

CHARACTERISTICS OF A PRE-HOSPITAL CARE TEAM IN THE STATE OF RIO GRANDE DO SUL

CARACTERÍSTICAS DA EQUIPE DE ATENDIMENTO PRÉ-HOSPITALAR NO INTERIOR DO RIO GRANDE DO SUL

CARACTERÍSTICAS DEL PERSONAL DE ATENCIÓN PRE-HOSPITALIA EN EL INTERIOR DEL ESTADO DE RIO GRANDE DO SUL

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ABSTRACT

The study objective was to characterize a pre-hospital care team in the state of Rio Grande do Sul. It is an exploratory descriptive quantitative research. Forty-four health professionals working in pre-hospital care participated in the study. A data basis originated from a structured tool; the statistical analysis used SPSS software. The majority of the study subjects were male nursing technicians, doctors and nurses over 36 years of age. Most respondents (43.2%) felt motivated by their respective specialty; 40.9% were interested in the salary; 86.4% were satisfied. The majority of respondents knew the company's protocol and were aware of the ethical complications of a poor service; when in doubt 97.7% asked for colleagues' help. Health care provided by qualified professionals contributes to the quality of pre-hospital care, influencing positively the reduction of complications of inadequate primary care.

Keywords: Emergency Medical Services; Health Personnel; Emergency Nursing; Job satisfaction.

RESUMO

O objetivo foi caracterizar a equipe de atendimento pré-hospitalar no interior do Rio Grande do Sul. O estudo foi exploratório-descritivo, quantitativo, do qual participaram 44 profissionais de saúde que atuam em serviço pré-hospitalar. Foi utilizado instrumento estruturado que deu origem ao banco de dados em planilha Excel e análises estatísticas no software SPSS. Evidenciou-se que a maioria são homens, acima de 36 anos e técnicos em enfermagem, seguido de médicos e enfermeiros. A maioria dos entrevistados (43,2%) sente-se motivada pela área de atuação, 40,9% pela questão salarial e 86,4% estão satisfeitos. A maior parte dos entrevistados conhece o protocolo utilizado na empresa e reconhece as complicações de um cuidado mal-assistido, na dúvida (97,7%) questiona o colega, pois reconhece as complicações éticas. O atendimento de profissionais capacitados e integrados resultará na qualidade do atendimento pré-hospitalar, influenciando positivamente na diminuição de complicações de um cuidado primário mal-assistido.

Palavras-chave: Serviços Médicos de Emergência; Pessoal de Saúde; Enfermagem em Emergência; Satisfação no Emprego.

RESUMEN

El objetivo del presente trabajo fue caracterizar el personal de atención pre-hospitalaria del interior del Estado de Rio Grande do Sul. Se trata de un estudio exploratorio, descriptivo, cuantitativo en el cual participaron 44 profesionales de la salud del servicio pre-hospitalario. A través de un instrumento estructurado fue elaborado un banco de datos en planilla Excel y análisis estadísticas en el software SPSS. Se observó que la mayoría del personal eran varones mayores de 36 años técnicos de enfermería, después de médicos y enfermeros. La mayoría de los encuestados, el 43,2% se sentía motivado por el área de práctica, el 40,9% por el tema salarial y el 86,4% se decían satisfechos. Casi todos conocían el protocolo de la empresa, y estaban al tanto de las complicaciones de la atención deficiente; ante la duda el 97,7% recurría a un colega, ya que conocía las complicaciones éticas. Con la atención de profesionales capacitados e integrados se podrá lograr mejorar la calidad de la atención pre-hospitalaria y que disminuyan las complicaciones provocadas por una atención primaria poco eficiente.

Palabras clave: Servicios Médicos de Urgencia; Personal de Salud; Enfermería de Urgencia; Satisfacción en el Trabajo.

