

# Lay knowledge about first aid in the extra-hospital environment

**RESUMO** | Objetivo: Avaliar o conhecimento da população leiga sobre primeiros socorros no ambiente extra-hospitalar. Método: estudo descritivo, exploratório e quantitativo, aprovado pelo Comitê de Ética sob protocolo CAAE nº47763121.4.0000.5587, realizado com uma população leiga na região Norte de Mato Grosso, avaliando 150 pessoas, utilizando um questionário validado. Resultados: dos participantes; cerca de 78% souberam identificar os sinais vitais, 58% hemorragia interna e 55% hemorragia externa e 55,3% chamam o socorro após essa verificação. Em relação a queimaduras 65,3% acertaram quanto aos cuidados. Em situações de envenenamento 47% sabem que o paciente deve ser levado para emergência, e 11% sabem avaliar os riscos. Quanto ao conhecimento de realizar uma massagem cardíaca, 54% desconhecem o local correto e compressões. Em relação a prestar os primeiros socorros 84,6% não estão preparados, e 72,6% descrevem inaptos, déficit de capacitação. Conclusão: A população leiga possui conhecimento ainda precário, sugerindo cursos de primeiros socorros.

**Descritores:** Primeiros Socorros; Conhecimento, Atitudes e Práticas em Saúde; Saúde da População.

**ABSTRACT** | Objective: To assess the lay population's knowledge about first aid in the out-of-hospital environment. Critical, exploratory study and published protocol CAAE nº47763121.587, carried out with a law in the northern region of Mato Grosso, evaluating 150 people, using the valid one method. Results: from the participants; about 78% of internal protection after the help, 58% of hemorrhage and 55.3% call this verification help. In relation to respect, 65.3% were right about care. In poisoning situations, 47% know that the patient should be taken to an emergency room, and 11% know how to assess the risks. As for the knowledge of performing a cardiac massage, 54% are unaware of the correct location and compressions. Regarding the beginning of first aid, 4.6% are not prepared, and 72.6% describe unfit, capacity deficit. Conclusion: The lay population still has precarious knowledge, suggesting first aid courses.

**Keywords:** First Aid; Knowledge, Attitudes and Practices in Health; Population Health.

**RESUMEN** | Objetivo: Evaluar el conocimiento de la población general sobre primeros auxilios en el medio extrahospitalario. Estudio crítico, exploratorio y protocolo publicado CAAE nº47763121.587, realizado con una ley en la región norte de Mato Grosso, evaluando 150 personas, utilizando el método válido. Resultados: de los participantes; alrededor del 78% de protección interna después de la ayuda, el 58% de hemorragia y el 55,3% llaman a esta verificación ayuda. En relación al respeto, el 65,3% acertó sobre el cuidado. En situaciones de intoxicación, el 47% sabe que el paciente debe ser llevado a urgencias y el 11% sabe evaluar los riesgos. En cuanto al conocimiento de realizar un masaje cardíaco, el 54% desconoce la ubicación correcta y las compresiones. En cuanto al inicio de los primeros auxilios, el 4,6% no está preparado y el 72,6% describe no apto, déficit de capacidad. Conclusión: La población laica aún tiene conocimientos precarios, sugiriendo cursos de primeros auxilios.

**Palabras claves:** Primeros Auxilios; Conocimientos, Actitudes y Prácticas en Salud; Salud de la Población.

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## INTRODUCTION

In Brazil, each year, about 1.35 million people die from traffic accidents and about 20 to 50 million people who suffer accidents have non-fatal injuries. In addition, about 200,000 people a year are affected by cardiorespiratory arrest (CPA), and half of them correspond to events that occur on the street.<sup>(1,2)</sup>

The offer of immediate help is the first initiative for the conduct to be carried out in the event of an accident or in the face of urgency and emergency, being the only intervention that offers more survival to patients, in addition to preventing higher rates of mortality and sequelae. Assistance actions must

be fast, offered immediately by the individuals who are available on site, promoting situational control until the moment the specialized team arrives. <sup>(3)</sup>

