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PERMANENT EDUCATION STRATEGY FOR AEROMEDICAL SUPPORT

ESTRATÉGIA DE EDUCAÇÃO PERMANENTE PARA O APOIO AEROMÉDICO

ESTRATEGIA DE EDUCACIÓN PERMANENTE PARA EL APOYO AEROMÉDICO

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ABSTRACT

Objective: to identify educational strategies for the clarification of terrestrial APH teams, regarding the indications for the activation of aeromedical assistance. ***Method:*** descriptive study with a qualitative approach. It used the confrontation between the General Standards of Pre-hospital Care Action and the published notes on the activation of the aeromedical service, which were validated by the study participants through a structured questionnaire, which was carried out by 14 members of the Air Operations Group. ***Results:*** show index in the activation of the aeromedical service below the capacity of attendance of the Air Group of Operations from Rio de Janeiro (RJ), Brazil. The insecurity in the activation by the professionals of the prehospital care was highlighted as the main reason for occurrence of this fact. ***Conclusion:*** the application of continuing education in health and the restructuring of the aeromedical activation process could demystify this service among prehospital care professionals and extend the use of this resource to the Carioca population. ***Descriptors:*** Education, Continuing; Air Ambulances; Emergency Medical Services.

RESUMO

Objetivo*:** identificar estratégias educativas para o esclarecimento das equipes de APH terrestre quanto às indicações de acionamento do socorro aeromédico. ***Método*:** estudo descritivo, com abordagem qualitativa. Utilizou a confrontação entre as Normas Gerais de Ação do Atendimento pré-hospitalar e as notas publicadas sobre acionamento do serviço aeromédico, sendo estas validadas pelos participantes do estudo mediante questionário estruturado que contou com a participação de 14 integrantes do Grupamento de Operações Aéreas. ***Resultados*:** mostram índice no acionamento do serviço aeromédico abaixo da capacidade de atendimento do Grupamento de Operações Aéreas do Rio de Janeiro (RJ), Brasil. A insegurança no acionamento por parte dos profissionais do atendimento pré-hospitalar foi destacada como o principal motivo para a ocorrência deste fato. ***Conclusão*:** a aplicação da educação permanente em saúde e a reestruturação do processo de acionamento do aeromédico poderiam desmistificar este serviço entre os profissionais do atendimento pré-hospitalar e ampliar a utilização deste recurso à população Carioca. ***Descritores: Educação Continuada; Resgate aéreo; Serviços Médicos de Emergência.

RESUMEN

Objetivo: identificar estrategias educativas aclaración de los equipos de APH terrestre, cuanto a las indicaciones de accionamiento de ayuda. ***Método:*** estudio descriptivo con un enfoque cualitativo. Utiliza la confrontación entre las Normas Generales de Acción de la Atención pre-hospitalaria y las notas publicadas sobre activación del servicio aeromédico, siendo estas validadas por los participantes del estudio a través de cuestionario estructurado, con la participación de 14 miembros del Agrupación de Operaciones Aéreas. ***Resultados:*** muestran índice en el accionamiento de servicio aeromédico abajo de la capacidad del grupo de operaciones aéreas en Rio de Janeiro (RJ), Brasil. La inseguridad en la unidad de profesionales de la atención pre-hospitalaria se destacó como la principal razón para la ocurrencia de este hecho. ***Conclusión:*** la implementación de la educación permanente en salud y de la reestructuración del proceso de accionamiento aeromédico podrían desmitificar este servicio entre los profesionales de la atención pre-hospitalaria y extender el uso de este recurso a la población del Rio de Janeiro. ***Descriptores:*** Educación Continua; Ambulancias Aéreas; Servicios Médicos de Urgencia.

