

**FIRST AID: KNOWLEDGE
OF EMPLOYEES OF A
PRIVATE INSTITUTION
OF HIGHER EDUCATION
IN MATO GROSSO -
BRAZIL**

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Abstract: The research aimed to analyze the knowledge of employees of a private institution of higher education on the subject of first aid. This is a qualitative and quantitative research carried out through an online questionnaire with employees located in 4 campuses of a private institution of higher education in the state of Mato Grosso-Brazil. The descriptive analysis of the results was performed using the Excel Office 2013 program and arranged in the form of Graphics for better understanding by the reader. Results and Discussion: the institution does not provide training for all employees, which ends up leaving the first service restricted only to those who have knowledge. In addition, most participants revealed that they do not know where the first aid kit is located. It is concluded that the level of knowledge of employees about first aid was satisfactory only for less complex situations such as fainting, choking and sprains. More complex situations such as Cardiorespiratory Arrest (CPA), Traumatic Brain Injury (TBI) and hemorrhage presented a high rate of care that would be performed incorrectly.

Keywords: First aid; Company; Training.

INTRODUCTION

According to Maia, et al. (2014) emergency situations require immediate intervention, in an objective and effective way, in order to reduce the possible sequelae and increase the survival of the victims.

Examples of BLS techniques are the early recognition of signs and symptoms and calling the emergency team, followed by opening the airways and performing chest compressions in more severe cases (MAIA, et al, 2014).

When the situation occurs within the work environment, Filho (2015) states that anyone can take the first steps in caring for the victim, since, currently, there are still few companies that have a professional suitable for emergency situations in their staff.

The lack of knowledge or often the lack of confidence of those who will help the victim, makes them feel invalid, incapable, thus not providing quality care or even putting the victim's life at risk (FILHO, 2015).

Abramet (2005) emphasizes the importance of training in first aid not only for the work environment, but at any time, as knowledge and skill on the subject can lead to quick action ensuring the victim's survival.

Given the above, the first topic addresses the importance of first aid in various situations with emphasis on the workplace. The second topic presents the methods used and the type of research focus. In the third topic, there is the data collection and discussion of the results and finally, the final considerations final notes about the research.

Objectively, we sought to analyze the knowledge about first aid of employees on four campuses of a private institution of higher education in Mato Grosso. More specifically, we sought to: analyze the degree of knowledge about first aid of employees; analyze the preparation and confidence of employees in emergency situations within the institution; verify the frequency of training on first aid offered to the institution's staff; and, identify improvements that can be implemented within the institution.

METHODOLOGY

The research has the characteristic of being quali-quantitative. In the sense of Marconi and Lakatos (2017) "qualitative research is an attempt to understand in detail the meanings and situational characteristics presented by the interviewees". Quantitative research, on the other hand, seeks to organize the data obtained through data collection instruments using, for the most part, their statistical analysis.

It is a descriptive research with the purpose of analyzing and describing the phenomena or

quotations. In addition, there is no interference from the researcher, who seeks to find out how such a situation works and how often it happens. Its particularity occurs through the use of data collection objects (GIL, 2008).

The field chosen for study was four campuses of a private institution of higher education in the state of Mato Grosso.

The main campus is located in a city in the northwest of the state, which has a land area of 26,189.915 km², has an estimated population of 41,101 thousand people, reaching an HDI of 0.716 and its GDP per capita is estimated at 25,659, 19 BRL according to data from 2017 (IBGE, 2019).

The second campus is located in a city in the north of the state that has a land area of 4,734,589 km², has an estimated population of 36,130 thousand people, reaching an HDI of 0.703 and its GDP per capita is estimated at 25,002.98 R \$ according to data from the year 2017 (IBGE, 2019).

The third campus is located in a city in the northwest of the state that has a land area of 22,622,350 km², has an estimated population of 35,121 thousand people, reaching an HDI of 0.682 and its GDP per capita is estimated at 23,251.67R\$ according to data from 2017 (IBGE, 2019).

The fourth campus is located in a city in the northwest of the state that has a land area of 9,434.572 km², has an estimated population of 36,143 thousand people, reaching an HDI of 0.734 and its GDP per capita is estimated at 104,853.39R\$ according to data from the year 2017 (IBGE, 2020).

Collaborators from the four campuses of a private institution of higher education in Mato Grosso who work in the Administrative, Cleaning, Library, Human Resources and Accounting, Support and Maintenance sectors were invited to participate in the research. Campuses 1, 2 and 3 are located in the northwest region of the state and campus

4 in the north region.

Collaborators from the faculty of the four campuses of the institution were excluded.

The collection was carried out using a structured instrument, anonymously, divided into three phases, with closed multiple-choice questions on the subject.

The questionnaire was applied through the online platform of Google forms, being sent via email to the participants. At first, the Informed Consent Form was made available for them to mark whether or not they would accept to participate in the research, if they did not accept, they could select the option I do not agree in the questionnaire, thus ending their participation.