There are many injuries that occur in the out-of-hospital environment, and the main ailments that require first aid are car accidents, rollovers, drownings, fires and accidents at work or at home, such as burns, electric shocks, falls, poisoning and injuries from sharp objects. In addition, first aid can also be applied to patients with acute chronic illnesses, clinical illnesses that require immediate intervention to avoid complications. <sup>(4)</sup>

O atendimento inicial é eficaz para vítimas de acidente ou doença inesperada, pois a parada respiratória é uma das principais causas de morte no Brasil e no mundo, quando não é prestado atendimento de qualidade. Assim, a importância dos primeiros socorros em parada e reanimação cardiopulmonar fornecidos por leigos está bem documentada, com aumento da sobrevivência da vítima até a chegada do atendimento avançado. <sup>(5)</sup>

Lay people with adequate training are able to improve survival and enable access to health services even with clear chances of survival and fewer sequelae. The World Health Organization clarifies that lay people must be trained and must receive training in order to improve the outcome of pre-hospital care, it is estimated that more than 15 million non-health people receive first aid training every year around the world. <sup>(6)</sup>

Updates to the CPR guidelines reinforce that the maneuver can be performed by lay people, however, the first action that should be taken is to immediately call the medical service to report what happened and ask for help. More than communicating, the guidelines given during the telephone service can be crucial to maximize the result of cardiopulmonary resuscitation. The protocol also reinforces that, in the first minutes of cardiac arrest, ventilations

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In this research, a part of the population would call the police instead of the specialized service. It is estimated that 6% of victims of cardiac arrest in the out-of-hospital environment survive and for this the time between arrest and resuscitation is crucial, generating a survival rate three times higher when CPR is initiated by a bystander.

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are not as important as compressions. Thus, performing the massage continuously, and with quality, is sufficient and essential for the survival of the victim. <sup>(7)</sup>

It is estimated that the main reasons for laypeople to act in the out-of-hospital environment are: the lack of continuous training in first aid, because the lack of knowledge can lead to adverse psychological effects, such as stress, depression, trauma and misperceptions of the victim, including airway management for better technical applicability. <sup>(8)</sup>

Thus, considering the above, it is important for lay people to present knowledge in the face of different emergency situations, since the need for specialized care is often not immediate. In view of the above, the question is: What is the layperson's level of knowledge about the initial care provided after traffic accidents? In this sense, this study aims to evaluate laypersons' knowledge about first aid in the extra-hospital environment, in order to prevent sequelae or deterioration of the victim's health status and promote recovery, until health professionals take over the care.

## METHOD

This is a descriptive, exploratory research with a quantitative approach, based on the degree of knowledge of a population residing in a municipality located in Vale do Peixoto in the North Region of Mato Grosso. The study was developed between August and September 2021, occurring randomly.

The sample consisted of 150 lay people. As inclusion criteria, participants aged over 18 years and who had experienced an emergency situation in the extra-hospital environment were selected, health professionals were excluded.

Data were collected with sociodemographic information from the research population, obtaining information

on age, gender, marital status, level of education, in addition to a questionnaire that observes the individual's preparation to provide first aid. The instrument has 29 questions related to people's knowledge regarding basic and advanced life support, approach, and victim preparation, in addition to identifying a fracture, hemorrhage, and cardiorespiratory arrest (CPA), this questionnaire is an adaptation.<sup>(9)</sup>

The interview with the target audience was carried out individually and privately, in a noise-free room, within the health environments, Family Health Center and hospital during the morning and afternoon periods, and the interviewers were trained, prepared and guided to carry out the interview with the best possible veracity.

Data analysis and tabulation took place using the Statistical Package for Social Sciences (SPSS) software, version 19.0 for Windows, the values were statistically organized by absolute, relative and mean frequencies, presented in tables and graphs.

The study carried out complied with the guidelines of the Ethics Committee in Research with Human Beings according to Resolution No. 466 of December 12, 2012 of the National Health Council and was approved under the Certificate of Presentation and Ethical Assessment (CAAE): 47763121.4.0000.5587.