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INTRODUCTION

Aeromedical service is a resource used in urgencies and emergencies in air transport under medical supervision for the proper treatment of accident victims and sudden illness. The purpose of this service, is to provide rapid on-site urgency and emergency support and referral to the hospital in a shorter time, with resources required for advanced pre-hospital care.[1]

Time has always been a limiting factor in the attendance of accident victims, compared to others in emergency care. The time of prehospital care, until the definitive care, in the hospital should be the smallest possible, preferably, in less than one hour. This brevity in care is directly related to the reduction in morbidity and mortality rates.[2]

The use of Aeromedical Transportation is primarily intended for victims who are at risk of death and often becomes the only alternative for the individual to receive the indicated treatment and in a short space of time.[3]

The helicopter in many situations is the only way to reach the hard-to-reach location, to ensure rapid advanced life support and to carry the patient to a specialized hospital unit in a short space of time.

The Air Operations Group is responsible for different types of missions, but related to the health area, it operates throughout the State of Rio de Janeiro in the mode of Intra-hospital Transportation (IHT) adult and neonatal and Aeromedical Evacuation (AMEV). The aeromedical crew provides primary relief and/or supports prehospital (PHC) mobile ground teams. This aeromedical team is formed by the pilot of the helicopter, the doctor, the nurse and the nursing technician.

The analysis carried out in the practical field points to a mismatch between the service demand with indication for the activation of the aeromedical service in Rio de Janeiro, in relation to the (actual) flow of requests, a field to be understood. Thus, the paradox between the high number of occurrences and the amount of support given by the aeromedical cause, the professionals of the Air Operations Group to unfold hypotheses that alert the reassessment of the process of activation employed.

For the change in this framework, he identified the need for the collective construction of reflexive processes and the elaboration of analysis on the work process for changes in the conception and practices of training of health service workers, under the logic of Permanent Health Education.[4]

It is expected that the Permanent Health Education (PHE) will contribute to the approach of the professional of prehospital mobile terrestrial service to the Air Group Operations bringing rearrangements in the request of aeromedical support.

PHE can be an important ally during operational attendance, as, it provides the possibility of interaction, withdrawal of doubts and as a source of data for further discussions and improvement of the existing practice between the Air Operations Group and the pre-hospital land-based mobile teams.

From the scenario that permeates between the request for support of the air rescue and the educational strategies that would help in this process, the following questions emerged: What is the profile of requests for support from the aeromedical service in the State of Rio de Janeiro? What strategies could optimize the use of the aeromedical service by the teams requesting prehospital care?

This study is justified by the opportunity to analyze issues with the health teams of the Air Operations Group of Rio de Janeiro, related to the survey of strategies aimed at the development of the operation of aeromedical activities.

The study generates the opportunity to spread the theme in an academic environment, pointing out PHE as a strategy for improving the service and for narrowing the different spheres of the PHC. These measures aim at perfecting the criteria of activation and the optimization of the aeromedical service.

OBJECTIVES

- Identify educational strategies for the clarification of terrestrial PHC teams, regarding the indications for the activation of aeromedical assistance.
- Raise with the Air Operations Group, the factors related to the operation of the aeromedical service.

METHOD

A descriptive study, with a qualitative approach, performed inside the Air Operations Group, with professionals related to the aeromedical service of Rio de Janeiro/RJ, Brazil. All steps of data collection were carried out inside the AOG, detachment and took place in the second half of 2016.

The article is based on the data gathered in a field research, prepared for a master's dissertation at the Federal University of Rio

de Janeiro (UFF), entitled "Education strategy for aeromedical support: a descriptive study". The study deals with issues that directly involve the routines of the prehospital care teams in Rio de Janeiro. The result of the field research enabled the analysis on the reality and the vision of the professional and enabled a relevant discussion on the subject.

In the first phase, a bibliographical review, was used as a preliminary source, the survey of the General Standards of Action of the prehospital care, the institutional notes published in Internal Bulletins of the Fire Department of the State of Rio de Janeiro/RJ on the activation of the aeromedical service and the documentary survey of the Air Operations Group on the statistical data of aeromedical support requests in the year 2015.

The second phase of the study consisted of comparing the analysis of the documentary information of phase I, under the proposition of crossing the data with the structured individual interview applied to the members of the nursing team, to the physicians and to the pilots of the GOA, who worked in the aeromedical in the year 2015. This phase counted on the participation of 14 members of the aeromedical team. A structured questionnaire composed of seven objective questions was used, as a strategy for obtaining data.

