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The work of nurses in the service of contemporary mobile pre-hospital care: integrative review

El papel de las enfermeras en el servicio de atención prehospitalaria móvil contemporáneo: una revisión integradora
A atuação do enfermeiro no serviço de atendimento pré-hospitalar móvel contemporâneo: revisão integrativa

ABSTRACT

The study aimed to analyze the scientific evidence available, referring to the nurse's performance in the mobile pre-hospital care service. The study presents an integrative review of the literature of an exploratory-descriptive character and of qualitative origin. Thirty articles were selected, including 2 articles in English, related to study theme. The discussion was divided into sub-categories summarized in the titles: Analysis of the available scientific evidence, referring to the nurse's performance in the contemporary mobile pre-hospital care service; Identification of the factors that contribute to the efficient or deficient performance of nurses in the contemporary mobile pre-hospital care service. It was concluded that nurses develop several responsibilities that go beyond academic training, showing that new matrices are developed with an emphasis on training of issues imbricated in pre-hospital care. It was suggested that new care models be developed where the contribution of nursing is not enclosed in protocols, allowing the applicability of the interventions to be individual.

DESCRIPTORS: Pre-hospital Care, Nursing Care, Ambulance.

RESUMEN

El estudio tuvo como objetivo analizar la evidencia científica disponible, referida al desempeño del enfermero en el servicio de atención pre hospitalaria móvil. El estudio presenta una revisión integradora de la literatura de carácter exploratorio-descriptivo y de origen cualitativo. Se seleccionaron 30 artículos, incluidos 2 artículos en inglés, relacionados con el tema de estudio. La discusión se dividió en subcategorías resumidas en los títulos: Análisis de la evidencia científica disponible, referida al desempeño del enfermero en el servicio pre hospitalario móvil contemporáneo; Identificación de los factores que contribuyen al desempeño eficiente o deficiente del enfermero en el servicio móvil de atención pre hospitalaria contemporánea. Se concluyó que el enfermero desarrolla varias responsabilidades que van más allá de la formación académica, mostrando que se desarrollan nuevas matrices con énfasis en la formación de temas imbricados en la atención pre hospitalaria. Se sugirió que se desarrollen nuevos modelos de atención donde el aporte de enfermería no se encierre en protocolos, permitiendo que la aplicabilidad de las intervenciones sea individualizada.

DESCRIPTORES: Atención Pre hospitalaria, Atención de Enfermería, Ambulancia.

RESUMO

O estudo teve como objetivo analisar as evidências científicas disponíveis, referentes à atuação do enfermeiro no serviço de atendimento pré-hospitalar móvel. O estudo apresenta uma revisão integrativa da literatura de caráter exploratório-descriptivo e de origem qualitativa. Foram selecionados 30 artigos, dentre eles 2 artigos em inglês, relacionado à temática do estudo. A discussão foi dividida em subcategorias resumidas nos títulos: Análise das evidências científicas disponíveis, referentes à atuação do enfermeiro no serviço de atendimento pré-hospitalar móvel contemporâneo; Identificação dos fatores que colaboram para a atuação de forma eficiente ou deficiente do enfermeiro no serviço de atendimento pré-hospitalar móvel contemporâneo. Concluiu-se que os enfermeiros desenvolvem diversas responsabilidades que ultrapassam a formação acadêmica, evidenciando que novas matrizes sejam desenvolvidas com ênfase e treinamentos de questões imbricadas no atendimento pré-hospitalar. Sugeriu-se que novos modelos assistências sejam desenvolvidos onde a contribuição da enfermagem não fique enclausurada em protocolos, permitindo que a aplicabilidade das intervenções sejam individuais.

DESCRIPTORES: Atendimento Pré-Hospitalar, Assistência de Enfermagem, Ambulância.

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INTRODUCTION

The pre-hospital care service (PHC) is characterized by any and all assistance provided directly or indirectly, using available means and methods, outside the hospital environment for patients with acute clinical, traumatic or psychiatric conditions, aiming at maintaining the life and minimizing sequelae. ¹ In this sense, qualified support for victims still at the scene of the accident, associated with safe and early transportation to the hospital is essential to expand the survival rate. ¹

The initial assistance to emergencies and/or emergencies still at the scene of the occurrence arose since the first military conflicts, more precisely in the Napoleonic period, during this period, the combatants injured during the wars were transported to the medical team by carts. Dominique Larrey, surgeon and military chief, in 1792 changed the

strategy previously used for relief and started the practice of providing initial assistance still on the battlefield in order to prevent possible complications, later on, the combatants received first-aid training. ^{2,3}

