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## NURSING DISSERTATIONS AND THESES ON THE MOBILE EMERGENCY CARE SERVICES: A BIBLIOMETRIC STUDY

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### ABSTRACT

**Objective:** to analyze the production of Brazilian Nursing dissertations and theses on the Mobile Emergency Care Service.

**Method:** a bibliometric study performed through the virtual access of the *Centro de Estudos e Pesquisa em Enfermagem, da Associação Brasileira de Enfermagem*, and *Portal de Teses e Dissertações da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*. The sample consisted of four theses and nine dissertations.

**Results:** there was a greater number of studies in the South (38.5%) and Southeast (46.2%), with a predominance in descriptive-exploratory studies, using qualitative approaches, the most explored topics were worker health in the pre-hospital mobile services and professionals were the most investigated population.

**Conclusion:** based on bibliometric indicators, there was a limited amount of papers regarding the Mobile Emergency Care Service in the Nursing Graduate Programs and gaps were found related to the research of these programs. These findings may direct future studies.

**DESCRIPTORS:** Emergency medical services. Nursing research. Bibliometric Nursing. Postgraduate education in nursing.

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## DISSERTAÇÕES E TESES DA ENFERMAGEM ACERCA DO SERVIÇO DE ATENDIMENTO MÓVEL DE URGÊNCIA: ESTUDO BIBLIOMÉTRICO

### RESUMO

**Objetivo:** analisar a produção brasileira de dissertações e teses em enfermagem que abordem o Serviço de Atendimento Móvel de Urgência.

**Método:** estudo bibliométrico realizado por meio do acesso virtual ao Centro de Estudos e Pesquisa em Enfermagem, da Associação Brasileira de Enfermagem, e ao Portal de Teses e Dissertações da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior. A amostra foi composta por quatro teses e nove dissertações.

**Resultados:** verificou-se maior quantitativo de estudos nas regiões Sul (38,5%) e Sudeste (46,2%), o predomínio de estudos descritivo-exploratórios, com abordagem qualitativa, a temática mais explorada foi a saúde do trabalhador no contexto pré-hospitalar móvel e a população mais investigada foram os profissionais.

**Conclusão:** a partir dos indicadores bibliométricos, constatou-se uma limitada quantidade de trabalhos acerca do Serviço de Atendimento Móvel de Urgência nos Programas de Pós-Graduação em Enfermagem e lacunas relativas à temática nas pesquisas desses Programas. Essas constatações podem direcionar a realização de futuros estudos.

**DESCRIPTORIOS:** Serviços médicos de emergência. Pesquisa em enfermagem. Enfermagem. Bibliometria. Educação de pós-graduação em enfermagem.

# TESIS DE LA ENFERMERÍA ACERCA DEL SERVICIO DE ATENCIÓN MÓVIL DE URGENCIA: ESTUDIO BIBLIOMÉTRICO

## RESUMEN

**Objetivo:** analizar la producción brasileña de disertaciones y tesis en enfermería que se refieran al Servicio de Atención Móvil de Urgencia.

**Método:** estudio bibliométrico realizado por medio del acceso virtual al Centro de Estudios e Investigaciones en Enfermería de la Asociación Brasileña de Enfermería y al Portal de Tesis y Disertaciones de la Coordinación de Perfeccionamiento Personal de Nivel Superior. La muestra estaba compuesta por cuatro tesis y nueve disertaciones.

**Resultados:** se ha verificado una mayor cantidad de estudios en las regiones Sur (38,5%) y Sudeste (46,2%). Hubo un predominio de estudios descriptivos-exploratorios, con abordaje cualitativo; la temática más explorada fue la salud del trabajador en el contexto prehospitalario móvil y la población más investigada fue la de los profesionales.

**Conclusión:** a partir de los indicadores bibliométricos fue posible constatar una cantidad limitada de trabajos sobre el Servicio de Atención Móvil de Urgencia en los Programas de Post-Graduación en Enfermería y espacios relativos a la temática en las investigaciones de esos Programas. Esas constataciones pueden direccionar la realización de futuros estudios.

**DESCRIPTORES:** Serviços médicos de emergência. Investigación en enfermería. Enfermería. Bibliometría. Educación de post-graduación en enfermería.

