



Pre-hospital care: knowledge of undergraduate nursing students at an institution of higher education

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ABSTRACT

It is considered as pre-hospital care all and any assistance performed outside the hospital

environment, through the various means and methods available, such as the advanced and basic support system, established in mid-1990, in order to contribute positively on morbidity and mortality rates. The role of nurses is vital in pre-hospital care and their knowledge must be adequate and up-to-date for the care that will be given to the population. The objective of this research is a reflection about the emergence of pre-hospital care in Brazil and the knowledge of undergraduate nursing students in Higher Education Institutions (HEI) in the Federal District. It will consist of a quali-quantitative research of descriptive nature, in order to adjust the method to the objectives to be achieved in a harmonious way. Thus, it will evaluate the retention of practical and assistance content on the subject of pre-hospital care by undergraduate students. With the elaboration of this article, it is hoped to understand the importance of the subject pre-hospital care in university settings.

Keywords: Pre-hospital, Higher Education Institution, Nurse.

1 INTRODUCTION

The pre-hospital care service (PHC) involves all the actions that occur before the patient arrives at the hospital environment and can positively influence the morbidity and mortality rates due to trauma or violence. In this sense, qualified assistance at the scene of the accident, transport and early arrival at the hospital are essential for the survival rate to increase (ADÃO; SANTOS, 2012).

The activity of nurses in pre-hospital care (APH) in Brazil has developed since the 1990s, with the emergence of advanced life support units. Currently, nurses are active participants in this team, where they play an important role in quality care, preventing complications, assessing potential risks, and providing safe care (SAMU, 2016).

In the second semester of 2022, COFEN RESOLUTION No. 713/2022, updates the norms for nursing professionals to act in mobile pre-hospital care (APH) on land and waterways,



whether in direct assistance, management and/or in the Emergency Regulation Center (CRU), in public and private, civilian and military services. The referred resolution is based on updating 13 previous resolutions about the role of nurses and their attributions in pre-hospital care (APH) (COFEN, 2022).

With the growing increase in the number of urgency and emergency care in the country, generated by traffic "accidents" and violence, the need for quick and specialized care in providing first aid to those suffering from trauma and sudden illnesses, still at the scene of the fact, has arisen in Brazil. To promote this care, basic and advanced support ambulances are sent, according to the condition of the victim, also counting on highly qualified health teams, showing that this care reduces the number of deaths and their complications attributed to the absence of immediate and adequate help. (ROCHA, 2012).

The importance of the pre-hospital care subject APH in institutions of Higher Education is clear in the exercise of the nurse's function when offering a well-provided assistance in APH, which has the specific objective of preserving vital conditions and transporting the victim without causing even more trauma during its approach, until the locomotion of the patient to the hospital environment, thus avoiding greater damage, damage that occurred during inappropriate handling and removal. The rescuer must have as a basic principle the knowledge of APH in order to avoid the worsening of injuries and try to stabilize the patient's ventilatory and hemodynamic functions. That is why the importance of living/learning with the subject of APH and with the materials, so that there is training and knowledge, bearing in mind that small details in the care can bring the patient a better chance of life.

Professionals are also at risk of infections, since they have contact with infectious diseases without previous diagnosis such as tuberculosis, meningococcal meningitis, etc. Therefore, the use of Personal Protective Equipment (PPE) is of utmost importance to avoid contamination and ensure the protection of these professionals (MOURA *et al.*, 2020).

Based on this, the guiding question to build our research was to raise the knowledge and interest of undergraduate nursing students at a higher education university in the Federal District about the area of pre-hospital care?

The study is justified by the possible evasion suffered by future nursing professionals in the area of pre-hospital care, whether it is due to lack of affinity with the specialization, lack of search and constant improvement, failures in the learning process, or because of curricular content that does not totalize the knowledge about the reality of the work (COFEN, 2022).

The APH needs to be fast, effective and qualified, so that it has a successful outcome and does not influence the morbidity and mortality rate. Thus, the impacts of the absence of the discipline of APH in the training of nurses can compromise the quality of service and care to



victims, therefore, the knowledge and training of professionals to act in this first care is essential so that the professional maintains the vital conditions of the patient until the arrival of the reference service, avoiding the worsening of the situation and ensuring the continuity of care (PINHEIRO; CAMPOS, 2020).