In 1955, the first pre-hospital care teams in France emerged and Brazil currently follows the French model adapting to national peculiarities, however this is a recent organization, supported by the Ministry of Health (MH) Ordinance No. 824 of 24th June 1999, which regulates mobile pre-hospital care throughout Brazil. ⁴ Today this type of user support in emergencies is operationalized through the Mobile Emergency Service (SAMU), before, however, it worked through partnerships between the Fire Department and the Municipal and/or State Health Departments. ⁴

With the emergence in Brazil of the Advancing Life Support Units (SAV), from the 1990s onwards, nursing ac-

tivities in the mobile PHC became more evident, as these units had characteristics of invasive maneuvers of greater complexity, being only performed exclusively by medical professionals and nurses. ⁵

Ordinance No. 2048/GM, of November 5th, 2002, which defines the structural and functional organization of systems, establishes how the team of professionals should behave, as well as their profile, their competences and their attributions. The resolution states that the nursing professional performs the functions of Responsible Nurse and Assistant Nurse, which consists of supervising and evaluating the nursing actions of the team, executing medical prescriptions by telemedicine; provide care inherent in the profession of greater technical complexity to severely ill and life-threatening patients; participate in training and professional improvement of the emergency team, provide assistan-

ce to pregnant women, parturients and newborns, among others.⁶

In Article 1 of Resolution No. 375/2011 of the Federal Nursing Council (COFEN), they provide for the obligation of nurses in mobile PHC units for supervision and nursing care and in risk situations, participating in agreement with the team to responsibility for predicting interventions, setting priorities to stabilize the victim during transport, reevaluating them repeatedly until hospital admission for definitive treatment.⁷

The mobile PHC service demands a lot from the professional, so it is essential that nurses prepare themselves adequately to act, adapting themselves routinely to American protocols, with applicable and updated legislation, through lato sensu specialization courses in the area of urgency and emergency, known for their quality as LS (life support): BLS (basic life support), ACLS (Advanced life support), PHTLS (pre-hospital life support) and PALS (pediatric advanced life support), among other training and improvements, aiming to directly influence the imperative assistance during the "golden hour", which are the first hours of the accident, where a considerable portion of the victims with serious traumatic injuries die between the event's route to the hospital.¹⁻⁶

In this context, investigating the actions developed by the professional nurse in mobile PHC units can contribute to the identification of adversities in the use of care and the other functions developed, the planning of possible solutions and to collaborate in the context of reducing morbidity and mortality rates in the area of urgency and emergency, through efficient initial assistance at the accident site by the multidisciplinary team with a focus on the quality of care provided by nursing and all service planning.

Thus, due to the situation addressed above, this study aims to analyze the scientific evidence regarding the nurse's performance in the mobile pre-hospital care service and whose guiding ques-

tion: "What are the scientific evidences of the nurse's performance in the mobile pre-hospital care?"

Therefore, there is a need to recognize such dilemmas and barriers that nurses may face in the execution of their burden arising from insufficient investments, inflation of products and services, evolution of technology, in order to help the professional to deal with these administrative situations and direct your clinical practice, highlighting the need for a new model of management and administration to achieve quality care for the population.¹⁻³

When comparing the care structure of nursing in Brazil with other countries, such as the United States and France, there is an underdevelopment of the expansion of activities carried out and supported by law by nurses, as professionals do not have their role consolidated and recognized in their service systems, different from the mobile PHC model of the countries mentioned. The activities developed by the nurse and his differentiated look in the most diverse spaces inherent to the mobile PHC, bringing innovations, flexibility, development of strategies and encouragement of team work, etc., so that human, practical, efficient and integral assistance is performed, since it performs management functions in addition to acting in assistance for the victim's survival.⁸

METHODS

The respective study consists of an integrative review of the literature of an exploratory-descriptive character and of qualitative origin on the role of nurses in the pre-hospital care service.

This review method is based on Evidence-Based Practice (EBP), originated in England, by the epidemiologist Archie Crochane.⁹ EBP consists of the use of scientific data present in the literature, more specifically, results of several studies, in order to support clinical practice. Among other factors, it involves the definition of a problem, the search

and critical evaluation of the available evidence, the implementation of the evidence in practice and the evaluation of the results obtained.¹⁰

The integrative review is a "specific method, which summarizes the past of empirical or theoretical literature, to provide a more comprehensive understanding of a particular phenomenon"; the term "integrative" being related to the integration of the various concepts, ideas and results present in the analyzed studies.¹⁰⁻¹¹

1. Identification of the theme and selection of the hypothesis or research question for the elaboration of the integrative review; 2. Establishment of criteria for inclusion and exclusion of studies/sampling or literature search; 3. Definition of the information to be extracted from the selected studies / categorization of the studies; 4. Evaluation of the studies included in the integrative review; 5. Interpretation of results; 6. Presentation of the review/synthesis of knowledge.