**RESULTS**

The sample included n=150 (100%) lay individuals who witnessed some first-aid situation in the out-of-hospital environment. Most are female n=91 (60.6%), with a prevalent age of 18 to 30 years 111 (74%) and as for education, most declared complete elementary school n=71 (47%), followed by high school n=60 (40%), higher education n=10 (6.5%) and postgraduate n=10 (6.5%). Table 1 presents data on initial care in identifying vital signs and contacts for the specialized emergency

**Table 1 – Vital signs identification questionnaire and contact number. Northern region of Mato Grosso, Mato Grosso, Brazil, 2022.**

Questions	N%	Answers			
		Elem. School	High School	Superior	Post
What are the signs to identify life:					
Pulse	117 (78%)	65	45	05	02
Breathing	10 (6,6%)	03	03	02	02
Cough	8 (5,3%)	02	04	03	00
Movement	5 (3,3%)	01	03	01	00
I don't know	10 (6,3%)	00	05	04	01
What is the first measure to be taken on an unconscious victim:					
Check for signs of life	119 (79%)	56	50	06	07
Call for specialized help	10 (7,0%)	06	03	01	00
Check for signs of life and then immediately call for help	07 (5,0%)	02	05	00	00
Get out of close	03 (2,0%)	01	01	01	00
Take to the Hospital	11 (7,0%)	06	00	02	03
I don't know	0 (0,0%)	00	00	00	00
What is the first contact you remember to call:					
Samu	69 (46%)	40	25	02	02
Fireman	23 (15,3%)	07	13	01	02
Police	30 (20%)	11	08	07	04
I don't know any	28 (18,6%)	12	14	00	02

Source: authors data, 2021.

**Table 2 – Knowledge of internal and external bleeding. Northern Region of Mato Grosso, Mato Grosso, Brazil, 2022.**

Questions	N%	Answers			
		Elem. School	High School	Superior	Post
What is Internal Bleeding?					
Visible blood loss at the wound site	43 (28%)	32	07	03	01
A fracture in the bone	8 (5,3%)	04	00	00	04
Non-visible loss of blood in Organs internal organs	87 (58%)	25	51	07	05
I don't know	12 (8,0%)	10	02	00	00
What presents a person with Internal Bleeding:					
Hunger, Agitation and Aggression	26 (17,3%)	12	12	02	00
Pain, thirst, restlessness and visible blood loss	26 (17,3%)	15	07	03	01
Sweat, cold and pale skin	48 (32%)	12	30	02	04
Sweat, heat and red skin	24 (16%)	17	04	01	02
I don't know	26 (17,3%)	15	07	02	02
In case of Internal Bleeding in an awake Victim, I must:					
Lay them on their back, with their heads slightly lower than their bodies, and elevate their legs.	65 (43,3%)	25	35	00	05

service.

It is noteworthy that the majority (78%) identify the signs of life, regarding the first measure in the face of an emergency, it is to check for signs of life and then immediately call for help (55.3%) and a part would first call the SAMU (46%).

Table 2 described below presents questions about victims with hemorrhage. It is noticed that the majority 58% correctly describe the definition of internal bleeding, presenting quite dispersed answers in the questions of the signs of a person with internal bleeding and what should be done. In the question of external hemorrhage, he obtained 55% of correct answers.

Table 3 described below presents questions about victims of burns and poisoning. The question about the areas of the body presented unsatisfactory results, but with the majority to the measure to be adopted (65.3%). In the question about poisoning with toxic gases, it obtained low results, as well as in the question about what to do when the victim swallows poison.

Table 4 described below presents questions about resuscitation. Good results can be seen on the indication of cardiac massage (54%), with unsatisfactory results in questions about the description of cardiac massage, purpose of massage, position of the victim's body, massage location and amount of compressions per minute.

Table 5, described below, presents questions about the preparation of laypersons for first aid care. Most do not feel prepared (84.6%), mainly due to lack of training and knowledge, however all of them have already witnessed situations that require first aid, mainly due to a car accident, most chose to call the specialized help (44%). Most participants had never taken a first aid course (72.6%) but showed interest in doing so (80%).