## INTRODUCTION

The significant increase in demand for public emergency and emergency services is mainly due to urban violence, traffic accidents and high rates of non-communicable chronic diseases. Among these, cardiovascular diseases are highlighted as the the main cause of worldwide mortality.<sup>1-2</sup> In order to contribute to the improvement of emergency services, the National *Política Nacional de Atenção às Urgências* (PNAU), through the Ordinance N. 1864, in 2003, establishes the implementation of the *Serviço de Atendimento Móvel de Urgência* (SAMU). This service emerges as an alternative to reduce the number of deaths and sequelae due to the lack of early medical response, and becomes very important in pre-hospital care.<sup>3</sup>

The relevance of this service is supported by the fact that the chance of survival of victims in emergency situations significantly increases when they receive agile and effective assistance. Therefore, it is inferred, that Pre-Hospital Care (PHC) services are important health care devices because they provide specialized victim care and transportation even outside the hospital context.<sup>4</sup>

SAMU has different levels of assistance, including Basic Support Units (BSUs) and Advanced Support Units (ASU). The professional team of BSUs is composed of at least one nursing technician, a nurse and a driver, while the teams in the ASU consists of a doctor, nurse and driver. Thus, the presence of nursing professionals in the different support units that make up the SAMU indicates the relevance of this professional category which works in various administrative, care and educational functions. Thus, scientific studies are necessary so that the practice of this professional category occurs based on scientific evidence, and not only empirically.<sup>5</sup>

Therefore, it is pertinent that the scientific production of nursing studies in this service is characterized, analyzed and that the existing gaps are made evident. For this to occur, bibliometry is one of the methods which can be used. The choice of such an investigative method is justified since it is possible to measure the written communication and the characteristics of the scientific investigations so that, from the bibliometric indicators, the understanding of the scientific knowledge and of the unexplored aspects can guide the production of new studies.<sup>6</sup>

The production of science in nursing takes place intensively in the *strictu sensu* Graduate Programs, from which these studies are expected to promote the review, questioning, critique and discussion of knowledge and practices in the field of health. Thus, it is important to know the production of the dissertations and theses from master's and doctoral courses in nursing regarding SAMU.

Thus, in order to contribute to the understanding of the historical evolution of the subject, its theoretical references and also the strengthening of its discussion in the academic environment, the present study aimed to analyze the Brazilian production of dissertations and nursing theses which address the Mobile Emergency Care Service.

## METHOD

This is a bibliometric study. Bibliometrics aims at quantifying scientific work and measuring their production, as well as exploring and ascertaining the chronological development, productivity of institutions and the dissemination of such publications in the sources of scholastic papers.<sup>7-8</sup> The present study was performed based on the analysis of dissertations and theses from Brazilian Nursing Graduate Programs.

The following inclusion criteria were defined: a dissertation or thesis regarding SAMU, written in between 2002 and 2015. The reason for this criteria is justified as the resolutions which guided the creation of the SAMU started to emerge from 2000 onwards.<sup>2</sup> The exclusion criteria adopted were: articles which are unavailable electronically and did not originate from a Brazilian Nursing Graduate Program. Duplicate studies were only counted once.

Data collection took place in January 2016, through virtual access of the *Centro de Estudos e Pesquisa em Enfermagem* (CEPEN) of the *Associação Brasileira de Enfermagem* (ABEn). The search took place in the catalogs where the scientific productions are grouped and organized and it was verified that 7,180 dissertations and nursing theses were made available. After reading the titles and summaries in detail, 7,167 were excluded because they did not concern SAMU, therefore 13 were selected which made up the study sample.

Subsequently, *Portal de Teses e Dissertações da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES) was accessed to exhaust search possibilities. The search in this Portal occurred using the Health Sciences Descriptors (DeCS) that were individually searched. 25 studies were found using the descriptor "Emergency Medical Services"; 127 using the descriptor "Emergency Response"; 17 using the descriptor "Pre-hospital Emergency Care"; 134 using the descriptor "Emergencies"; and 94 using the descriptor "Emergency Nursing". Thus, 397 studies were analyzed in the CAPES Portal, of which 382 were excluded because they were not concerned with SAMU, 13 were excluded because they were selected in the previous search in CEPEN and another two were excluded because they did not originate from the *strictu sensu* nursing program,

therefore, no studies were selected for the sample from the CAPES Portal.