The data collected in the first phase of the research and the structured questionnaire provided data that enabled the survey, together with the Air Operations Group, of factors related to the operation of the aeromedical service and the identification of educational strategies for the clarification of the terrestrial PHC teams, regarding the indications for the activation of aeromedical assistance.

The results were organized according to the order of distribution of the questions of the structured questionnaire.

In the analysis of the structured questionnaire, we opted for the study of the frequency and distribution of the participants' answers. This analysis followed the light of all the information collected during the two phases of the research.

The technique of Content Analysis was used, that is composed by: pre-analysis; exploration of the material, treatment of results, inference and interpretation.[5] In the construction of these stages, two categories emerged: profile of the requests of support of the aeromedical service in the state of Rio de Janeiro and operational strategies in the request of the aeromedical support.

The inclusion criteria adopted were: Rio de Janeiro State Military Firefighters, professionals from the Rio de Janeiro State Air Operations Group with direct experience in 2015 with the aeromedical service and who have specialization in the Operational Crew Training Course (OCT). Exclusion criteria are limited to the following situations: professionals from the Air Operations Group who were on leave while collecting data and those who chose not to participate or who withdrew from the study.

The anonymity of the research participants was maintained facilitating the free expression of ideas about the theme; The study guaranteed, through the Free and Informed Consent Term (FICT), the authorization to divulge the answers of the research subjects.

The aspects contained in Resolution 466 on research involving human beings were respected and the research project was approved by the Ethics Committee of the Federal Fluminense University, under the opinion nº 1,207,657 issued on 08/31/2015.

RESULTS

The questions were described in full and their results, presented in the text, following the order of the questionnaire. In the first five questions of the structured questionnaire, the participants had the opportunity to point out only one alternative. On the sixth and seventh questions, they could indicate how many options they considered feasible to answer the questioning.

Question 1: How many aeromedical services, on average do you believe the AOG would be able to perform per day, with the structure it has today?

No participant believes that this percentage is equal to zero or a daily attendance; two participants understand that the structural capacity of Aeromedical Support of the Air Operations Group is limited to two daily visits; another four said that this number of appointments can reach is three; two others point to four daily visits; two others believe in five visits and four participants understand that the number of aeromedical support can be higher than five daily visits, totaling a general quantitative of fourteen participations.

In 2015, the Aeromedical Service of AOG carried out 262 consultations, which is subdivided into Aeromedical Evacuation (AMEV), Intra-Hospitalar Transport (IHT) and Intra Neonatal Hospital Transport (NEO-IHT)

and this establishes an average of 0.72 attendances per day.[6]

Question 2: Taking into account that, in the aeromedical evacuations (AMEV), the main sources of activation of the service are made by the prehospital care teams (PHC) and the GSE/SAMU Operation Center (GSOC). In your opinion, which of these two groups has the highest rate of activation to AOG?

Requests for aero-medical support are usually performed in two ways. It can be activated by the Emergency and Emergency Operations Center of Rio de Janeiro or directly by the garrison that is at the place of the service.

The data presented points to a discrepancy between the two types of drive. Thirteen participants considered that requests for aeromedical support arrives more to AOG through the Regulation Central. Only one participant understands that the aeromedical support requests arrive more to the AOG at the direct request of the terrestrial mobile PHC teams.

Question 3: What is the order of ambulance category, which triggers the most aeromedical service?

The pre-hospital ambulance structure, in the city of Rio de Janeiro, is made up of doctors, nurses, nursing technicians and drivers who form garrisons in ambulances that are categorized as Advanced, Intermediate and Basic. The Advanced ambulance is equipped with a doctor, a nurse technician and a driver; the intermediate and basic ambulances follow the same training, with change of the doctor for the nurse in the Intermediate and the doctor for the second nursing technician in the Basic.