## DISCUSSION

Bundle the victim, give water and food	37 (24,6%)	23	06	07	01
Give heart massage and mouth-to-mouth resuscitation	18 (12%)	08	04	03	03
I don't know	30(16%)	15	15	00	00
What to do in cases of external bleeding:					
Make it stop anyway	24 (16%)	15	05	01	03
Seal it with a clean cloth, compressing the injured area and protecting my hands.	83 (55,3%)	33	38	09	02
Make a tourniquet on the limb	15 (10%)	07	06	00	03
Apply ointments or creams that you have available	11 (7,3%)	08	03	00	00
I don't know	17 (11,3%)	08	08	00	01

Source: authors data, 2021.

**Table 3 – Knowledge of burn and poisoning situations. Northern Region of Mato Grosso, Mato Grosso, Brazil, 2022.**

Questions	Answers				
	N%	Elem. School	High School	Superior	Post
What are the areas of the body that are most severe in the event of a burn?					
Legs, elbows and arms	23 (15,3%)	11	05	04	03
Respiratory tract, genitals and face	71 (50%)	26	40	01	04
Airway, legs and arms	23 (15,3%)	15	07	01	00
I don't know	33 (22%)	19	08	04	02
What action should be taken in case of burn?					
Pop the blisters	16 (10,6%)	06	10	00	00
Apply ointment, petroleum jelly or toothpaste to the burn	17 (11,3%)	02	13	02	00
Apply or place cold compresses or running water on the burned area and cover it with a clean cloth	98 (65,3%)	57	25	08	08
I don't know	19 (12,6%)	06	12	00	01
What is the first action to be taken in case of poisoning by smoke or toxic gas?					
Cause the victim to vomit	31 (47%)	16	15	00	00
Immediately remove it from the location	68 (35%)	34	24	08	02
Make sure the environment is safe for you and others	38 (11%)	11	18	02	07
I don't know	13 (7%)	10	03	00	00
When a person swallows poison, one should:					
Take them to the hospital quickly, preferably with the packaging of the ingested product	70 (47%)	40	23	00	07
Induce vomiting	60 (40%)	16	37	05	02
Give them milk	09 (6%)	09	00	00	00
Give them any food	08 (5%)	02	00	05	01
I don't know	03 (2%)	03	00	00	00

FontSource: authors data, 2021.



First aid performed on the streets is increasingly frequent, so it is important that lay people feel prepared to provide first aid before the arrival of specialized help. In this research it became clear that most lay people know how to identify that the first sign of life is the pulse and that the first measure to be taken is to check the victim's vital signs.

A similar research was carried out in Pernambuco, municipality of Brejinho, with 52 educators who serve 964 students aged between 04 (four) and 45 (forty-five) years, identified that only 6 (12%) had some notion of first aid and felt safe to perform the initial care.<sup>(10)</sup>

A retrospective study carried out in Ikeja, Nigeria, found that of the 23,537 (100%) visits, (35%) were traffic accidents, and only 2.3% had pre-hospital care.<sup>(11)</sup>

Regarding which emergency service to call, most of them correctly answered the SAMU number, fact that corroborates with a research carried out in a public school of Youth and Adult Education located at 602 South of the Federal District with 183 participants, where 107 participants (58.79%) knew the correct SAMU and Fire Department number to ask for help, and the other 75 (41.21%) participants were unable to identify the numbers.<sup>(12)</sup>

In this research, a part of the population would call the police instead of the specialized service. It is estimated that 6% of victims of cardiac arrest in the out-of-hospital environment survive and for this the time between arrest and resuscitation is crucial, generating a survival rate three times higher when CPR is initiated by a bystander.<sup>(13)</sup>

Regarding internal/external hemorrhage, most correctly describe their definitions. A similar study, carried out in schools in Belo Horizonte with 63 teachers, reports that few teachers receive training in first aid, thus determining that knowledge about hemorrhages is acquired in everyday situations.<sup>(14)</sup>

**Table 4 – Identification of knowledge about resuscitation. Northern Region of Mato Grosso, Mato Grosso, Brazil, 2022.**