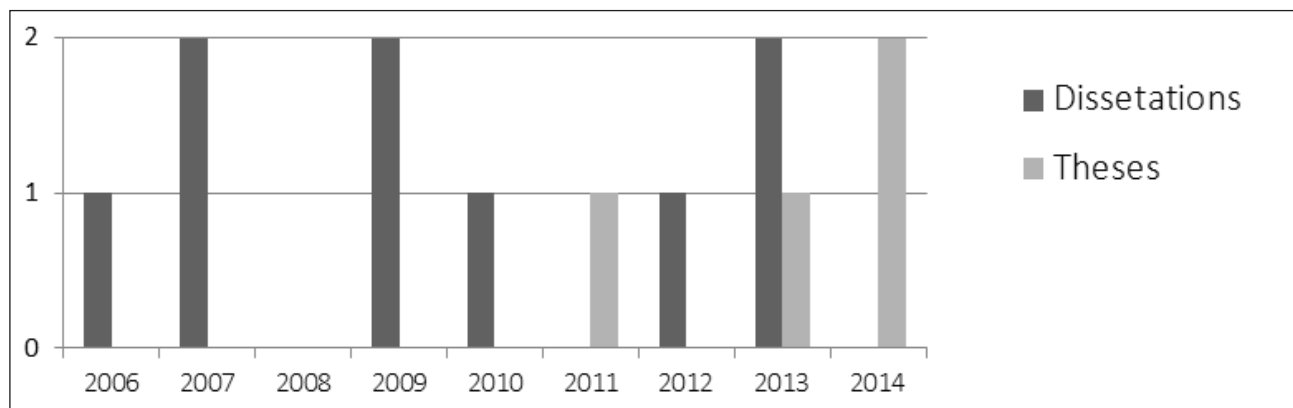
After the search was completed, a sample of 13 papers was included. In order to facilitate the data collection, an instrument adapted from the Netherlands was used,<sup>9</sup> which includes the following aspects: year of publication, professional category, affiliation institution, keywords, methodological approach, theoretical reference, population and level of evidence of the study.

The definition of levels of evidence occurred according to the methodological approach of the studies. The hierarchical classification was considered in seven defined levels, namely: level 1 - meta-analysis or systematic reviews; level 2 - randomized controlled clinical trial; level 3 - clinical trial without randomization; level 4 - cohort and case-control studies; level 5 - systematic reviews of descriptive and qualitative studies; level 6 - descriptive or qualitative studies; And level 7 - expert opinion.<sup>10</sup>

Microsoft Excel 2010 was used for the analysis of the publications, and the descriptive statistics and the results were discussed according to the literature on the subject. As it was a bibliometric study, it was not necessary to submit the project to the Ethics Committee in Research with Human Beings, however the ethical principles in research were respected.

## RESULTS

The sample consisted of 13 papers, of which nine were dissertations and four were theses, all of them written by nurses. Studies completed between 2006 and 2014 were found, and the highest number of publications occurred in the year 2013 (three papers).



**Figure 1 - Distribution of nursing dissertations and theses about the Mobile Emergency Care Service from 2006 to 2014. Pesqueira-PE, Brazil, 2016 (n=13)**

Regarding geographic location, six studies (38.5%) and two in the Northeast (15,4%), as shown in Table 1. were found in post-graduate programs located in the Southeast region (46.2%), five in the South

**Table 1 - Distribution of Nursing dissertations and theses regarding the Mobile Emergency Care Service, according to geographic region. Pesqueira-PE, Brazil, 2016 (n=13)**

Regions	Southeast	Institution	Acronym	n	%
		Universidade de São Paulo	USP	01	7,7
		Universidade Estadual de Campinas	UNICAMP	01	7,7
	Universidade Federal de Minas Gerais	UFMG	04	30,8	
	South	Universidade Federal de Santa Catarina	UFSC	04	30,8
		Universidade Federal do Rio Grande do Sul	UFRGS	01	7,7
	Northeast	Universidade Federal de Pernambuco	UFPE	01	7,7
		Universidade Federal da Paraíba	UFPB	01	7,7

Source: CEPEN catalogs- ABEn from 2002 to 2014.