Seven participants indicated that most requests for Aeromedical support are made by Advanced ambulances, six participants believe that the category that most triggers aeromedical support is Basic, and only one participant understands that the Intermediate ambulance is the category that most requests the support in case of Aeromedical Evacuation (AMEV).

Question 4: Technically analyzing the support requests for Aeromedical Evacuation (AMEV), what is the order of priority ambulance category that should trigger the aeromedical service?

Everyone understands that the order of ambulance category that triggers the aeromedical service should be composed by the Basic vehicles, followed by the Intermediate and finally the Advanced ones.

Question 5: In your opinion, do aeromedical support teams regularly request the support of the aeromedical service when they are in a service that has such an indication?

The result shows that nine of the participants do not believe that the mobile Prehospital Care (PHC) terrestrial teams regularly request the support of the aeromedical support, in all the times that it has an indication and five participants understand that this request of support to the aeromedical team is carried out whenever it is necessary.

Question 6: Which factor(s) can interfere with the activation of the aeromedical service?

Eleven participants agree that there is disinformation regarding the Aeromedical service from the mobile Prehospital Care Teams (PHC) and this interferes with the activation of the aeromedical service.

Five participants believe that, because of operational factors, the Air Operations Grouping, in some situations, is prevented from attending the requests of support and this, in their understanding, interferes in the decision making process of aeromedical activation by the mobile PHC terrestrial teams.

Four participants understand that, due to operational factors, the AOG, in some situations, is prevented from carrying out the request for support and this interferes in the decision making process of the aeromedical activation by the Regulation Center.

Nine participants feel that there must be a closer relationship in the communication relationship between the Air Operations Group and the Medical Regulation Center.

Thirteen participants understand that there needs to be a closer relationship in the communication relationship between the Air Operations Group and the mobile PHC ground teams.

One participant associates other factors that were not related in the options, that interfere in the activation of the aeromedical service.

Question 7: What measure (s) can be taken to improve the flow of the Aeromedical service in AOG?

One participant believes that the flow of activation of the Aeromedical service in the Rio de Janeiro State Fire Brigade (CBMERJ) is ideal and does not need to change.

Seven participants attest that it will be pertinent, to improve the flow of the drive, the creation and publication in the internal

bulletin, of a flow chart that technically directs the indications of activation of the aeromedical team, with the step by step of the respective steps that involve this process.

Thirteen participants said they should intensify lifelong education among prehospital care professionals.

Eleven participants understand that, in addition to the Permanent Education and Health they must provide a course for the operational professionals of pre-hospital care on the activation of aeromedical assistance.

One participant associates that there are also other factors that were not related in the options, which serve as measures to improve the flow of the aero-medical service.

DISCUSSION

This stage presents two categories that arose based on the questions that guided the study and the results found.

♦ Profile of requests for support of the aeromedical service in the State of Rio de Janeiro

According to the participants, the amount of support provided by the aeromedical service in the State of Rio de Janeiro, in 2015 represents an index well below the operational capacity of the Air Operations Group. Observing the data, it is possible to affirm that the scenario presented an average lower than an aeromedical attendance to the day. When comparing this with the estimate made by the participants it was clear that they believe that the Grouping has a ready response capacity far superior to what it has been presenting.

Based on the lowest expectation of participants, which would be two daily visits, this index is still more than double the average presented in 2015. It should be noted that only two participants opted for an average of two daily visits. So, the other 12 participants believe that AOG has a ready response equal to or greater than three daily visits.

The aeromedical service has peculiarities that restrict flight, which are related to the appropriate climatic conditions and the necessity of presence of visibility to carry out the care. These peculiarities are analyzed by the aeromedical team, therefore it is not for the request of the support to worry about these variables. It is the responsibility of the applicant, the evaluation of the clinical conditions of the patient, their needs for advanced support with a reduced response time, as well as the geographical characteristics of the place where the patient is located.[7] These last conditions must be well established by the Prehospital Care teams at the time when it needs to define the type of support to be requested, because the analysis of the response time is very important because the victim depends on the speed and effectiveness to survive and avoid side effects.[8]