The first phase of the questionnaire addressed the employees' level of knowledge on the subject and whether they have the necessary confidence to apply their knowledge in an emergency situation. The second part had specific questions in order to ascertain knowledge about the main first aid practices related to the main accidents that happen within the institution. The third part had questions related to the frequency of training in first aid that the institution offers, in order to observe if the training is offered to all employees and if the institution offers basic first aid equipment for emergency situations.

After completing the data collection, the answers were separated according to each campus of the institution and each question in the questionnaire, and transcribed through a descriptive statistical analysis applied in Graphics for a better understanding of the reader.

This research was submitted to the Ethics Committee in Research with Human Beings of the Associação Juinense de Ensino Superior, obtaining an approval opinion through the number CAAE 39611420.9.0000.8099

Research risks were minimized in accordance with Resolution 466 of December

12, 2012 of the National Health Council, observing and respecting ethical aspects such as autonomy, beneficence, equity, among others, ensuring the anonymity of participants.

RESULTS AND DISCUSSIONS

The results were divided into four parts, according to the approach and are presented in the form of tables and graphics in order to allow a better understanding. The first part contains the demoGraphics data of the collaborators (gender, age, campus and sector they work in, etc). Then questions about knowledge of the subject. In the third, the actions that would be carried out in the most recurrent situations were identified and, finally, the last part is related to training in first aid in the workplace.

CHARACTERIZATION OF THE EMPLOYEES INTERVIEWED

Data were collected between February 2nd and 26th, 2021. A total of 44 employees distributed across the four campuses of the higher education institution were invited to participate. At the end of the response period, a total of n=38 was obtained.

Table 01 presents the characterization of the participants according to the 1st phase of the questionnaire (73.7% of female responses).

The study carried out in 2013 shows that even with several crises since the 1970s, the number of women in the labor market grows intensely in relation to the male public (QUERINO et al, 2013)

Growing urbanization, expansion of industrialization, various feminist movements, reduction in the number of children per woman, increased schooling and easier access to universities are some of the factors that have contributed and still contribute to the increase in the number of women in various sectors of the world. labor market (QUERINO et al, 2013).

With regard to age, two age groups can be observed with the same result. The ages from 16 to 25 years old and from 26 to 35 years old presented n=15 answers each (39.47% each age group).

Through the results obtained, the highest percentage of employees was observed on campus 1 with 68.4%. The highest percentage of responses (24) was in the administrative sector (63.16%).

The ease of entry into universities in relation to previous years, for both genders, can also be observed through the Graphic below.

From Graphic 1 we can see that from a total of n=38 responses, n=23 people had completed higher education and n=6 people had incomplete higher education. The rest, n=9, are people with primary or secondary education, whether complete or incomplete.

Cabral, Oliveira (2017) address that the professional with the most knowledge for the first care are those who have higher education focused on the health area, since they have the mandatory first aid discipline within the curriculum, other areas of knowledge, due to not obligatoriness of this discipline, they end up having a lesser knowledge or even mistakenly about the subject.

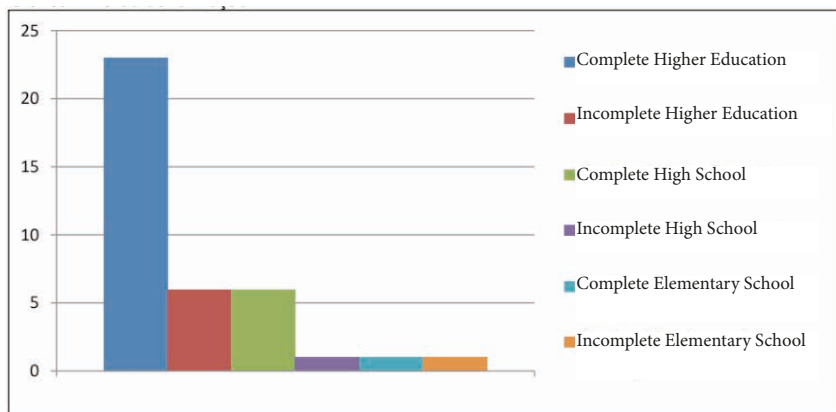
Based on these numbers presented, we compared the number of correct answers that each group obtained in the specific questions section of the questionnaire. There was a separation into two groups, one with complete or incomplete higher education and the other with complete or incomplete primary or secondary education.

In the group with higher education (n=29), 22 of the interviewees scored 4 correct answers or more, totaling a percentage of 75.86%. In the group that has only primary or secondary education (n=9), five of the interviewees scored 4 correct answers or more, thus totaling a percentage of 55.55%.