Questions	N%	Answers			
		Elem. School	High School	Superior	Post
When is cardiac massage indicated?					
For any accident victim	19 (12%)	04	04	00	00
For anyone with a heart condition	13 (9%)	12	12	00	03
For any unconscious person	17 (11%)	10	10	02	01
For anyone unconscious, breathless and pulseless	81 (54%)	35	35	08	02
I don't know	20 (13%)	10	10	00	04
What is cardiac massage?					
Chest compression	35 (23,3%)	12	13	05	05
Heart compression	45 (30%)	15	30	00	00
Stimulates breathing	51 (34%)	32	15	05	00
I don't know	19 (12,6%)	12	02	00	05
What is the purpose of cardiac massage?					
Stimulates breathing	91 (60,6%)	42	45	00	04
Avoid cardiac arrest	24 (16%)	20	01	03	00
Stimulate pulse and breathing	16 (10,66%)	07	06	01	02
Maintain blood circulation while heartbeats don't come back	18 (12%)	02	07	06	03
I don't know	01 (0,6%)	00	01	00	00
What position should the victim be in for cardiac massage to be performed?					
Lying on their back on a flat, hard surface with their heads tilted back a little	53 (34%)	12	30	04	07
Lying on their back	31 (20,6%)	21	04	04	02
In any position	14 (9,3%)	10	04	00	00
Must remain the way they passed out	40 (26,6%)	22	18	00	00
I don't know	12 (8%)	06	04	02	00
What is the proper place on the body to perform cardiac massage?					
In the upper part of the chest (thorax), near the collarbones	64 (42,6%)	29	35	00	00
Over the heart, on the left side of the chest (thorax)	22 (14,6%)	11	08	02	01
Over the middle bone of the chest (thorax) at the level of the nipples	22 (14,6%)	06	10	04	02
Anywhere on the chest (thorax)	12 (8%)	00	04	04	05
I don't know	30 (20%)	25	03	00	02
How many times per minute is cardiac massage performed on an adult?					
40 times/minute	47 (31,3%)	19	22	02	04
60 times/minute	20 (13,3%)	11	09	00	00
80 times/minute	38 (25,3%)	18	07	07	06
100 times/minute	20 (13,3%)	15	04	01	00

In this research, most laypeople were right about the care for burns. The need to improve knowledge about first aid in case of burns in the population, since these accidents are more common in the home environment and the vast majority occur far from the health service.<sup>(15)</sup>

The importance of effective pre-hospital care is favorable to burn victims, highlighting the need for correct washing of the lesion and removal of adornments, as a way to reduce possible complications, of the 1,000,000 accidents involving burn victims per year, 2,500 die as a result of injuries and their complications.<sup>(16)</sup>

In the question about poisoning with toxic gases, there is a lack of knowledge of the population under study. In an integrative literature review research, using the PRISMA resource to characterize the teaching strategies used in first aid for lay people, reveals the incidence with which lay people need to provide aid to victims is between 10.7 and 65.0%, where about 83.7% are performed incorrectly.<sup>(17)</sup>

Regarding cardiac arrest, half of the interviewees recognize in which situation the victim needs cardiac massage, but most of the respondents do not correctly define cardiac massage and its purpose, demonstrating a great deficit of knowledge regarding cardiopulmonary resuscitation.

In his exploratory bibliographic research carried out in 2018 on lay people's knowledge of cardiopulmonary resuscitation, he cites that most of his interviewees showed difficulties in recognizing a cardiorespiratory arrest, and that only after being trained did they start to present a considerable technique of first aid to extra-hospital victims.<sup>(18)</sup>

In a survey carried out in Poland, with hospital data on out-of-hospital cardiac arrests, it was found that, of the 1,681 patients, cardiopulmonary resuscitation was performed in 1,471

120 times/minute 25 (16,6%) 05 18 00 02

Source: authors data, 2021.