Due to the peculiarities already exposed, it is expected that this type of service may generate doubts in the helicopter drivers by the professionals who are in the rescue location and in the professionals who work in the Medical Regulation center. In Rio de Janeiro the activation of the aircraft support can be done directly by the team that is in the occurrence or, passed to the Medical Regulation center, so that they come in contact with the aeromedical team. This activation rule was established so that the professional who is in the pre-hospital care can request the support to the AOG without fear, because it is the responsibility of the group to be responsible for the aerial operation and the communication with the regulating bodies.[9]

Assuming that time is a fundamental factor for the success of the service and that the team that is in the rescue place has the autonomy to directly trigger the aeromedical support, it does not make sense, in most cases, for the use of a Regulation Center in the intermediation of this type of support. This intermediation by the Medical Regulation Center increases the response time of the support and may make it difficult to obtain essential data for the execution of the flight. The information can be passed to the Medical Regulation Center in a secondary way by the Air Operations Group.

Another important point to understand the profile of the request for ambulance assistance is to identify which ambulance category regularly requests the service. The priority of triggering the ambulance type should be based on the classification of the victim's condition.[10] It should be noted that the prehospital ambulances in the city of Rio de Janeiro are positioned by areas. The first criterion for triggering these ambulances is related to the vehicle closest to the place of occurrence, prioritizing the first approach and not just the type of ambulance. So, it is common to say that a basic ambulance serves serious patients with indication of advanced support.

Advanced ambulances are strategically located in the major centers of major cities in Rio de Janeiro/RJ and consequently, close to major emergency hospitals. This proximity to

the large hospitals restricts for specific cases, the indication of the activation of the aircraft by the advanced ambulances. This principle is based on the idea that the aeromedical service presents the same health resource as an advanced ambulance[10] and the central priority is the arrival of the patient in viable conditions to the hospital. Research shows that air service is faster than terrestrial only at distances of more than ten miles, approximately, 16 kilometers.[11]

The current scenario in Rio de Janeiro shows a predominance of requests for support to the Aeromedical by advanced ambulances, followed by the basic ones and finally, the Intermediaries, while the logic exposed by the participants points to a greater need of vehicles of less complexity in relation to those of larger.

This logic does not validate the need for one category of ambulance to request support over the other, but emphasizes that, of course, the categories of ambulances that have less material resources and are composed of non-medical professionals need more of the presence of aeromedical support due to absence The availability of the advanced facility and the furthest away from the major hospitals.

The opinion of most of the participants in this study ratifies that there is a paradox between the high number of occurrences of prehospital emergencies in the city of Rio de Janeiro in relation to the activation rates of Aeromedical support and that most of these requests are made by Medical professionals.

The Emergency Nurses Association and the NationalFlight Nurses Association in the US consider it to be essential that this professional is specifically trained and has extensive experience working with critical patients.[12] The hospital pre-service must make use of all the knowledge to use the resources available, because this scenario does not provide the resources of a hospital unit and the number of professionals working in a given emergency is restricted.

The pioneering of Rio de Janeiro in the aeromedical service in Brazil and the good results presented over the years are fruits of investments related to professional training, the time of experience of the professionals to exercise the function and the requirement of the specialization to carry out the aerial activity. However, the study points to a situational alert regarding training, lifelong education and a close relationship in the relationship between the aeromedical team, the Medical Regulation Center and the prehospital mobile health teams.

♦ Operational strategies for requesting aeromedical support

The search for excellence in aeromedical activity is reflected in the rigor required by aviation, where safety criteria are considered as a reference. The realization of refresher courses, practical training, permanent education and the construction of a detailed standardization of Aeromedical activation are pointed out by the participants as essential points for the improvement of the service.

The main factors that interfere in the activation of the aeromedical service in Rio de Janeiro are related to the deficiency in the information related to the indications and the forms of activation, by the terrestrial teams, of Prehospital Mobile Care. Another relevant factor is the low level of coordination between these three teams: the aeromedical service, the Communication Center and the terrestrial mobile Pre-hospital Care teams.