Variable	N (38)	100%
Gender		
Female	28	73,7%
Male	10	26,3%
Age		
16 to 25 years	15	39,47%
26 to 35 years	15	39,47%
36 to 45 years	5	13,16%
46 to 56 years	3	7,90%
Campus of work		
Campus 1	26	68,4%
Campus 2	3	7,9%
Campus 3	5	13,2%
Campus 4	4	10,5%
Sector the person works		
Administrative	24	63,16%
Cleaning	3	7,90%
Library	3	7,90%
Accountancy / RH	4	10,52%
Support	4	10,52%

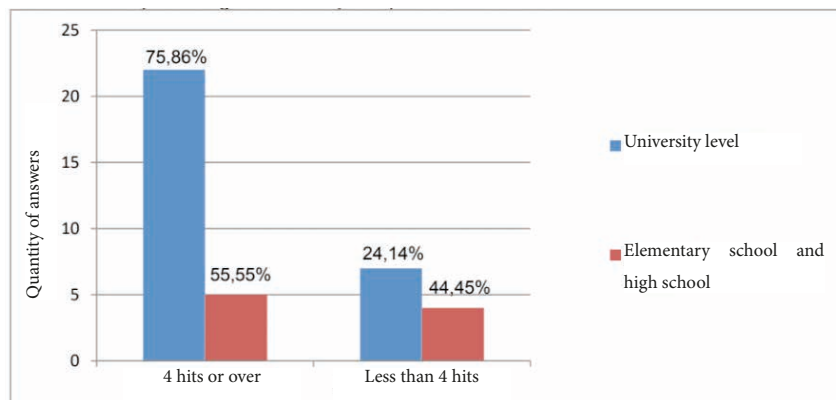
Table 1 - Characterization of the institution's employees in relation to demographics data. North and Northwest Region of Mato Grosso, 2021.

Source: survey data, 2021.



Graphic 1 - Degree of training

Source: survey data, 2021.



Graphic 2 - Relationship between degree of training and number of correct answers

Source: survey data, 2021.

Thus, it is observed that the higher the level of education, the greater the knowledge in first aid.

GENERAL KNOWLEDGE

The second part of the questionnaire addressed the interviewed employees' knowledge of first aid.

Objectively, we sought to reveal the existence of prior knowledge on the subject, if they had already witnessed situations in the company, what they did in these situations and what were the techniques that felt confident in providing the first service. In addition, it was also approached about which situations they did not feel safe in acting.

The first question was whether the participant had ever witnessed an urgent or emergency situation.

Twenty-five participants have already witnessed urgent and emergency situations, totaling a percentage of 65.79%.

The next question was only for those who answered yes to the previous question, that is, what was the action taken when they witnessed urgent and emergency situations?

There were 18 responses to the option "I called health professionals" (56.25%), 7 responses to the option "I acted in the situation before the professionals arrived" (21.88%) and 7 responses to the option "I called someone who knows about first assistance" (21.88%).

Participants who have already witnessed urgent and emergency situations sought professional help or someone who was knowledgeable about first aid or acted immediately in the situation witnessed.

According to Filho (2015), the evaluation of the state in which the victim is and the immediate assistance to the same is extremely important for the reduction of sequelae in the patient's clinical condition.

The graphic below indicates that only 21.05% of participants think their knowledge

of first aid is sufficient to provide quality and safe care, which is a very low percentage if one takes into account the number of employees on the four campuses of the institution.

Sufficient knowledge for more basic situations obtained 39.47% of the answers, which can be analyzed in the 5th and 6th question, which mention traumatic and non-traumatic situations.

The data obtained reveal that the participants feel safe in acting in situations of a clinical nature, that is, the basic ones that can occur in everyday life.

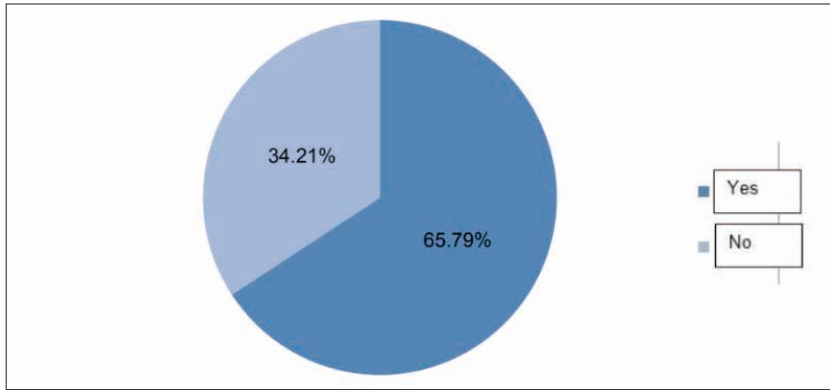
Question number 6 sought to know in which situations they do not feel confident in providing the first assistance, shown in Graphic 7, just below.

It is evident that in more complex situations such as hemorrhage, traumatic brain injury (TBI) and also cardiorespiratory arrest (CRA), the participants claimed not to know how to perform the first care.

The TBI boils down to an injury resulting from an external trauma, which can cause changes in the shape of the skull, lacerations, impairment of the meninges and brain, thus resulting in brain changes, which can be momentary or permanent (BRASIL, 2015). The clinical identification of the victim, the speed and efficiency in TBI care are of paramount importance to minimize possible sequelae.