According to MOURA *et al*, the study conducted regarding pre-hospital care showed predominant characteristics in suicide attempts in Teresina - PI, such as, as shown in Table 1, the highest number of incidences in female victims aged between 20 and 29 years, with greater predominance in the Central/North zone of the city. According to data from the World Health Organization (WHO), about 700 thousand people die annually by suicide, influenced by psychological, biological, social and cultural factors, making it currently the fourth leading cause of death among young people aged 15 to 29 years.

Table 1: Characteristics of suicide attempts attended by the pre-hospital service - 2015 to 2018.

Variables	Total		Male		Female		p* value
	n	%	n	%	n	%	
Age group (years)							
10 a 19**	174	20,8	60	18,3	114	22,4	0,269
20 a 29	238	28,4	92	28	146	28,6	
30 a 39	201	23,9	80	24,4	121	23,7	
40 a 49	135	16,1	51	15,6	84	16,5	
50 a 59	56	6,7	27	8,2	29	5,7	
>60	34	4	18	5,5	16	3,1	
Areas of occurrence #							
Center/North	283	35,8	110	36,1	173	35,7	0,365
East	137	17,4	62	20,3	75	15,5	
South	220	27,9	76	24,9	144	29,8	
Southwest	123	15,6	46	15,1	77	15,9	
Rural	26	3,3	11	3,6	15	3,1	
Days of the week							
Second	106	12,6	40	12,2	66	12,9	0,27
Tuesday	120	14,3	51	15,6	69	13,5	
Fourth	112	13,4	40	12,2	72	14,1	
Farm	115	13,7	34	10,4	81	15,9	
Sixth	114	13,6	50	15,2	64	12,6	
Saturday	133	15,9	57	17,4	76	14,9	
Sunday	138	16,5	56	17,1	82	16,1	

Source: MOURA, et.al.



Given the importance of knowledge, specialization and performance of the nursing team in the pre-hospital area (urgency and emergency) in the context of reducing misconduct and mistakes in the care provided, through specialized primary care performed at the site of occurrence, with a focus on the quality of care provided by the nursing team. In this context, areas of knowledge are researched during nursing graduation in the Universities of the Federal District about the knowledge about pre-hospital care and the actions to be developed by the future nurse in APH (ADÃO; SANTOS, 2012).

The interest of this research is related to the areas in which nurses work and their respective projections of the subjects studied during graduation, focusing on pre-hospital care, trying to understand what the motives, interests and goals of future nurses have about the area and how they see the work in this function (SILVA; BLANO; MACHADO; GONDIM, 2022).

The Ministry of Health has focused its efforts on implementing the national policy of emergency care, of which SAMU 192 is a fundamental component. This policy opts for the convictions of the SUS, with emphasis on building connections of comprehensive care to regionalized and prioritized emergencies that allow the organization of care with the goal of ensuring universal access, equity in resource allocation, and the completeness of the care provided. (MS, 2022).

The general objective is to analyze the knowledge and interest of undergraduate nursing students at a higher education university in the Federal District in the area of pre-hospital care.

Thus, describing the profile of nursing undergraduate students of the Higher Education Institution (HEI) of the 7th and 8th semesters who have passed the APH (pre-hospital care) subject.

Quantify the students who are interested in working in the field after they graduate.

Pre-hospital care (PHC) is a collaboration between patients, medical, traumatic or psychological condition, potentially serious. In many cases, the consequences are severe, even death. There has been a growing population decline due to the increase in injuries and chronic diseases, and as it expands, research and urgent and emergency situations are studied (ROCHA, 2012).

The goal is to determine the consequences and risks that professionals are exposed to, because when it comes to saving lives, they don't think twice without realizing the danger and focusing on that scene (ROCHA, 2012).

The pre-hospital care service aims to assist patients in situations of clinical or traumatic emergency, from transportation to a destination, either hospital or Emergency Unit, with specific support for the type of emergency or urgency (SOUSA, A; SOUZA, E; COSTA, I., 2014).



Stress is one of the most talked about issues when it comes to nurses in pre-hospital care. Nurses involved in pre-hospital care face a number of health issues, including pain, suffering, instability, death and life, which contribute significantly to anxiety and high levels of stress. In this context, a stressor is a situation or experience that causes stress, anxiety, fear, or a sense of threat, which can be internal or external. Stress is therefore a complex phenomenon that requires special attention also from other health care professionals and helps to reduce morbidity caused by stress among professionals. Be sure to note that working conditions have a significant effect on the circumstances (BEZERRA, 2012).