The synthesis of the publication profiles, methodological approach, thematic study and the according to the type of study, academic level, researched population can be found in Table 2.

**Table 2 - Synthesis of the nursing dissertations and theses profile regarding the Mobile Emergency Care Service. Pesqueira-PE, Brazil, 2016 (n=13)**

Study Type	Academic level/ methodological approach	Studied thematic	Investigated population
Descriptive-exploratory	Dissertation/Qualitative	Worker Health	SAMU Professionals
Descriptive-exploratory	Dissertation/Qualitative	Worker Health	SAMU and Primary Health Care Professionals
Descriptive-exploratory	Dissertation/Qualitative	Worker Health	SAMU Nurse
Convergent- care	Dissertation/Qualitative	Permanent Education	Professionals who work in Advanced Support Units
Descriptive exploratory	Dissertation/Qualitative	Continuous Education	SAMU Professionals
Descriptive-exploratory	Thesis/Qualitative	Daily service routine	SAMU Professionals
Descriptive-exploratory	Dissertation/Quantitative	Worker Health/ Occupational Stress	SAMU Professionals
Descriptive-exploratory	Thesis/Qualitative	Decision-making	SAMU Professionals

Study Type	Academic level/ methodological approach	Studied thematic	Investigated population
Case study	Dissertation/Qualitative	Nurses' experiences	SAMU Nurses
Descriptive-exploratory	Thesis/Qualitative	Subjetividade dos enfermeiros	SAMU Nurses
Methodological	Dissertation/Quantitative	Nurses subjectivity	SAMU Nurses and emergency specialists
Descriptive-exploratory	Thesis/Qualitative	Characterization of care	Population who are attended by SAMU
Descriptive-exploratory	Dissertation/Qualitative	Special features of SAMU	SAMU Professionals

Regarding the strength of the evidence, all studies were identified as having level 6 evidence (12 descriptive-exploratory studies and one case

report). Regarding the keywords, the frequency of the 43 found is shown in Table 3.

**Table 3 - Keywords used in nursing dissertations and theses regarding the Mobile Emergency Care Service, according to geographic region. Pesqueira-PE, Brazil, 2016 (n=13)**

Keyword	f	Keyword	f
Emergency Nursing	04	Family Health Care Program	01
Nursing	02	Access to Health Care services	01
First response	02	Health Care knowledge, attitudes and practices	01
Emergency Medical Services	07	Post-structuralism	01
Ambulance	04	Professional Practise	01
Health Promtin	02	Interpersonal relationships,	01
Pre-hospital Assistance	02	Emergency Medicine	01
Pre-hospitalar care	02	Work	01
National Policy on Emergency Care	02	Decision-making	01
Serviços Médicos de Urgênciam Emergency Medical Services	01	Autonomy	01
Primary Health Care	01	Emergency	01
Public Health Nursing	01	Work capacity evaluation	01
School Health	01	SAMU - 192	01
Occupational Risk	01	Identity	01
Occupational Health	01	Health Care Service Managment	01
Emergency Treatment	01	Nurse	01
Occupational Stress	01	Nurses	01
Nursing in Worker Health	01	Health Education	01
Nursing Care	01	Permanent Health Care Education	01



Keyword	f	Keyword	f
Mobile Emergency Care	01	Service Training	01
Systematization instrument	01	Education	01
Validation Study	01		

F: frequency.

Of the 13 studies included in the sample, six (46.15%) indicated the use of a theoretical reference. Among these, two dealt with specific nursing references (Callista Roy's Adaptation Model and Betty Neuman Systems Theory) and the others were from other areas, such as education and sociology (Anthonny Giddens Structuring Theory, Karl Max, Liberating Education Paulo Freire and Post-Structuralist Theoretical Framework).