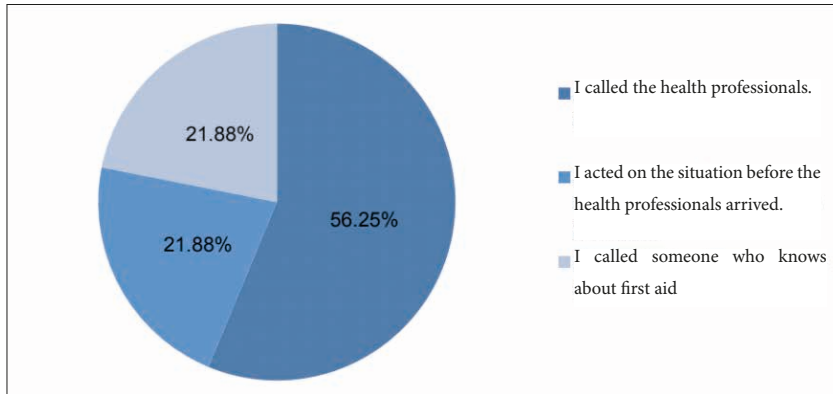
According to Bastos et al (2020) CRP is the immediate loss of cardiac, respiratory function and consciousness, requiring the rapid intervention of the Cardiopulmonary Resuscitation (CPR) protocol, which is characterized by a cycle of 30 compressions and 2 ventilations or compressions for 2 minutes if there is no pocket mask.

The American Heart Association (2020) emphasizes that the lay person does not know how to accurately check the victim's pulse. Therefore, the start of CPR must be



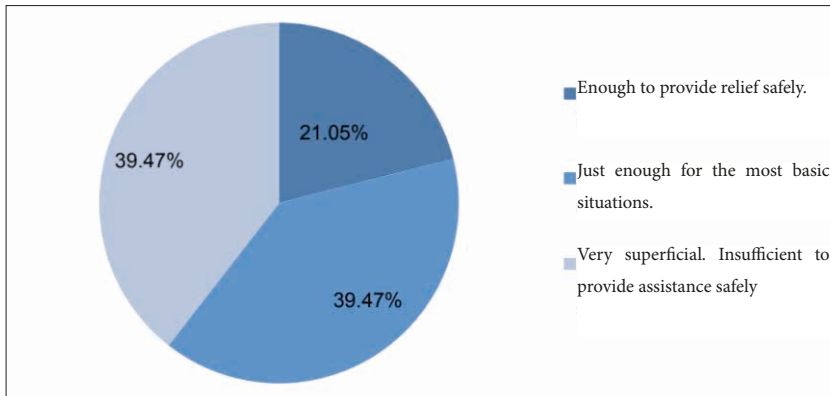
Graphic 3 - Have you ever witnessed urgent and emergency situations?

Source: survey data, 2021.



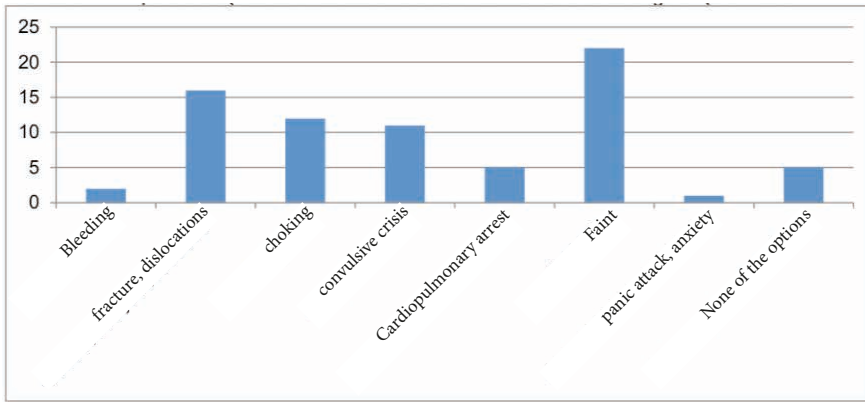
Graphic 4 - What did you do when you witnessed these situations?

Source: survey data, 2021.



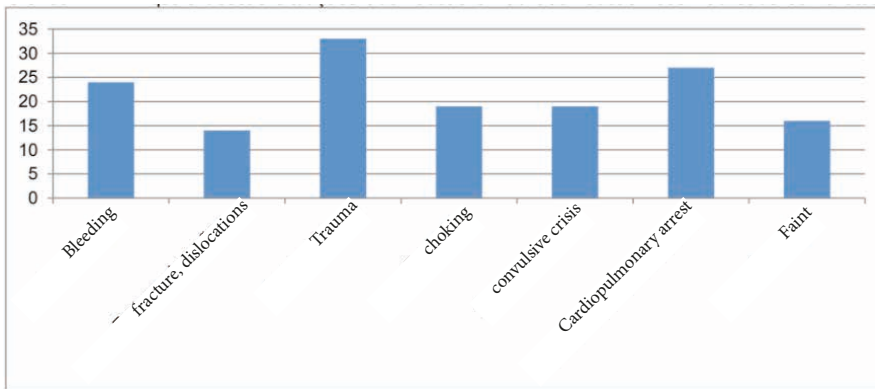
Graphic 5 - Do you consider your knowledge of first aid to be:

Source: survey data, 2021.



