries.asp.

3. AlYahya IA, Almohsen HA, AlSaleem IA, Al-Hamid MM, Arafah AM, Al Turki YA, et al. Assessment of knowledge, attitude, and practice about first aid among male school teachers and administrators in Riyadh, Saudi Arabia. *J Family Medicine Prim Care* [Internet]. 2019 [cited 2019 Jan 24]; 8(2): 684-688. Available from: <http://www.jfmpc.com/article.asp?issn=2249-4863;year=2019;volume=8;issue=2;spage=684;epage=688;aulast=AlYahya>.

4. Tannvik TD, Bakke HK, Wisborg T. A systematic literature review on first aid provided by laypeople to trauma victims. *Acta Anaesthesiol Scand* [Internet]. 2012 [cited 2019 Jan 24]; 56: 1222-1227. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/22897491>.

5. Lee J, Oh W. Effects of a First Aid Coaching Program on First Aid Knowledge, Confidence, and Performance of Child Care Teachers. *Enfermagem Infantil Res* [Internet]. 2018 [cited 2019 Jan 24]; 24 (3): 310-318. Available from: <https://www.e-sciencecentral.org/articles/SC000031656>.

6. Buck E, Remoortel HV, Dieltjens T, Verstraeten H, Clarysse M, Moens O. Evidence-based educational pathway for the integration of first aid training in school curricula. *Resuscitation* [Internet]. 2015 [cited 2019 Jan 24]; 94: 8-22. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/26093230>.
7. Almeida CAPL, Oliveira LMM, Franca MJO, Martins AP, Oliveira ADS, Rocha FCV, et al. Risk factors and meaning of violence against the elderly from the perspective of nursing students. *Sylwan* [Internet]. 2017 [cited 2019 Jan 24]; 161(7): 150-62. Available from: <http://www.sylwan.ibles.org/syl/index.php/archive/part/161/7/1/?currentVol=161¤tissue=7>.
8. Remsen D. The use and limits of scientific names in biological informatics. *ZooKeys* [Internet]. 2016 [cited 2019 Jan 24]; 113(550): 207-23. Available from: <https://zookeys.pensoft.net/article/6234/>.
9. Matos MCB, Oliveira LB, Queiroz AAFLN, Sousa ÁFL, Valle ARMC, Andrade D, Moura MEB. Conhecimento de profissionais da Enfermagem sobre o gerenciamento de resíduos produzidos na atenção primária. *Rev Bras Enferm* [Internet]. 2018 [cited 2019 Jan 24]; 71 (suppl 6): 2891-8. Available from: http://www.scielo.br/scielo.php?script=sci_abstract&pid=S0034-71672018001202728&lng=pt&nrm=iso.
10. Costa OC, Nunes LAM. Nível de conhecimento em primeiros socorros dos professores de educação física das escolas de São Luís/MA. *Revista Ceuma Perspectivas* [Internet]. 2015 [cited 2019 Jan 24]. Available from: http://www.ceuma.br/portal_derevistas/index.php/RCCP/article/view/51/0.
11. Carvalho LS, Alarcão ALC; Barroso PD; Meireles GOAB. A Abordagem de Primeiros Socorros Realizada Pelos Professores em uma Unidade de Ensino Estadual em Anápolis - GO. *Ensaio Cienc Cienc Biol Agrar Saúde* [Internet]. 2014 [cited 2019 Jan 24]; 18(1): 25-30. Available from: <https://www.redalyc.org/html/260/26037787004/>.
12. Galindo Neto NM, Carvalho GCN, Castro RCMB, Caetano JÁ, Santos ECB, Silva TM., et al. Vivências de professores acerca dos primeiros socorros na escola. *Rev Bras Enferm* [Internet]. 2018 [cited 2019 Jan 24]; 71 (Suppl 4): 1678-1684. Available from: <http://dx.doi.org/10.1590/0034-7167-2017-0715>.
13. Onyeaso AO, Onyeaso OO. Comparison of Practising and Student Teachers' Knowledge of Cardiopulmonary Resuscitation in Nigeria. *Public Health Res* [Internet]. 2017 [cited 2019 Jan 24]; 7(6): 143-7. Available from: <http://article.sapub.org/10.5923.j.phr.20170706.03.html>.
14. Hung MSW, Chow MCM, Chu TTW, Wong PP, Nam WY, Chan VLK, et al. College students' knowledge and attitudes toward bystander cardiopulmonary resuscitation: a cross-sectional survey. *Cogent Med* [Internet]. 2017 [cited 2019 Jan 24]; 4(1): 1334408. Available from: <https://www.tandfonline.com/doi/full/10.1080/2331205X.2017.1334408>.
15. Oliveira Jr MA, Silva Jr CJ, Toledo EM. O Conhecimento em Pronto-Socorrismo de Professores da Rede Municipal de Ensino do Ciclo

I de Cruzeiro-SP. ECCOM [Internet]. 2013 [cited 2019 Jan 20]; 4(7): 39-48. Available from: <http://publicacoes.fatea.br/index.php/eccom/article/view/591>.

16. Ngayimbasha A, Hatungimana O. Evaluation of first aid knowledge among elementary school teacher in Burundi. *Int J Sport Scienc Fit* [Internet]. 2015 [cited 2019 Jan 14]; 5(2): 304. Available from: <http://www.ijssf.org/PDF/v05issue02abs13.pdf>.

17. Coelho JPSL. Ensino de primeiros socorros nas escolas e sua eficácia. *Revista Científica do ITPAC* [Internet]. 2015 [cited 2019 Jan 24]; 8(1). Available from: https://assets.itpac.br/arquivos/Revista/76/Artigo_7.pdf.

18. Silva LGS, Costa JB, Furtado LGS, Tavares JB, Costa JLD. Primeiros socorros e prevenção de acidentes no ambiente escolar: intervenção em unidade de ensino. *Enferm Foco* [Internet]. 2017

[cited 2019 Jan 24]; 8 (3): 25-29. Available from: <http://revista.portalcofen.gov.br/index.php/enfermagem/article/view/893/394>.

19. Reveruzzi B, Buckley L, Sheehan V. School-Based First Aid Training Programs: A Systematic Review. *Journal of School Health* [Internet]. 2016 [cited 2019 Jan 24]; 86 (4). Available from: <https://www.ncbi.nlm.nih.gov/pubmed/26930238>.

20. Moura RL, Rodrigues ALN, Silva FN, Carvalho GCN. Primeiros socorros: objeto de educação em saúde para professores. I congresso nortenordeste de tecnologias em saúde [Internet]. 2018 [cited 2019 Jan 24]; 1(1). Available from: <https://www.ojs.ufpi.br/index.php/connts/article/view/8061>.

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