## DISCUSSION

Graduate Nursing Programs in Brazil are expanding, this is evident from the 65% increase in offers in the years 2010 to 2013. Such growth is reflected in the 42% increase of doctoral courses and 29% increase in the academic master's degree courses, while the professional master's degree quadrupled in quantity. This has positively influenced the scientific production that has almost doubled in the 2010-2012 three-year period, when compared to the three-year period 2007-2009.<sup>11</sup> Although these advances contribute to the strengthening and recognition of Brazilian nursing, they present the challenge of increasing research quality, so that they can be cited in other studies and gain greater international visibility.<sup>12</sup>

When analyzing the scientific production on SAMU, originating from Brazilian Nursing Graduate Programs, it was observed that the dissertations were presented in greater numbers. Another bibliometric study obtained similar results when it was found that 75.5% of the scientific productions and dissertations referring to nursing administration were available at the Capes thesis bank.<sup>13</sup> This characteristic is justified as the masters courses were the first to be implanted and are more numerous in such programs.<sup>14</sup> In considering the growing expansion of doctoral degrees in nursing, it is expected that their theses will represent greater quantitative in the bibliometric indicators of future studies.

It is important to highlight that the absence of studies that addressed SAMU between 2002 and 2005 may be related to the fact that its implementation only occurred in 2003, which makes it a

relatively new component in the Brazilian health system. Therefore, when considering the organizational specificity, the particularities which are involved in it and the need for time to complete a research, the absence of studies in the first years after the implementation of this service is understood.

The higher concentration of publications which addressed SAMU originating from the South and Southeast regions is similar to the findings of another study, according to which 84.2% of the dissertations and theses related to moral harassment in the Brazilian scenario were produced in Post-Graduation courses from the same regions.<sup>15</sup> This may be related to the fact that *strictu sensu* nursing courses in the South and Southeast are older, and are pioneers in the implantation and concentration of such courses.<sup>14</sup> However, as SAMU is national service, it is pertinent that it the study include different regions of the country, so that there is scientific evidence which can observe the particularities of each regional context with respect to the PHC.

The prevalence of qualitative research observed in the analyzed dissertations and theses, corroborates the results of a study that characterized the Brazilian nursing scientific production on HIV/AIDS and found that there was a higher prevalence of qualitative studies (58.76%). These results found in Brazil are also similar to the bibliometric study performed with the dissertations and theses of nursing in Portugal, which also observed the predominance of qualitative research (57%).<sup>16</sup> The significant prevalence of this methodological approach can be justified since the same enables the analysis of aspects inherent to nursing professionals' work: the holistic view of the human being, subjective issues and the unveiling of meanings, experiences, values and beliefs.<sup>17</sup> However, there is a need for more quantitative studies which address SAMU, taking into account the relevance of this approach related to the high potential for generalization of results and the higher levels of evidence.<sup>10</sup>

Nursing research is relevant because of its potential to support decision-making and to associate the theoretical, practical and scientific dimensions of care.<sup>18</sup> Regarding the type of study, the descriptive-

exploratory was predominant, which explains why all publications were classified at evidence level 6. Thus, the need to develop research with other designs that have the capacity to demonstrate causality or whose conclusions can be applied in clinical practice, is highlighted. Therefore, higher-level studies (quasi-experimental, experimental and/or systematic reviews with meta-analysis) should be performed regarding SAMU in order to scientifically build nursing conducts in the pre-hospital setting.<sup>10</sup>

Among the subtopics observed in the studies, the health of the worker was highlighted, which seems to reflect the researcher's concern with the occupational hazards that exist in the PHC. Exposure to the various risks is related to the operationalization of the work performed in the SAMU, which occurs in the various out-of-hospital locations where the population is affected by urgent or emergency aggravations and need specialized help from such mobile service.<sup>19</sup> A study performed with professionals from SAMU in the State of Paraíba highlighted that their work profile exposed them greater vulnerability to biological risks<sup>20</sup> This is because the rapid realization and the nature of the procedures performed in the pre-hospital setting increases the chances of accidents with sharp objects and consequently exposure to biological risks.<sup>21</sup> Another factor that contributes to the high exposure to such risk is the lack of knowledge of the patient's status related to communicable diseases diagnoses in which makes it necessary to use standard precautionary measures.<sup>22</sup>

Permanent education is another topic highlighted by the studies, which is considered a viable alternative to changes in the work space because of the promotion of differentiated ways of educating and learning<sup>23</sup> The approach to this theme is relevant in view of the need for the continuous training of professionals working in the SAMU, as health care protocols are constantly updated. Thus, the Ministry of Health established the *Núcleos de Educação em Urgências*, whose function is to provide continuous training of professionals in order to qualify them for attending the various types of illnesses that they may encounter.<sup>24</sup> A study carried out with SAMU professionals from the State of Bahia showed that permanent education has several benefits, such as the consolidation of personal commitment, the construction of knowledge and the updating of conceptions and practices in the service.<sup>25</sup> The existence of scientific evidence regarding permanent education in the SAMU can help direct the professionals' decision involved in the preparation and training of the multiprofessional team.