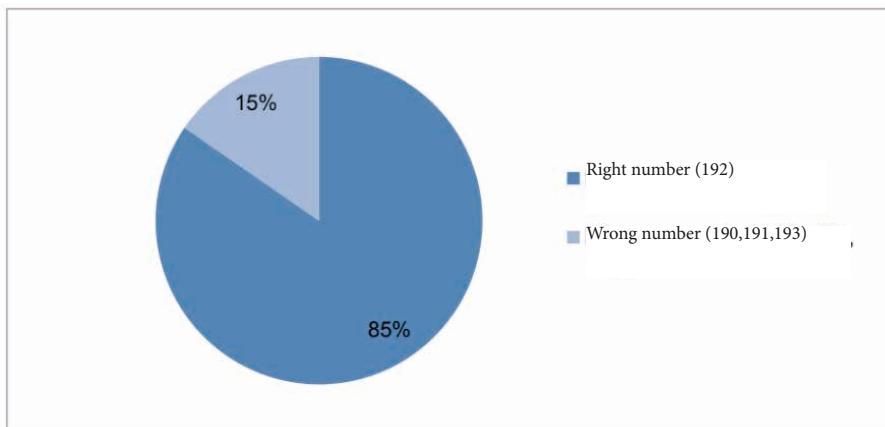
Graphic 6 - In which traumatic and non-traumatic situations do you feel confident in acting.

Source: survey data, 2021.



Graphic 7 - In which of these traumatic and non-traumatic situations do you not know how to act?

Source: survey data, 2021.



Graphic 8 - What is the SAMU number?

Source: survey data, 2021.

immediate for a presumed CPA, as the risks of unnecessary chest compressions are smaller than the delay in starting CPR.

Given this, situations that require a quick identification of the situation and consequently an effective primary care in order to reduce the possible sequelae, require an even more precise knowledge on the part of the rescuer about the correct action to be taken (FILHO, 2015).

SPECIFIC QUESTIONS ABOUT FIRST AID

The second part of the questionnaire consisted of eight questions where some of the most recurrent first aid situations within the institution were addressed.

In the first question, only campus 1 of the institution participated because the other cities where campuses 2, 3 and 4 are located did not obtain a SAMU base.

Initially there are 26 responses from Campus 1, which was analyzed in order to find out if the collaborators knew the SAMU number.

It appears that some participants know the SAMU number. Of the 26 responses obtained, 22 were able to respond correctly, which is essential at the time of the situation, as it speeds up primary care for the victim, avoiding and/or reducing possible sequelae.

From question 2 (specific part), situations that are more frequent were addressed, questioning employees about the action they would take at the time of help.

It is noted that 66% of the answers would be correct for a given situation.

Nascimento (2009) states that the right thing is to raise the victim's legs in relation to the body and head, causing greater venous return and consequently a faster improvement of the syncope condition.

It is important to point out that syncope can originate for several reasons, such as

inadequate nutrition, excessive sunlight, stress and tiredness. However, it can also be the product of certain diseases such as hypoglycemia, which would be the reduction of glucose in the bloodstream (NASCIMENTO, 2009).

The next question about CPA took into account the American Heart Association protocol (2020) on the proper procedure for such a practice.

All participants had to answer whether they knew how to perform CPR. Thirteen responses (34%) claimed to know the correct procedure for CPR.

Making a correlation between Graphic 10 and Graphic 11, it can be seen that 34% of participants claimed to know how to perform the CPR procedure. However, only 6 were able to correctly answer the relationship between ventilations and compressions, concluding that there is a lack of knowledge about the correct relationship between ventilation and compression in CPR.

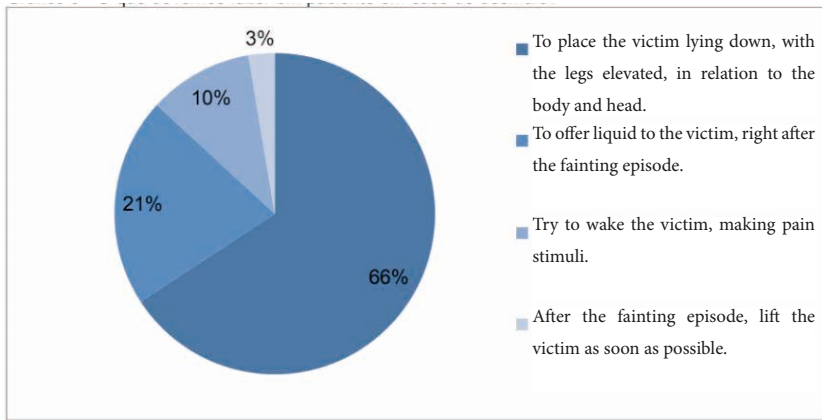
According to the American Heart Association (2020) in adult victims of cardiac arrest, it is advisable that rescuers perform chest compressions at a rate of 100-120/min, performing maneuvers of 2 ventilations for 30 compressions.