Nursing professionals who work in APH are exposed to occupational risks specific to their activities, such as biological risks, when conditions of exposure to microorganisms, physical risks, light, heat, noise, radiation and other chemicals are insufficient. Then there is chemistry, psychology, jobs that require a lot of concentration, intense pressure, a lot of stress, fatigue, fast pace of work, long hours, when dealing with toxic products, medicines, cleaning products, and ergonomics, for example. Heavy load, unstable work, high frequency of work (BEZERRA, 2012).

For a nurse to perform his function in pre-hospital care services, it is essential to have scientific technical knowledge, ability, and know how to work in a team. Given this, the search for continuing and permanent education is important for nurses to keep up to date via courses on APH care, thus developing their work effectively, ensuring the safety of patients who are at risk (PERES, et al, 2018).

Unfortunately, not all higher education institutions seek to improve education by including pre-hospital care in their curricula, for example, the Universidade Federal Fluminense (UFF), located in Rio de Janeiro, has no mandatory subjects in the curriculum that prepare us as professional nurses to work in pre-hospital emergency care, with only one optional subject that addresses the topic (RODRIGO, 2011).

2 METHOD

It consists of a quali-quantitative research of descriptive nature, in order to adjust the method to the objectives to be achieved in a harmonious way.

It is the method used in the natural sciences that allows through inductive reasoning to arrive at universal laws that can be generalized and reproduced (ORMSTON, SPENCER, BARNAR & SNAPE, 2014).

Used in scientific research, the combination of data from qualitative and quantitative approaches can be very important to understand events, facts, and processes, which requires deep analysis and reflection by the researcher. The researcher, besides his role as an observer, is



encouraged to seek data collection procedures that can correlate his experiences to the theory that will support his observations, paying attention to how to present the data obtained. Therefore, the possibility of correlation between the two approaches is verified. This methodological bias of research is called mixed method or quali-quantitative (RODRIGUES; OLIVEIRA; SANTOS, 2021).

These are researches that indicate benefits in developing and applying validity, allowing transparency, communicability, and systematicity to convince about the reliability of the results. (O'CONNOR AND JOFFE, 2020).

The present study will be carried out in a Higher Education Institution (HEI), being a private Brazilian higher education institution, located at the address SEP/SUL EQ 704/904 Conjunto A - Asa Sul, campus headquarters in Brasilia, in the Federal District. Founded in 1967, it is the first private educational center for tertiary education in the Brazilian capital, dismembered from the University of the Federal District.

The center's mission is to offer the community excellent higher education, to make public the scientific and technological knowledge produced here, and to provide critical, reflective, interactive, contextualized, competent, ethical, and citizen education.

To become a national reference in undergraduate and graduate higher education, for the excellence of its educational projects and services, boasting the uniqueness of the pioneering spirit and preserving the concept of quality gained in the Brazilian society, as an institution of solid credibility, attentive to social and global transformations of our time. (UDF, 2017).

Commitment to sustainability, respect for ethnic-cultural diversity and local and global social development achieved through the production and socialization of knowledge. (UDF, 2017).

Students who have not taken or are not currently taking Nursing in Adult Health II and Supervised Internship: Nursing Care Management in Health Services should be excluded from the study; those who do not agree or do not sign the Informed Consent Form (Appendix A), and those under 18 years of age.

As inclusion criteria, the student had to be duly enrolled in the Higher Education Institution (IES), attending the 7th and/or 8th semester of the Nursing course; have taken or be taking the subjects Nursing in Adult Health II and Supervised Internship: Nursing Care Management in Health Services; be over 18 years of age, in addition to agreeing and signing the Informed Consent Form (Appendix A)

We obtained a sample of 102 participating students, including 7th and 8th semester students. There were 40 students from the 7th semester and 62 students from the 8th semester.



Data collection was performed through previous visits to the place where data collection will take place, with due authorization from the IES and the nursing coordination, in order to perform the screening and quantitative survey of undergraduate nursing students linked to the research site. The invitation was formalized with the nursing undergraduates who fit the research profile in advance. The approach was made directly to the nursing undergraduate student before the beginning of data collection in order to explain in detail the objectives and methodology of the research, where the volunteer agreed to participate in the research, he/she signed the TCLE (Appendix A), after approval and release by the research ethics committee via Plataforma Brasil.

A semi-structured questionnaire was applied via Google Forms, email (Gmail and Outlook) and WhatsApp, which consisted of a structured interview, with a flexible interview model. In other words, it has a previous script, but leaves room for the candidate and the interviewer to ask questions outside what had been planned. In this way, the dialog becomes more natural and dynamic.