Keywords are elements which are commonly found in academic papers, they are usually located below the abstract and are used to indicate the content. In the analyzed studies, the keywords referred mostly to nursing in the emergency department and some of them were related to the sub-themes explored in the studies - such as worker's health and permanent education - and the existing characteristics in the health services and professionals. Therefore, careful selection of the keywords for academic papers is facilitated so that they facilitate the location of the publications of specific contents during searches in the literature.

Regarding the studied population, the studies was almost entirely performed with the professionals. The absence of studies with patients is possibly due to the complexity of the care and their physiological instability, which may make data collection unfeasible. However, the importance of the development of patient-oriented research, procedures and care performed by SAMU is emphasized, as its results can support the creation of assistance protocols and guide professionals to have behaviors associated with greater survival, fewer sequelae and better prognosis of the victim.<sup>26</sup> Such a measure contributes to the consolidation of the Evidence-Based Practice whose purpose it to guide health care and improve the quality of care provided.

SAMU responds to a wide range emergencies including medical, trauma, psychiatric, gerontology, obstetric, pediatric and neonatal.<sup>27</sup> Given this characteristic, we can see the lack of studies related to the specifics of these diseases. Thus, it is considered necessary to investigate the particularities that support health care, in the context of pre-hospital care and transportation, for patients affected by various diseases in the various phases of the life cycle.

The theoretical basis is the use of concepts and principles that form a logical sequence of ideas and are useful to guide the research development. In the analyzed studies, the use of specific nursing references and references from other areas was observed. The use of theories from other areas in nursing research is due to the fact that health care requires interdisciplinary action, so that nursing may require theories from different areas. In addition, due to the evolution of nursing the use of different methods has occurred, which in turn widens the possibilities of using such theories. In this context, the anchoring of research, based on theoretical references, which aims to contribute to the practice, leads to the reflection and analysis of what was, what is and what will be used to promote nursing as a profession and its consolidation as science.<sup>28</sup>

It should be emphasized that this study presents the possibility of loss of dissertations and/or theses eligible for the sample as a limitation, and which were not available in the catalogs and banks surveyed, during the period of data collection. This can be attributed to the time it takes for bureaucratic procedures to be completed from the moment of defense to online availability. In addition, the present study investigated the production of specific dissertations and theses in nursing, therefore their findings do not reflect the reality of the scientific production of other professional categories that make up the multidisciplinary SAMU team.

In situations of urgency and emergency, attitudes devoid of scientific basis, or mistaken, adopted by the professionals can lead to the death of the victim or to possible sequels. Therefore, knowing the scientific evidence becomes relevant to guide professional practice. Thus, the present study can contribute to the professionals interested in SAMU analyze the characterization of the scientific production originating from the masters and doctors in nursing in Brazil, and to identify the existing gaps and, in order to contemplate them, perform and replicate researches in the pre-hospital context. In addition, this study makes it possible to identify the locations where such research was performed, which aids the search for interinstitutional, multiprofessional and interdisciplinary partnerships.

## CONCLUSION

The analyzed bibliometric indicators allowed a limited quantification of the existing studies about SAMU in the Nursing Graduate Programs and highlighted the gaps in their research. Attention was drawn to the predominance of descriptive-exploratory studies, with a qualitative approach and level of evidence 6, from the Southeast and South regions, which dealt with worker health.

In view of the above, it is recommended to perform new research in the different regions of the country that use other methodological approaches (quantitative and mixed studies) and other types of studies, with higher levels of evidence (quasi-experimental, experimental and/or revisions With meta-analysis). The need for scientific investigation into care, procedures and transportation, performed with the various types of victims (neonatal, pediatric, obstetrical, psychiatric and those affected by clinical and traumatic diseases) rescued by the SAMU is highlighted, with a view to obtaining scientific evidence related to the specificities of each situation.

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