Part 3 of the questionnaire concerns situations that are more recurrent, such as epileptic seizures with seizures.

According to BRASIL (2018) the correct way to care for an individual in a seizure would correspond to alternative A of Graphic 12 (lay the person on the ground away from objects, place the victim in a lateral position, hold only the head and wait for the crisis to cease).

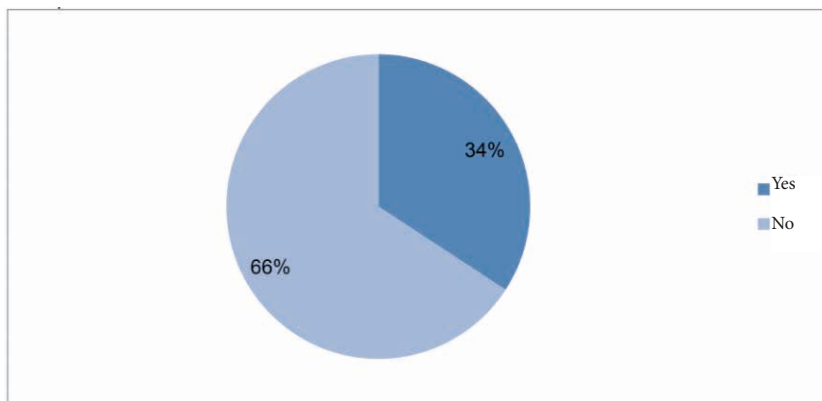
Therefore, we can observe that 23 participants (60%) would perform the correct procedure.

However, alternative D concerns an action that unfortunately is still carried out. Of the



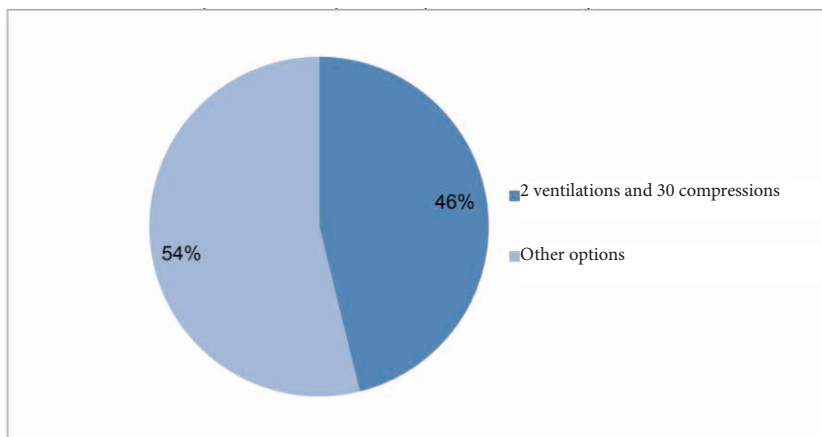
Graphic 9 - What must we do in patient in case of fainting?

Source: survey data, 2021.



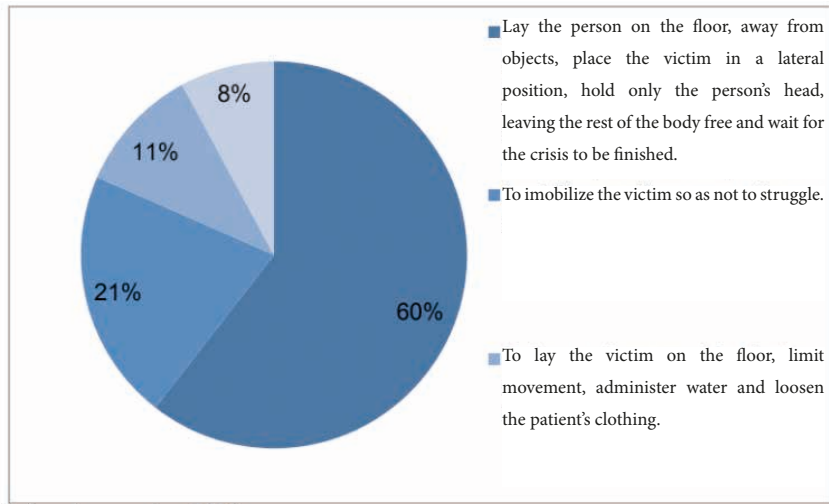
Graphic 10 - In case of cardiac arrest, do you know how to perform cardiopulmonary resuscitation?

Source: survey data, 2021.