To perform the bibliographic search, the following electronic databases were used:

a) Virtual Health Library (VHL), developed under the coordination of the Latin American Health Sciences Information Center (BIREME), is a network of online information sources for the distribution of scientific and technical knowledge in health.

b) Latin American and Caribbean Literature on Health Sciences (LILACS), from the Virtual Health Library of the Latin American and Caribbean Center on Health Sciences Information (BIREME).

The descriptors used were defined according to the De Cs (Health Sciences Descriptors) in Portuguese and the Boolean operator "AND" was used, namely: enfermagem AND atendimento pré-hospitalar, enfermagem AND ambulância, assistência AND enfermagem em emergência.

As for the literature search process, it was carried out from August 2019 to May 2020 and the original articles published in scientific journals in the last 5 years (2015 to 2020) in Portu-

guese, English and Spanish referred to the theme in question were included in the review.

The search for the articles was due, first, to find the available descriptors that could have particularities with the objectives in question: "Analyze the importance of the nurse's performance in the contemporary mobile PHC service"; and "To identify factors that collaborate for the efficient performance of nurses in the contemporary mobile PHC service". After the inclusion and exclusion criteria mentioned in the flowchart, 5 articles from the VHL, 15 articles from LILACS and 10 from SciELO were used. Finally, after reading, a total of 30 articles were selected that corresponded to the mentioned objectives.

RESULTS AND DISCUSSION

For the current integrative research, therefore, 30 articles were analyzed in

Portuguese and English selected thanks to the fulfillment of the inclusion and exclusion requirements, with a time frame from 2015 to 2020, related to the theme of the study.

The selected studies were found in the respective databases 05 VHL, 15 LILACS and 10 SCIELO.

In relation to the journals in which the studies were published, the construction sites were SP (09); MG (02); RJ (11); SC (02), RS (01), DF (01), CE (01), BA (01) regarding international studies, two publications are in the English language, respectively Costa Rica (01) and one study comparative between Brazil and Portugal (01).

Of the 30 articles selected, most of them were prepared by nurses, masters and doctors and undergraduate nursing students, with the exception of four of the selected articles, as they had the contribution of military personnel from the Fire Department.

To facilitate understanding, a table was created with the description of each study, containing the following items: title, author, journal/database, year of publication, study objective, methodology, level of scientific evidence and qualifications of the journal, thus presenting the categories below:

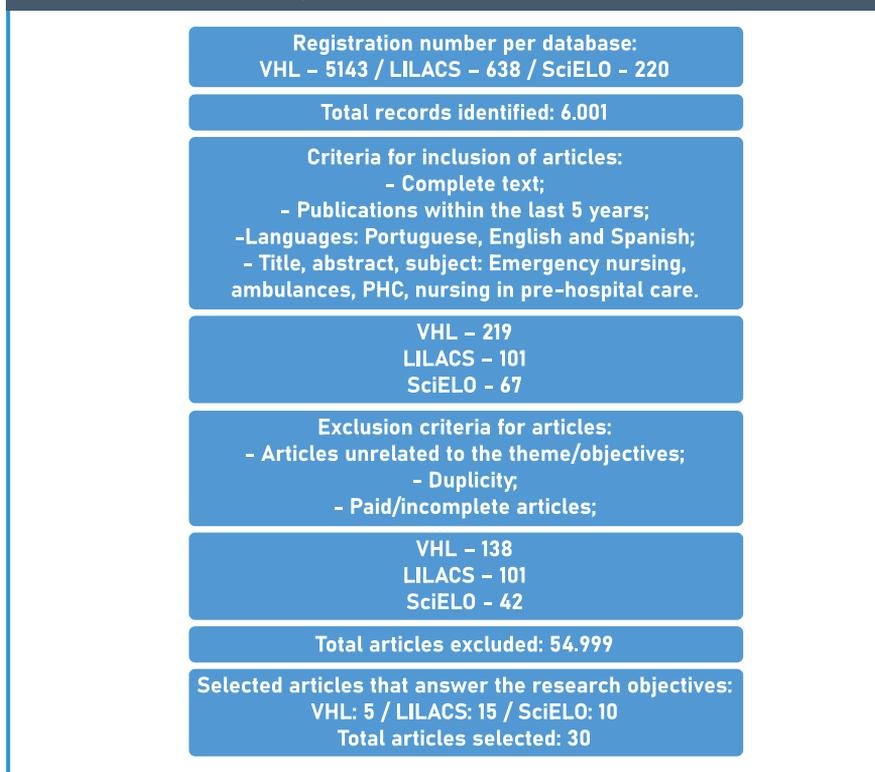
Analysis of the available scientific evidence, referring to the nurse's performance in the contemporary mobile prehospital care service