The collected data was passed to a computer and analyzed by categorization, according to Bardin (2011), content analysis is defined as:

A set of communication analysis techniques aiming to obtain, through systematic and objective procedures to describe the content of the messages, indicators (quantitative or not) that allow the inference of knowledge about the conditions of production/reception (inferred variables) of these messages.

The intention of this analysis was based on the inference of knowledge regarding the conditions of production (or, eventually, reception), an inference that uses indicators (quantitative or not), so description is the first necessary step and if interpretation is the last phase, inference is the intermediate procedure that allows the explicit and controlled passage from one to the other (BARDIN, 2011).

The inference is guided by several poles of attention, which are the poles of attraction of the communication. In a communication there is always the sender and the receiver, the poles of inference themselves, in addition to the message.

The sender is the producer of the message. He is an individual or a group of individuals. The message he emits represents him. The receiver can be an individual. Thus, the study of the message can provide data about its intended audience. The message is the starting point of any analysis. In message analysis, one can study the content or the content, or the signifiers or the meanings, or the code or the signification (BARDIN, 2011).

Most qualitative analysis procedures are organized around categories. A category is a general form of concept, a way of thinking. Categories are reflections of reality, being syntheses, at a given moment, of knowledge. For this reason, they are constantly changing, just like reality.



In content analysis, categories are headings or classes that bring together a group of elements (registration units) because of common characteristics. It will be used a lexical criterion that is based on joining by the meaning of words, grouping synonyms taking into account the antonyms (BARDIN, 2011).

Categorization makes it possible to gather more information at the expense of schematization and thus correlate classes of events in order to order them. Categorization represents the passage from raw data to organized data.

To categorize, two inverse processes can be employed: having established the system of categories, based on theoretical hypotheses, the elements are broken down as they are found; it is the "boxes" procedure (BARDIN, 2011).

After the analysis, the data will be compared with the theoretical basis of the study, and based on the information presented, a plan will be developed to improve the teaching and understanding for undergraduate nursing students.

The study intends to focus on future nursing professionals in the area of pre-hospital care, in order to offer subsidies for the performance of correct conducts, through the analysis of facts and events by means of comparison and contrast, in addition to the review of literature on the subject.

The assumed benefits are expected through the results of the research, such as a new panorama on the theme for the future nursing professional, while the expected risks are based on the fact that the research subjects may at some point be embarrassed, offended, or even exposed, causing them moral damage, but the researchers will assume the ethical commitment of preserving the identity and privacy of the research subjects, aiming to expose minimal risks to the patients and professionals participating in the study.

If embarrassment persists to the research subjects, the researchers commit to suspending the research.

The study will comply with all ethical aspects of research involving human beings, as recommended by the National Research Commission - CONEP, resolution number 46612 of the National Health Council. The research project will be forwarded to the Research Ethics Committee of an IES (Higher Education Institution), for appraisal and subsequent authorization to carry out the study; the participants must sign the Free and Informed Consent Form (Appendix A). It must be emphasized that the principles of beneficence, non-maleficence, and autonomy will be respected by the subjects participating in the research. They will not receive financial incentive to participate in the research and will have their autonomy preserved, and may abandon the research at any time, without implying any harm to them.



3 RESULTS

According to the survey, where 102 students who are attending the 7th and 8th semester at UDF (University of the Federal District) in the first semester of 2023.

We obtained 40 undergraduate nursing students of the 7th semester who responded to the survey available via WhatsApp, 31 female and 9 male. According to the guiding questions: Based on your technical and scientific knowledge, do you consider yourself able to perform patient management and transport? 26 of the students reported that they consider themselves able to perform the transport and 14 of the students reported that they are not able to perform patient management and transport. When asked if they consider themselves able to perform high quality CPR (Cardiopulmonary Resuscitation)? 32 of the students reported that yes, they consider themselves able to perform CPR and 8 of them reported that they are not able to perform CPR. Do you consider yourself able to identify a cardiac arrest? 37 students reported that they are able to identify a CPR and 3 reported that they are not able to identify a CPR. When asked if they considered they had technical and scientific knowledge about the medications that should be applied in a prehospital environment, 17 undergraduate students reported having knowledge about medications applied in a prehospital environment and 23 reported not having knowledge about the medications applied. When asked if they consider able to perform drug access in the prehospital environment? 26 of the undergraduates report that they are able to perform drug access and 14 of them report not being able to perform drug access in the prehospital environment.