INTRODUCTION

Prehospital care (PHC) aims at helping the victim shortly after the accident. It relates to care provided outside the hospital environment, either directly or indirectly, with available resources. This type of care involves from simple medical advice to sending a basic or advanced support vehicle for the care of traumatized people, in order to sustain life and reduce sequelae.¹

Emergency care in Brazil is administered by the federal government in partnership with states, municipalities and private companies. It is an integrated service that offers to the population closer services to their homes.² In Brazil, PHC is performed by the Mobile Emergency Service (SAMU) regulated by Ordinance No. 2048/GM dated 5 November 2002. Its main objective is to organize a speedy response to emergency calls at home, in the workplace, on public roads or other places deemed necessary. It aims at reducing the number of deaths, hospital stays and sequelae resulting from the lack of early care.³

PHC may consist of one or more service units, depending on the population. The SAMU has two types of ambulances: the basic support unit for cases with no imminent risk of death, with at least two qualified professionals; the advanced support unit for high-risk emergency cases and intra-hospital transport, when intensive care is needed.^{4,5}

PHC is operated by health professionals (doctors, nurses and nursing technicians) and others outside that speciality, such as radio operators, vehicle drivers and telephone operators. Nursing protocol and patient risk classification subsidize systematic and organized nursing interventions in emergency care, prioritizing safety, quality, promptness and comprehensiveness of care.^{1,6}

Emergency care has a significant impact in the morbidity and mortality rates of the population given the high incidence of accidents and urban violence. As a result it is necessary to consider a hierarchical and problem solving system, especially in actions performed before the patient's arrival at hospital.⁷ The effectiveness of the service reduces morbidity and mortality from trauma or violence.⁸ Therefore, efficient primary care at the scene, performed by a multidisciplinary team, and focusing on quality of care helps to reduce morbidity and mortality rates and overloading in emergency rooms.⁷

Given the above characteristics of the PHC professionals and taking into account the importance of scientific literature directed to their needs⁹, the present study aims at characterizing a pre-hospital care team in the state of Rio Grande do Sul.

METHOD

This is an exploratory descriptive quantitative study carried out in two pre-hospital care services operating in two municipalities of the state of Rio Grande do Sul. In order to preserve the identity of such companies they are called here PHC1 and PHC2.

PHC1 comprises three mobile units intended for pre-hospital emergency care in the main city and nearby municipalities within its operational area (12 km). Its team consists of thirteen doctors, two nurses and fifteen nursing technicians, answering on average 250 calls per month.

PHC2's central operation is in the host city, which sends the units to the municipalities in the hinterland of the state. It has two units: a basic unit, whose team consists of a paramedic driver and a nursing technician; an advanced unit with a doctor, a nurse and a paramedic driver. There are 40 health professionals distributed according to rotation, being twenty doctors, five nurses and fifteen nursing technicians, who answer on average 320 calls per month.

The study population comprised 70 health care professionals (doctors, nurses and nursing technicians) working in both units. Those who were off, on vacation or on sick leave were excluded. In total 44 health professionals participated in the study. Data were collected through a previously scheduled interview with each professional, between August and September 2013 covering all shifts. The data collection tool consisted of 20 objective questions freely chosen. Each participant filled in a questionnaire; data were coded and organized in an Excel spreadsheet, later exported to SPSS version 22 for descriptive analysis. Frequency, proportion, Person's chi-square test and Fisher's exact test were calculated. A significance level of $p < 0.05$ was used in the analysis and the results were presented in tables. The study was approved by the Research Ethics Committee at the Univates University Centre (Protocol No. 335 672/2013) and is in accordance with Resolution 466/2012 of the National Health Council.

RESULTS

The study subjects were 44 health professionals working in two PHC units. It included doctors, nurses and nursing technicians that represent 73.3% of the PHC professionals.

Concerning the respondents' characteristics, 75% were male; 45.8% were less than 36 years of age; 52.3% were nursing technicians, 29.5% doctors and 18.2% nurses; 79.5% had more than five years' experience (Table 1).

Regarding professional updating, 50% of the respondents turned to books; 38.6% attended refresher courses. The study showed that 50% of the respondents had specialized in emergency care, supported by the PHC unit where they worked.

PHC has protocols with guidelines for the care of accident victims: 93.1% of the respondents reported knowing the company's protocol for pre-hospital care; 77.3% would not make any changes to improve such protocol (statistically significant $p < 0.001$); however, 6.9% said they did not follow the PHC protocol (Table 2).