As previously mentioned, the APHM system when it was introduced in Brazil was operationalized unrelated to healthcare professionals. The activities were carried out by military firefighters due to the lack of public policies in this sphere of health. This led to some assistance difficulties, since the military were not supported by law to perform simple procedures, such as venipuncture, for example, limiting what they tended to compromise, albeit partially in assistance.¹²

In the study by Freitas et al (2019), military personnel from the Fire Department interviewed signaled the need for the professional nurse as a member of the team, not only to add positively to the assistance, but also to provide theoretical-legal support.¹³

The nurse's participation is currently restricted to the composition of the advanced life support team, Intensive Care Units (ICU) and the coordination of the nursing team.¹⁴ However, when analyzing professional competencies and prerogatives, the insertion of nurses as the third component of the basic mobile health service would provide an extension of the scope in the quality of the assessment with little incorporation of technologies, enabling the immediate safe and effective guidance of procedures and administration of medications in situations restricted by regulation, telemedicine and protocols, achieving a benefit for assisted patients of greater complexity avoiding injuries and complications.¹³

FIGURE 2- Flowchart of the initial quantity of articles found in the scientific databases. Rio de Janeiro, 2020.



Source: Elaborated by the author

Nursing professionals must always be up to date with international protocols so that they optimize time and direct their conduct, according to the best scientific evidence. Therefore, as exposed by Peres et al (2018) and Luchtemberg and Pires (2015), it emphasizes once again the need to create and / or restructure assistance models and to create and expand public policies with the objective of implementing a system which offers nursing a more autonomous support for clinical practice at APHM, which can be a challenge for the category. To reduce nursing to a single view is to extract its true essence.¹⁵⁻³⁰

According to Cyrino et al (2019), it points out the need to establish an Interinstitutional Emergency Education Center with the objective of training, qualifying and updating professionals from different areas working in the APH, providing cohesion and harmony between the teams, which will consequently offer a service more dynamic and qualified, covering geographic areas of assistance coverage, which can be: national, state, regional, municipal or district.¹⁴

The nurse's activities in the mobile PHC are basically divided into three phases: before, during and after care. Before the ambulance leaves the courtyard of the institution for the occurrence, it is necessary to check and replace the material, check the equipment that make up the ambulance, check the volume of oxygen in the cylinder and the complete composition of the assistance kits, the medications and etc.¹⁶

In the second phase, the intervention itself, the nurse acts not only in the prediction and provision of the victim's assistance needs, which the identification and mediation happen simultaneously, applying the primary and secondary evaluation, evaluation of the trauma kinematics, application and evaluation the employability by the team of the international protocols, the identification of infectious and parasitic diseases, but also in the safety of the whole team, evaluating the scene, interrupting risk factors and etc.¹⁷

And the third phase begins, when the team safely transports the patient to an in-hospital institution and receives it, the nurse is responsible for registering the care and preparing the report in the nursing occurrence book, in addition to ensure that all material used in the event is replaced in the ambulance, the equipment is cleaned and disinfected effectively.¹⁸

These documents prepared by the nurse in each occurrence contribute to the collection of epidemiological data and to the evaluation of the team's assistance, contributing to the improvement through training and permanent education, which assumes the role of instructor to ensure that the routine of service are uniformly fulfilled and synchronized.¹⁷⁻¹⁸

In December 2019, China issued the first alert of the viral agent recognized as Coronavirus 2019 or Covid-19, the disease whose main route of transmission through the airways, quickly spread to more than 200 countries, leading the World Health Organization (WHO) to issue an international public health emergency declaration of public health of worldwide importance on January 30, 2020. After this announcement, health professionals needed to organize themselves to combat the new Covid-19, employing preventive measures, control and containment of risks and damages to public health.¹⁹

Timóteo et al (2019) points out in his research that the medical records analyzed, considering the SAMU criteria, had almost entirely noncompliance with at least one of the rules, which compromises the epidemiological data collected in the records, which signals that the teams need to be trained and oriented to the correct filling.²⁰