**Table 5 – Preparation of lay people on first aid. Northern region of Mato Grosso, Mato Grosso, Brazil, 2022.**

Questions	N%	Answers			
		Elem. School	High School	Superior	Post
Do you think you are prepared to provide first aid in any kind of situation?					
Yes	23 (15,3%)	11	05	04	03
No	127 (84,6%)	60	55	06	06
If the previous answer is NO, why?					
Due to lack of new training to update	62 (41,3%)	30	25	06	01
Lack of knowledge	50 (33,3%)	20	25	00	05
Lack of practice	00 (00%)	00	00	00	00
Out of fear and insecurity	15 (10%)	10	05	00	00
If the previous answer is YES, why?					
Out of solidarity	00 (00%)	00	00	00	00
For having knowledge	00 (00%)	00	00	00	00
To save the victim	23 (15,4%)	11	05	04	03
Have you ever seen someone in need of first aid?					
Yes	150 (100%)	71	60	10	09
No	00 (00%)	00	00	00	00
If the previous answer is YES, what were the situations?					
Car accident	104 (69%)	50	50	02	02
Heart attack	35 (23%)	21	10	02	02
Clinical emergencies (Diabetes, Hypoglycemia, fainting and others)	08 (5,6%)	00	00	06	02
Trauma/ Injury	01 (1,0%)	00	00	00	01
Convulsion	02 (1,4%)	00	00	00	02
I don't know what was the cause	0 (00%)	00	00	00	00
What was your reaction when you came across a person in need of first aid?					
Called for specialized help	90 (60%)	45	37	04	04
Checked for signs of life	10 (6,6%)	04	03	02	01
Performed some type of procedure (gave water, sat or laid the victim down, among others)	15 (10%)	04	07	02	02
Took the victim to the hospital	17 (11,4%)	11	03	02	01
Did nothing	18 (12%)	07	10	00	01
Have you received any first aid training?					
Yes	41 (27,3%)	10	16	07	08
No	109 (72,6%)	60	44	03	01
Would you like to receive some first aid training?					
Yes	120 (80%)	60	50	08	02

and the reason for starting CPR was the identification of signs of arrest. <sup>(19)</sup>

It is noticed that the target populations of the research indicate that they do not know the correct place or number of heart massages per minute, few were able to answer correctly. <sup>(20)</sup>

In a cross-sectional survey carried out in Mato Grosso do Sul with 132 professionals, it was shown that most feel able to provide care in situations of fever, injuries and bleeding. Those who have already participated in training correctly answered more correctly regarding knowledge of the concepts of pathologies. <sup>(21)</sup>

In a random study to the public 382 individuals, all over 18 years old in a municipality in the state of Mato Grosso in 2017, describes that the first aid offered by laypeople mainly comprises the evaluation of the victim, the recognition of cardiorespiratory arrest, call the emergency room, when the layman has extensive knowledge about the CPR maneuver, he can also be performing the same until the arrival of the specialized team. <sup>(22)</sup>

In a general context, most respondents do not feel prepared to provide first aid. In an integrative review carried out in 2020, it was found that there is a

No	30 (20%)	11	10	02	07
Source: authors data, 2021.					

significant reduction in mortality from cardiorespiratory arrest when victims are treated immediately. <sup>(23)</sup>

A survey carried out training of 303 people in Germany identified that most participants 177 did not feel prepared to perform this service, however, 83.2% reported having received first aid training at some point in their lives. In addition, 41.6% felt confident for resuscitation maneuvers before the course, then it rose to 100%. <sup>(24)</sup>

The present research highlights that few laypeople perform cardiopulmonary resuscitation due to the great difficulties in performing the correct procedures, due to lack of knowledge and skill. A study carried out in Dar Es Salaam, capital of Tanzania, carried out training in first aid with 135 traffic police officers and showed that practical learning favored self-confidence to use the acquired knowledge in real life situations, improving the effectiveness of care in urgent and emergency situations in traffic. <sup>(25)</sup>

It is extremely important to train lay people on first aid, making them acqui-

re specific knowledge about first aid, training will result in more correct care and, as a consequence, generate fewer complications and irreversible effects caused by inadequate care.

## CONCLUSION

The results show that the lay population has basic knowledge about first aid, most do not know basic concepts and have difficulties in cardiorespiratory resuscitation maneuvers, few received training and most expressed the desire to be trained for initial care.