There were also 62 undergraduate nursing students in their 8th semester. 54 were female and 8 were male. 56 of the undergraduates answered yes to the first guiding question, they are able to perform a transport with confidence and safety, and 6 answered that they did not feel safe to perform a transport with confidence. Do you consider yourself able to perform high quality CPR (Cardiopulmonary Resuscitation)? 45 of the 8 semester undergraduates report that they are able to perform CPR, and 17 do not have the knowledge to perform CPR. Do they consider themselves able to identify a CPR (Cardiorespiratory arrest)? 55 undergraduate students report knowing how to identify a CPR and 7 of them report not knowing how to identify it. do you consider that you have technical and scientific knowledge about the medications that should be applied in a pre-hospital environment? 41 of them report having knowledge about the possible medications that can be administered in a pre-hospital care setting and 21 of them report not having knowledge about the possible medications. Do you consider yourself able to perform drug access in the pre-hospital environment? 46 of the students are able to perform drug access and 16 of them report not knowing how to perform drug access in a pre-hospital environment care.



4 DISCUSSION

From the data collected with the UDF undergraduates attending the 7th and 8th semester. We sought to analyze and quali-quantify the data collected through our research.

The undergraduate nursing students of the 7th semesters, 5 of the forty students who responded, report that the teaching provided by the college was effective, 29 students report that the teaching provided by the college was effective, however, I sought knowledge in databases to complement my teaching, 1 student reports that the teaching provided by the college was not effective, 5 students reported that the teaching provided by the college was not effective, however I sought knowledge in databases to complement my teaching, and none of the students reported that the teaching provided by the college was not effective, however I did NOT seek knowledge in databases to complement my teaching.

Students attending the 8th semester, 12 students reported that the teaching provided by the college was effective, 39 students reported that the teaching provided by the college was effective, however I sought knowledge in databases to complement my teaching, 4 students reported that the teaching provided by the college was not effective, 5 students reported that the teaching provided by the college was not effective, however I sought knowledge in databases to complement my teaching, and 2 students reported that the teaching provided by the college was not effective, however I did NOT seek knowledge in databases to complement my teaching.

5 CONCLUSION / FINAL CONSIDERATIONS

Bearing in mind the importance of the specialization of nurses in the pre-hospital care area, which is more and more in demand, where the professional needs to be trained, agile, and confident to develop a fast and accurate care, we conducted a field research where we analyzed mainly the knowledge and confidence in doing some procedures of the area that are more used in pre-hospital care, such as the transport and management of the patient, knowledge and administration of medicines more used in pre-hospital care, safety when identifying a CRA or performing CPR maneuvers.

We obtained satisfactory results that can be improved, because most students reported that they needed to look outside for a complement to feel more secure, seeing that the APH professional needs to be agile, to know what to do and how to do it, which is also a continuous learning and continuing education that is demanded by this area, because we live in changing protocols that need to be discussed and practiced, to ultimately have the best technique administered to the patient.