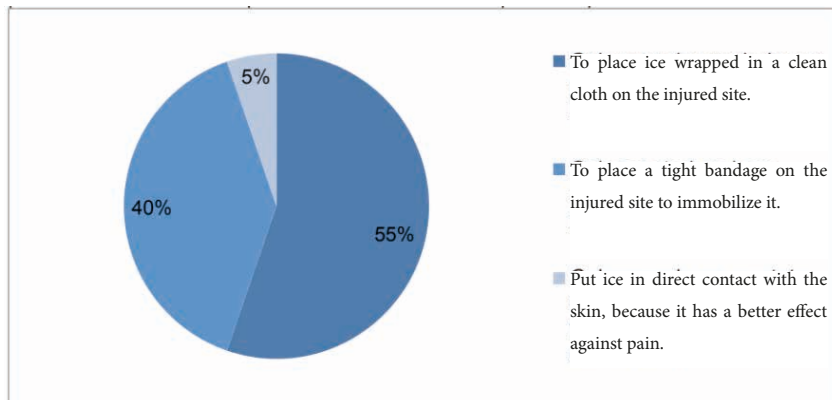
Graphic 11 – What ratio between ventilations and compressions will you have to do on your victim?

Source: survey data, 2021.



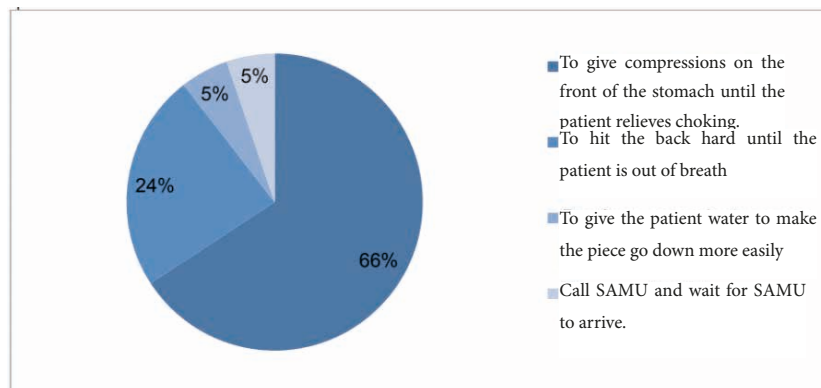
Graphic 12 – During class a student has an epileptic seizure with a seizure. What is his behavior in this situation?

Source: survey data, 2021.



Graphic 13 - On a rainy day, a person was going down the stairs and ended up falling and spraining his ankle. She complains of a lot of pain and has difficulty walking alone, but without a bone fracture. What must I do before taking him to the hospital?

Source: survey data, 2021.



Graphic 14 - While eating at break time, a student ended up choking. What to do?

Source: survey data, 2021.

38 collaborators, 3 indicated that they would limit the victim's movements and place a cloth between the teeth.

In view of this, it must be noted that these actions cannot be carried out with the victim, because as the motor movements are involuntary, they can cause injuries to the victim and the rescuer (BRASIL, 2018).

The previous Graphic reveals the answers of the actions that could be carried out by the participants. It is possible to observe that the correct conduct in suspected sprain or dislocation would be the application of ice in a clean cloth at the injury site. It can be seen that 55% would achieve success in a real situation.

Graphic 13 also reveals that 15 employees (40%) marked alternative B, which concerns putting a very tight bandage to immobilize the injury site.

It must be noted that an immobilization performed improperly ends up bringing even more risks to the individual, because if it is too tight, in addition to causing pain, it ends up prolonging the recovery time in cases of sprains and strains (OLIVEIRA, 2020).

Another issue addressed in the research is related to choking. A situation of food obstruction was described in order to reveal how the participants would provide help.

In view of the results, it is possible to observe that 25 participants would perform the correct action in the face of such a situation, thus obtaining a satisfactory result, corroborating with the guidelines of Maciel (2015), about the Heimlich Maneuver, where the rescuer positions himself behind the victim and performs compressions on the abdomen in the direction from bottom to top. This maneuver aims to raise the diaphragm, taking air into the lungs simulating an artificial cough in order to expel the foreign body.

TRAINING

The fourth and last part of the questionnaire

sought to identify issues related to first aid training. The subject was divided into 4 questions in order to reveal whether the institution offers this support.

In addition, at the end of the questionnaire, an option was inserted for participants to insert suggestions or criticisms on the subject within the institution. Such questioning was not mandatory.

The first question was whether the institution offered training in first aid to its employees.

Through Graphic 15, it can be seen that 26 participants revealed that the institution offers training in first aid. The rest of the responses indicate a lack of knowledge about the training offered.

Considering the 26 affirmative answers, it was questioned whether these participants had already participated in any training. The result is shown in Graphic 16, just below:

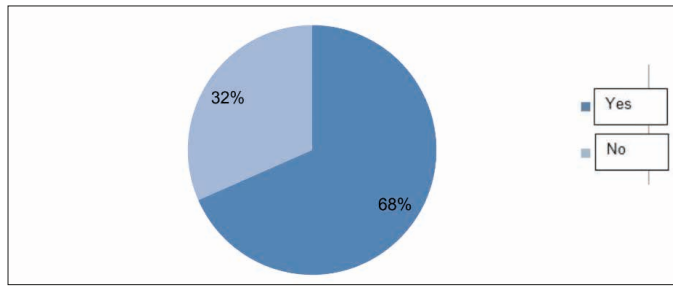
Correlating Graphics 15 and 16, it is possible to verify that the institution offers training on the subject, however, given the total number of responses in Graphic 16, we verify that this training is not offered to all employees of the institution, which ends up leaving the first service restricted to only a few employees.