In view of this, it is necessary to invest in training on first aid for lay people, preserving and respecting the right to quality life and health, consolidating means that promote training, with the condition to provide assistance to victims of accidents and/or sudden illness and make the population aware of the importance of initial care, with knowledge and training, the lay population will be able to provide first aid correctly and rid the victim of death and the risk of sequelae. 🐦

## References

- Cavaleiro CMN, Rezende MA, Nagib TC, da Fonseca GLM, Neto RMB, de Aragão IPB. Prevalência de óbito em via pública por infarto agudo do miocárdio no Brasil em 10 anos. Importância do conhecimento sobre suporte básico de vida. *Revista de Saúde*. 2020; 11 (1): 55-63. Disponível em: <https://doi.org/10.21727/rs.v11i1.2221>
- Organização Pan-Americana de Saúde. Folha informativa – Acidentes de trânsito. Brasília: OPAS; 2019.
- Santos N. Basic life support project: building knowledge to save lives in the community, interfaces with teaching research and extension. An experience report. *Brazilian Journal of Development*. 2021; 7(3):21608-21619. Available form: <https://doi.org/10.34117/bjdv7n3-056>.
- Grimaldi MRM, Gonçalves LMS, Melo ACOS, Aguiar ASC, Lima MMMN. A escola como espaço para aprendizado sobre primeiros socorros. *Rev Enferm UFSM*. 2020; 10(e20): 1-15. Disponível em: <https://doi.org/10.5902/2179769236176>
- Avelar JR, Maciel RHC, Miranda APM, Carvalho ICPS, Barbosa LMR, Albuquerque AM. Primeiros socorros na parada e ressuscitação cardiopulmonar: revisão integrativa. *Educ Ci e Saúde*. 2021; 2 (1):168-182. Disponível em: <http://dx.doi.org/10.20438/ecs.v8i2.424>
- Orkin AM, Venugopal J, Curran JD, Fortune MK, McArthur A, Mew E et al. Emergency care with first responders in needy populations: a systematic review. *Bull World Health Organ*. 2021 Jul 1;99(7):514-528H. Available form: <https://doi.org/10.2471/BLT.20.270249>.
- Hasselqvist-Ax I, Nordberg P, Svensson L, Hollenberg J, Joelsson-Alm E. Experiences among firefighters and police officers of responding to out-ofhospital cardiac arrest in a dual dispatch programme in Sweden: an interview study. *BMJ*. 2019; 9(11):e030895. Available form: <https://doi.org/10.1136/bmjopen-2019-030895>.