It is a fact that the difficulty of creating an interdisciplinary work is possibly part of all professionals of the health team, since it implies in the specificity of the attributions of each profession, of its knowledge and to what extent it is necessary to deepen in the work together, to form a cooperative relationship.[13] The interworking index among the prehospital care teams is understandable in terms of operations, because, although they are linked by a single objective, they perform unique activities and in a different location. Bridging these links is a challenge to be improved.

The participants of the research emphasize that this interaction can improve, with the publication of notes common to all members of the prehospital care, which detail about the indications of the use of the aeromedical service and the way to activate it. This guides you through the indications and provides step by step process.

The specificity of the activity and the precariousness of scientific events and publications on the theme are issues that make it difficult to identify strategies that help in the improvement of the service. A recent study, that dealt with the regulation of aeromedical service assignments also highlights this lack of knowledge production on the subject.[14]

The research indicates, as a strategy for the improvement of the service, the accomplishment of courses that deal with the activation of the aeromedical service and the peculiarities of the activity, with the different professionals who act in the operationality of the prehospital care. The daily activity provides an excellent practical opportunity for

the professional narrowing and the application of the permanent Education in health. The PHE proposal aims to transform professional practice and work itself, by empowering health professionals in their work context, based on problematization, where the problems and health needs of the population emerge.[15]

It is necessary to recognize the educational character in the work environment and to apply the educative activities provided by the health service, composing itself as support of a process of political-pedagogical formation.[16]

The demands for in-service education are not only defined from a list of individual needs for updating, neither only from the orientations of the central levels, but primarily from the problems of the work organization, considering the need to pay relevant attention and quality, with integrality and humanization, and considering the need to conduct actions, services and systems with network production and intersectoral solidarity.[17]

The processes of qualification of the health personnel should be structured from the problematization of their work process. Its objective should be the transformation of professional practices and the organization of work itself, taking as reference, the health needs of people and populations, sector management and social control in health.[17]

The study reveals that the expected results from educational actions, in the short term lead to an improvement in the quality of technical performance and a reduction in procedural failures.[18] Through education, the professional develops a critical sense, since, more important than the quantitative service is the quality of it, with the confidence of all the team to trigger the support when it is indicated and the discernment to look for another strategy when the use of the aircraft is not the best option.

The improvement of the service should be an objective of all health activities, since, from the quality, it is possible to improve the use of resources and provide a better service to society.

CONCLUSION

Through the finding of this research, it is possible to affirm that the operationalization of the activation of the aeromedical service in Rio de Janeiro is present and that it has the operational availability to attend a greater number of requests of support.

The results show the importance of the creation of free courses that deal with the main indications for the activation of aeromedical assistance and the way in which the prehospital care professionals must proceed during the request of the support.

The creation of standardization with the indications and details of the aeromedical service is a point to be considered, since it facilitates the decision making and the support regarding the use of the resource. Although there is a precariousness in the number of publications that associate Permanent Education in Health with the aeromedical service, this study considers the application of this proposal to be positive, since it aims at changing the professional practice, through the problematization to transform the lived reality. The Permanent Education in Health can help in the construction of interdisciplinary bonds, since the professional has the opportunity to participate in the development of their work process and with this to understand the reality lived by the others.

Considering that the nursing team is responsible for the majority of prehospital care, that the basic and intermediate ambulance present limited resources in relation to the advanced ambulance and visualizing the superior number of basic ambulances in relation to the advanced ones, the results of request of support not understandable to the upper aeromedical service of the advanced ambulances in relation to the other categories. The understanding of this fact is seen as a factor that must be discussed and worked on for the improvement of the activity.

The results may open scope for new research, both in the internal scenario of the Rio de Janeiro Air Operations Group, and externally in the Mobile Emergency Response Service (SAMU), in the private PHC services on highways and also in its interface with the Centers of Regulation of Emergencies and Medical Emergencies. The greater knowledge and integration of the services aim to improve the prehospital activity, and consequently, improve the health service provided to the population of Rio de Janeiro/RJ, Brazil.

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