Table 1 - Characterization of the PHC team according to gender, age group, training and years of professional experience, 2013

Variables	N	%	p
Sex			
Male	33	75.0	0.851
Female	11	25.0	
Age group			
18 a 24	02	4.6	0.045
25 a 30	13	29.5	
31 a 35	09	20.4	
≥ 36	20	45.7	
Professional education			
Nursing technician	23	52.3	<0.001
Nurse	08	18.2	
Doctor	13	29.5	
Professional experience (years)			
1 a 3	04	9.01	0.001
3 a 5	05	11.4	
≥ 5	35	79.5	

Table 2 - Evaluation of the use of protocol to accident victims by PHC professionals, 2013

Variables	N	%	p
Know the protocol			
Yes	41	93.1	0.256
No	03	6.9	
Use the protocol			
Yes	41	93.1	0.563
No	03	6.9	
Would make improvements in protocol			
Yes	10	22.7	0.001
No	34	77.3	

The rates of satisfaction and professional fulfilment in PHC units were as follows: 43.2% liked to work in the units and 40.9% said they worked in the area for economic reasons; regarding the latter 86.4% reported feeling fulfilled working in pre-hospital care (variable statistically significant $p < 0.005$). Concerning the shifts, 65.9% were on duty for 12 hours every 36 hours. A total of 86.4% of these professionals said they could work in hospitals if they did not work in PHC (Table 3).

All respondents were aware of the complications brought about by inadequate care. In case there was doubt about procedures, 97.7% of them asked for advice before doing the task; 97.7% of the professionals working at PHC were aware of the ethical complications of professional misconduct (Table 4).

Table 3 - Rate of satisfaction of PHC team according to reasons for working in the area, shifts and professional fulfilment, 2013

Variables	N	%	p
Reasons for working in PHC			
Payment	18	40.9	0.745
Family	01	4.3	
Immediate hiring	06	13.6	
Work area	19	43.2	
Professional fulfilment			
Yes	38	86.4	0.005
No	06	13.6	
Shift			
06	13	29.5	0.478
08	02	4.6	
12	29	65.9	
Could work in a hospital if not working in PHC			
Yes	35	79.5	0.325
No	09	20.5	

Table 4 - Awareness of complications generated by poor quality care in PHC, 2013

Variables	N	%	p
Are aware of the complications of bad care			
Yes	44	100.0	< 0.001
No	0	0	
Ask for a colleague's advice when in doubt			
Yes	43	97.7	0.546
No	01	2.3	
Are aware of the ethical complications of professional misconduct			
Yes	43	97.7	0.458
No	01	2.3	

The study demonstrated that all professionals interviewed were aware of the complications of bad care (variable statistically significant $p < 0.001$); 97.7% asked for advice when in doubt about a procedure; 97.7% were aware of the ethical complications deriving from professional misconduct (Table 4).

DISCUSSION

The Brazilian pre-hospital emergency service was influenced by the French and American models. The former is a very efficient service, consisting of permanent and temporary agencies, running under centralized supervision, supported by relevant legislation, as well as human and material resources according to needs based planning.⁷ The American model is another example of an efficient system. It contributed to a decrease

in the number of deaths in emergency situations since 1966. In 1968, a single phone number (911) was created in order to centralize emergency calls enabling teams to gather the appropriate resources for victim care.¹⁰ The Brazilian Department of Health, in partnership with states and municipalities, planned PHC services, aiming at organizing and implementing an emergency care service based on comprehensive health concepts.¹¹

This study demonstrated that 75% of PHC professionals are male. A study carried out in Goiás with 29 military paramedics, including soldiers, corporals, sergeants and captains, demonstrated that all were male.¹² In another study, carried out in Santa Catarina in 2008, the percentage of professionals working in the PHC units were 51.2% men and 48.8% women.¹³ A research carried out in Campinas evaluated the socio demographic characteristics of the SAMU health team: 61.4% of them were male.⁹ Such results show that pre-hospital care is a male dominated area, which can be explained by the need of physical strength and fitness to perform the duties demanded by the SAMU.¹⁴

In terms of age, most professionals were less than 36 years of age; data corroborated by other studies indicate that young teams work in the service. A research carried out in Natal found that 60.8% of the professionals were aged between 36 and 45 years old.¹⁵ Another study carried out with nurses of a pre-hospital service in Porto Alegre in 2010, showed that 33.3% were aged between 41 and 46 years old.¹⁶ In São Paulo, a research sample comprising 197 workers found that 45.7% were between 30-39 years old.⁹

As for professional training, 18.2% were nurses and 52.3% nursing technicians. A research carried out in Natal demonstrated that 78.4% were nursing technicians and 21.6% nurses.¹⁵ According to the socio demographic characteristics of SAMU professionals in Florianópolis in 2008, most of them were nurses (34.1%), doctors (29.3%) and nursing technicians (17.1 %).¹³ A 2010 survey in Porto Alegre sustained that PHC nurses were gaining prominence in this field through study, professional conduct and delivery of quality care.¹⁶