8. Andréll C, Christensson C, Rehn L, Friberg H, Dankiewicz J. Knowledge and attitudes to cardiopulmonary resuscitation (CPR)- a cross-sectional population survey in Sweden. *Resusc Plus*. 2021; 5:100071. Available form: <https://doi.org/10.1016/j.resplu.2020.100071>
9. Pergola-Marconato AM. Curso de primeiros socorros para candidatos à Carteira Nacional de Habilitação [tese]. Campinas: Universidade Estadual de Campinas; 2013 [Acesso 10 jan 2022]. Disponível em: <http://www.repositorio.unicamp.br/handle/REPOSIP/311028>.
10. Leite HSN, Bonfin CR, Formiga HJB, Ferreira AM, Babosa ABA, Martins ENX. Primeiros socorros na escola: conhecimento da equipe que compõe a gestão educacional. *Temas em Saúde*. 2018; 1(1): p:290-312. Disponível em: <https://temasemsaude.com/wp-content/uploads/2018/10/fip201819.pdf>.
11. Ibrahim NA, Ajani AWO, Mustafa IA, Balogun RA, Oludara MA, Idowu OE, Solagberu BA. Road Traffic Injury in Lagos, Nigeria: Assessing Prehospital Care. *Prehosp Disaster Med*. 2017 Aug;32(4):424-430. Available form: <https://doi.org/10.1017/S1049023X17006410>.
12. Maciel AO, Roseno BR. Avaliação do conhecimento a respeito de parada cardiorrespiratória e engasgo entre professores e estudantes de uma escola pública do Distrito Federal. *Braz. J. of Develop*. 2020; 6(6): 35889-35905. Disponível em: <https://doi.org/10.34117/bjdv6n6-221>
13. Boet S, Bould MD, Pgford AA, Rössler B, Nambyiah B, Bunting A, Qi Li, Schebesta K. Retention of Basic Life Support in Laypeople: Mastery Learning vs. Time-based Education. 2017; 21(3):362-377. Available form: <https://doi.org/10.1080/10903127.2016.1258096>
14. Alvim AL, Silva C, Silva DPS, Rocha RLP. Conhecimento em primeiros socorros: estudo comparativo entre professores de escola pública e privada. *Revista Eletrônica Acervo Saúde*. 2019; 27: p. e1019-e1019. Disponível em: <https://doi.org/10.25248/reas.e1019.2019>
15. Ferreira MGN, Alves SRP, Souto CGV, Virgínia NA, Silva JNBS, Santos AF. O leigo em Primeiros Socorros uma revisão integrativa. *Revista de ciências da saúde nova esperança*. 2017; 15 (3):12-20. Disponível em: <http://dx.doi.org/10.17695/revcsnevol15n3p12-20>.
16. Cavalcante, IS, Lopes MS, Mendes JPS, Techi LC, Lima DA, Oliveira JEN, Barboza DLL, Barros YSO, Fontenelle LFV, Sabtos LMSA, Teixeira PMG. Atendimento e gerenciamento de pacientes queimados: Revisão integrativa. *Pesquisa, Sociedade e Desenvolvimento*. 2021; 10 (7): e0210716308-e0210716308. Disponível em: <https://doi.org/10.33448/rsd-v10i7.16308>.
17. Aranha ALB, Barsotti GM, Silva MP, Oliveira NM, Pereira TQ. Revisão integrativa: importância da orientação de técnicas de primeiros socorros para leigos. *Revista Científica Multidisciplinar Núcleo do Conhecimento*. 2019; 6 (5):218-242. Disponível em: <https://www.nucleodoconhecimento.com.br/saude/primeiros-socorros>.
18. Maia SRT, Lemos AM, Frutuoso MS, Rola CWMJ. Conhecimento dos leigos acerca da ressuscitação cardiopulmonar em pacientes adultos no Brasil. *Brazilian Journal of Development*. 2020; 6(5): 28933-28948. Disponível em: <https://doi.org/10.34117/bjdv6n5-370>
19. Bujak, K, Nadolny, K, Ładny JR, Hudzik, B, Zyżko D, Trzeciak, P, Górsior, M. Epidemiology, management, and survival rate of out-of-hospital cardiac arrest in Upper Silesia, Poland: an Utstein-style report. *Advances in interventional cardiology*. 2021; 17(4): 366–375. Available form: <https://doi.org/10.5114/aic.2021.111926>
20. Ribeiro DF, Costa JBB, Silva AM, Lirbório FF, Santos AM. Educação em saúde sobre ressuscitação cardiopulmonar: uma proposição necessária. *Brazilian Journal of Health Review*. 2020; 3 (3): 5533-5544, 2020. Disponível em: <https://doi.org/10.34119/bjhrv3n3-125>
21. Souza CKB, Godas AGL, Galvão RG, David TC, Luchesi BM, Martins TCR. Aptidão, conhecimento e atitude de profissionais da educação infantil sobre primeiros socorros. *Revista De Enfermagem Da UFSM*. 2022; 12(1): e7. Disponível em: <https://doi.org/10.5902/2179769266542>
22. Souza RP, Zani I, Motta RHL, Ramacciato JC, Flório FM. Parada Cardiorrespiratória: Avaliação Teórica Das Condutas Emergenciais De Pessoas Leigas. *Revista Renome*. 2020; 9(1): 29-39. Disponível em: <https://doi.org/10.46551/rnm23173092202090104>
23. Silva BKM, Tassara KR, Ansaloni LVS, Moraes HÁ, Oliveira RA, Matias RS. O conhecimento acerca do suporte básico de vida: uma revisão integrativa. *Brazilian Journal of Development*. 2020; 6 (9):72021-72039. Disponível em: <https://doi.org/10.34117/bjdv6n9-593>
24. Malsy M, Leberle R , Graf B. Germans learn how to save lives: a nationwide CPR education initiative. *International Journal of Emergency Medicine*. 2018; 11(1):9. Available form: <https://doi.org/10.1186/s12245-018-0171-1>
25. Ndile, ML, Saveman, BI, Outwater, For a d1água AH, Mkoka, DA, Backteman-Erlanson S. Implementing a layperson post-crash first aid training programme in Tanzania: a qualitative study of stakeholder perspectives. *BMC saúde pública*. 2020; 20(1):750. Available form: <https://doi.org/10.1186/s12889-020-08692-8>