In addition to ensuring the necessary knowledge about the first assistance to the victim, it is the responsibility of the institution, according to Regulatory Norm No. (ROSA et al, 2001).

Participants also responded about knowledge and location of the basic first aid kit.

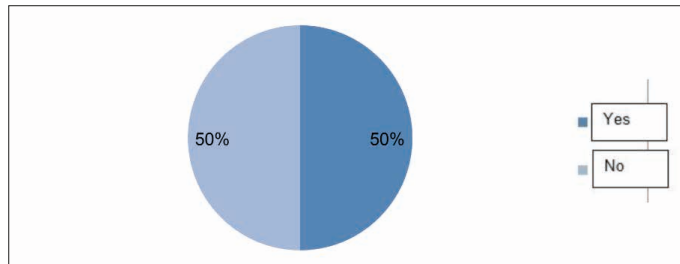
Twenty-five participants responded that the company does not have the kit in an easily accessible location.

Reaffirming the importance of this subject not only for professional life, it was asked if there was interest in knowing more about the subject. The answers are in the Graphic below:



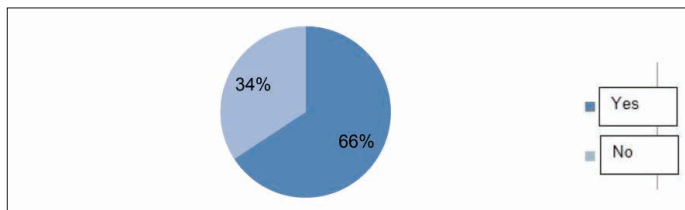
Graphic 15 - Does the institution you work offer or has already offered training on first aid?

Source: survey data, 2021.



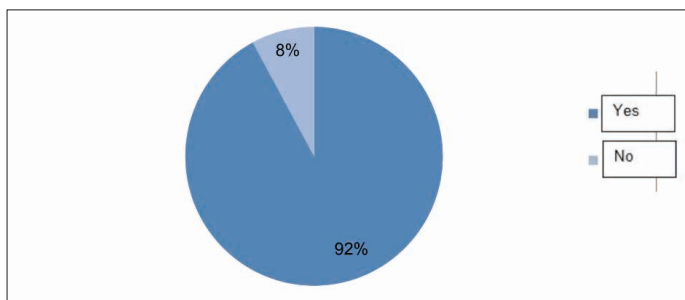
Graphic 16 - If the previous answer was YES, have you ever participated in any training on first aid offered by the institution?

Source: survey data, 2021.



Graphic 17 - Does the institution have an easily accessible first aid kit in case of an emergency? (first aid kit, wheelchair)

Source: survey data, 2021.



Graphic 18 - Does the person Feel the need to know more about the subject of first aid?

Source: survey data, 2021.

A total of 92% (35 answers) are observed to be interested in knowing more about the subject, an extremely high percentage that recognizes the importance of knowledge on the subject.

In the field of suggestions and criticism placed at the end of the questionnaire, there was significant participation even though the answer was not mandatory. In order to preserve the identity of the participants, we renamed participant F1, F2 and so on according to the order of responses.

The survey reveals that participants who have already taken some training, feel the need for more knowledge, as reported below.

F35: "just constant updates and training, because there are always new things and it's always good to learn new things, in addition to the fact that you're always reviewing what you've already learned"

F4: "First aid classes with update every six months"

Some participants understood the need to highlight the location of the kit:

F7: "The first aid kit must be easily accessible"

F8: "Information about the first aid kit"

F15: "Greater training and availability of basic things for first aid"

F16: "Easy access for a first-aid kit, wheelchair, and more training for employees"

F19: "I honestly wouldn't know where to go if I needed a first aid kit. A quick training on how to act in case of emergencies would be very useful [...]"

F21: "I don't know where the first aid kit is"

In view of the reports, it was found that the expansion of the training already offered to all employees and the adaptation to Regulatory Norm No. here's the kit.

FINAL CONSIDERATIONS

In the present study, it can be seen that the prior knowledge that the employees had is relatively little and they performed the first service inappropriately.

The study showed that participants have knowledge on the subject only for less complex situations, such as: fainting, choking and sprains. In more complex cases, which require more agile identification and management, such as CRA, TBI and hemorrhage, it was found that most do not know how to proceed.

It must be noted that the institution offers training on the subject, however, it does not cover all employees, thus leaving knowledge about this practice restricted. In addition, a considerable portion of the participants did not know where to locate the first aid kit.

In view of this, it is recommended to increase knowledge for all employees about first aid and adequacy of Regulatory Standard No. 7 of the SST, which aims at the availability of basic first aid material in an easily accessible place.

Finally, it is noted that the research results were presented to the general director, responsible for the four campuses, with the suggestion of elaborating and carrying out a training project that addresses all employees.

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