REFERENCES

- ADÃO, R. S.; SANTOS, M. R. Atuação do enfermeiro no atendimento pré-hospitalar móvel. 2012. Available at: <<https://cdn.publisher.gn1.link/reme.org.br/pdf/v16n4a17.pdf>>. Accessed on: 18 Oct. 2022.
- BARDIN, L. Content analysis. France: Edições 70, 2011. Available at: <[Book Methodology-Chapter AC.pdf](#)>. Accessed on: 10 Nov. 2022.
- BEZERRA, F. N.; SILVA, T. M.; RAMOS, V. P. Estresse ocupacional dos enfermeiros de urgência e emergência: Revisão Integrativa da Literatura. São Paulo, 2012. Available at: <<https://www.scielo.br/j/ape/a/qdzwVdcsj6bFm73VLz4Pt8C/abstract/?lang=pt>>. Accessed on: 12 Jan. 2023.
- COFEN. COFEN Resolution N°713/2022. Available at: <http://www.cofen.gov.br/resolucao-cofen-no-713-2022_104087.html?fbclid=PAaAaZaMyhca-MivOx3T4eDpBV3Xbont8Y-QCsR9myojGpH6odfJJxf6hWnMNo>. Accessed on: 05 Nov. 2022.
- FIGUEIREDO, N. Método e metodologia na pesquisa científica. 3rd ed. São Caetano do Sul- SP: Yendis Editora, 2008.
- MINISTRY OF HEALTH. Mobile Emergency Care Service. 2022. Available at: <<https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/s/samu-192>> Accessed on: 06 Feb. 2023
- MOURA, D. H, et.al. Atuação do enfermeiro no atendimento pré- hospitalar: dificuldades e riscos vivenciados na prática clínica. 2020. Available at: <https://www.mastereditora.com.br/periodico/20200606_164858.pdf>. Accessed on: 13 Nov. 2022.
- MOURA, L. A., et al, Pre-hospital care to suicide attempts: a cross-sectional study. 2012. Available at: <<https://doi.org/10.1590/0047-2085000000358>>. Accessed on: 07 Feb. 2023.
- JOURNAL STANDARDS. Cadernos de Ciências da Saúde e da Vida. Available at <<http://publicacoes.udf.edu.br/index.php/saude/about/submissions#authorGuidelines>>. Accessed on: 08 Apr. 2023.
- OLIVEIRA, A; LOPES, A; PAIVA. M. Occupational accidents by exposure to biological material among the multiprofessional team of pre-hospital care. Medicina (Ribeirão Preto) 2012;45(1):12-22. Available at:<http://revista.fmrp.usp.br/2012/vol45n1/ao_Acidentes%20ocupacionais%20por%20exposi%E7%E3o%20a%20material%20biol%20F3gico.pdf>. Accessed on: 12 Jan. 2023.
- PERES, P. A., et al., Acting as a nurse in a health care service private pre-hospital. Research Journal: Care is Fundamental Online [Internet]. 2018 Apr 2; [Cited 2019 Oct 7]; 10(2): 413-422. Available from: <https://repositorio.ufrn.br/bitstream/123456789/38663/1/CONHECIMENTO%20E%20ATUAÇÃO%20DO%20ENFERMEIRO_Pereira%20Neto_2019.pdf> Accessed 07 Feb 2023.
- PINHEIRO, S. L; CAMPOS, T. A. Importance of the pre-hospital care discipline in the training course. 2020. Available at:<<https://www.eumed.net/rev/atlante/2020/03/curso-formacao-soldados.html>>. Accessed on: 13 nov. 2022.



ROCHA, E. C. A. Atuação da enfermagem em urgências e emergências. Portal of e-government, digital inclusion and knowledge society. Available at: <<https://egov.ufsc.br/portal/conteudo/atuaçãodaenfermagememurg%C3%A9ncias>>. Accessed on: 12 Jan. 2023.

RODRIGUES, T. D. F. F.; OLIVEIRA, G. S.; SANTOS, J. A. Qualitative and quantitative research in education. 2021. Prisma Journal. Available at: <<https://revistaprisma.emnuvens.com.br/prisma/article/view/49/41>>. Accessed on: 13 Nov. 2022.

SAMU. Advanced Life Support Protocols. 2016, Available at: <https://bvsms.saude.gov.br/bvs/publicacoes/protocolo_suporte_avancado_vida.pdf>. Accessed on: 18 Oct. 2022.

SILVA, C. L. B.; BLANO, O. K. A.; MACHADO, H. M. B.; GONDIM, D. A. D. 2022. The role of nurses in pre-hospital care. Multidisciplinary Scientific Pey Këyo Journal - ISSN 2525-8508, 8(1), 66-85. Retrieved from <<https://estacio.periodicoscientificos.com.br/index.php/pkcroraima/article/view/1192>>. Accessed on: 05 Nov. 2022.

SOUSA, A; SOUZA, E; COSTA, I. Occupational risks in mobile pre-hospital care: scientific production in online journals. Brazilian Journal of Health Sciences, vol. 18 no. 2, p. 167-174, 2014. Available at: <<https://periodicos.ufpb.br/ojs2/index.php/rbcs/article/view/15654>>. Accessed on: 12 Jan. 2023.

TAQUETTE, S. R. 2021 A pedagogia do oprimido no ensino do método qualitativo de pesquisa. Revista Lusófona de Educação. Available at: <<https://revistas.ulusofona.pt/index.php/rleducacao/article/view/7714/4537>>. Accessed 10 Jan. 2023.

TORLING, E. G. S.; JUNIOR, P. C. R.; FUJIHARA, R. K.; MONTEZANO, L.; DEMO, G. 2022. Proposal for Validation of Qualitative Research Instruments (Val i-Quali). Administration: Teaching and Research. Available at: <<https://raep.emnuvens.com.br/raep/article/view/2022/527>>. Accessed on: 10 Jan. 2023.

UDF. Centro de Ensino Unificado do Distrito Federal. [2017]. Available at : <<https://www.udf.edu.br/o-udf/>>. Accessed on: 17 Oct. 2022.