Identify factors that contribute to the efficient or deficient performance of nurses in the contemporary mobile prehospital care service

The lack of a theoretical-scientific model based on public policies that

autonomously supports the practices of nurses in the APHM weakens the identity of these professionals, who feel helpless and restricted during the performance of their profession, depersonalizing them in the contemporary conceptual model.¹⁶⁻²¹

The articles by Anjos, Oliveira & Rosa (2016), Canesin, Lovadini and Sakamoto (2020), Dias et al (2016) and Nascimento and Araújo (2017), reported that mental exhaustion is caused by several factors such as: verbal disrespect and physical activities performed by patients, witnesses, etc., during the occurrence, which partially limits its performance, in addition to affecting mental health, the precariousness of material resources, conflicts and receptivity with other institutions, among others.¹⁶⁻²¹⁻²²⁻²³

According to the study by Souza, Teles and Oliveira (2019), it points out that the requests for ambulances (basic or advanced) to unnecessary events even though it is a common practice of the public is pointed out as another factor that generates stress to the professional. The ignorance of the great part of the population about the purpose of the APHM service is indicated as the most common cause for this demand.²⁴

The scarcity of inputs, the scrapping of vehicles, wage arrears and so on. the results of an economic crisis, dangerously compromise performance in the quality of activities. The devaluation of nursing professionals' wages because they do not have a fixed wage floor is not an isolated situation only for APHM, which ends up leading to professional dissatisfaction and has a direct impact on patient care.²⁵

Five articles of the selected ones speak directly about the occupational risks that the professionals are exposed as biological, physical, chemical, psychosocial and ergonomic risks. Nascimento and Araujo (2017) report that the possibility of this operational professional suffering some type of accident or ac-

quiring occupational diseases and/or illnesses is high.²¹

For the significant reduction of accidents, it is necessary to adhere to individual Protection Equipment (PPE) and that the team is in constant training. Both for permanent training and for the control of the use and provision of PPE are the responsibility of the nurse. Which knowledge, skills and attitudes are required to program their functions effectively. The professional category represents 49% of the total positions held by managers, this can be due to the disciplines anchored in the undergraduate course. The same needs to predict and provide inputs used in the occurrences and signal equipment maintenance so that the management system guarantees them.¹²⁻²¹

Despite numerous notes of difficulties faced by professionals daily in the mobile health service, four articles indicate that many nurses report satisfaction in performing and participating in the APHM team. The well-being and enthusiasm of the participants is expressed in the articles by Tavares et al (2017), Dal Pai et al (2015) and Carvalho et al (2019) which highlight that the gratification and pleasure of assistance, relieve pain and/or intervene in a potentially dangerous situation overlap the setbacks in the professional's performance at the APHM. Despite the research being car-

ried out in different years, we concluded through these studies that many experience the feeling of gratification, exultation and reward especially when there is success in the care and for saving lives at imminent risk of death.¹⁸⁻²⁶⁻²⁷

Another point raised during the research was the failure in the composition of the curriculum of undergraduate courses on APH. Especially the theme of disasters, which is still deficient in the training of professionals, therefore, they need to seek and/or complement their training outside the university environment to work in ambulances and keep constantly updated.²⁸⁻³⁰ The nurse is directly responsible for these trainings in the working institutions, in addition to generating technical training for the team, synchronization of care, it also reinforces emotional ties with them, an important factor for combating stress already mentioned in the study.²⁹

CONCLUSION

We sought to understand the importance of the nurse's performance in the context of the APHM service and to identify factors that collaborate or hinder harm-free assistance for the patient and the professional, and it was evidenced that they perform several responsibilities that go beyond the aca-

demically training currently available. New teaching matrices, with content focused on issues involved in the work process and, mainly, training aimed exclusively at APHM, must be added in a mandatory way so that they can continue and/or start excellent nursing care extra-hospital where resources are limited or nil.

A new assistance model that allows the assessment of the victim's needs in a unique way in different scenarios, for the applicability of nursing care in a unique way for each individual should be implemented, expanding the collaboration of the nurse, do not be enclosed in protocols, as they build a direction in the therapeutic decision, but it becomes fragile when the individualities of the human being are summarized and in each dynamics of occurrence and circumstances. After analyzing the data collected, it is possible to conclude that the nurse plays an indispensable role in the APHM, and must keep in constant update while preserving the capacity for the efficient execution of interventions and immediate decisions.

In this way, constant training and continuing education are essential for the progression in the cycle of assistance improvements, enabling greater autonomy and security in the planning and interventions employed by professionals. ■

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