In recent years nurses have increased their participation in this type of care, performing also management and administration duties, relief work, advanced or basic life support. They are essential players throughout the process providing care to people in pre-hospital services, preventing occurrences through advice and health education and training PHC professionals.⁷

The study participants had over five years' experience in emergency care, i.e. they usually remained in the field, which prevented a high turnover rate. Being able to rely on experienced professionals contributes to the delivery of quality care to accident victims. In Porto Alegre nurses working at a public prehospital care in 2010 had between five and seven years' experience in the Mobile Emergency Care Service.¹⁶ Another study carried out in Goiás in 2000 with 29 military paramed-

ics, time of service ranged from six to sixteen years.¹² In Florianópolis most SAMU personnel had more than five years' experience.¹³ A study carried out in 2010 in the state of Minas Gerais, found that 40% of the health professionals had a length of service between 11 and 20 years.¹⁷

Regarding professional specialization in the area, 50% of respondents did specialization courses in emergency care. In Florianópolis in 2008, more than 40% of professionals working in PHC were specialized in the area.¹³ In 2010 the majority of those surveyed were experts in emergency care and qualified to work in PHC.¹⁶ Another study carried out in 2009, demonstrated that specialized qualification and continuing education are needed to work in the field.¹⁸ Such results prove that people are sure that care delivered at a PHC unit may be improved by professional training.

As for professional updating, the participants kept themselves up-to-date with studying and refresher courses. Most of the health professionals attended such courses at their work place or at university. Dedication to further ones' knowledge is necessary to deliver good quality care.¹⁹ The authors of another study, state that " professional knowledge comes from various sources, including initial training, recent courses on medical emergencies, field experience, practice under special conditions and ability to perform the procedures that the patient needs".²⁰

The implementation of guidelines to emergency care is the objective of another research concerning the creation of centres for Education in Emergency Care, the definition of guiding principles, objectives, the syllabus and their respective timetables and skills to be developed. Such centres were intended as spaces of inter institutional knowledge, training, qualification and continuing education addressed to emergency care personnel.²¹ Training develops individuals' skills on how to be more productive, creative and innovative in order to meet the organizational objectives and contribute to further education of qualified professionals.²²

The majority of the participants in the present study were aware of the company's protocol for pre-hospital care and were not likely to make any suggestions on how to improve it. Protocol and risk classification may subsidize the development of systematic and organized nursing interventions in an emergency reception of victims.⁶ Decision making needs to be immediate and based on systematized and accurate medical care, establishing priorities through emergency protocols.¹⁷

Concerning the reasons for working in the area, the level of satisfaction and professional fulfilment of those working in PHC, most interviewees had applied for the job due to its area of operation, followed by those who had selected it for economic reasons. As for professional achievement, the majority said they were satisfied with their work; yet most of the professionals, if not working on PHC, would remain in the hospital

area. A study carried out in a SAMU in Natal found that 84% of the nurses had chosen to work in this area, and 96.1% liked it and displayed good levels of satisfaction.¹⁵ In São Paulo, a study with a sample of 197 professionals, found that 57.5% of the participants were satisfied with their job.⁹ Job satisfaction is a complex and subjective issue, which can affect people mentally and physically, and influence their social and family life.

Job satisfaction is linked to a set of feelings: the more the job satisfaction factors, the greater the professionals' ability will be to provide qualified assistance. Therefore, they should like their work, be remunerated according to their task and position held, have access to the workplace, have a harmonious relationship with others, have prospects of professional development and recognition. Therefore, job satisfaction is directly related to different personal and professional elements and to the workers own evaluation about their performance.²³ The authors of another paper point out that "when we like what we do, we feel satisfaction in the accomplishment of our work and we can clearly see its value and importance to our neighbours".²⁴

Most professionals were on duty 12 hours every 36 hours. This type of work shift may increase workload, fatigue and decrease performance, even when there are adaptations in the periods of rest.²⁵ Research conducted in the state of Paraíba with 21 nursing professionals, including registered nurses, nursing technicians and nursing assistants demonstrated that most of them prefer 12 hours-shifts and rest every 36 hours. This study proved that employees' performance is significantly reduced in the last four hours of the shift due to loss of concentration, physical and mental fatigue, especially in night shifts.²⁶

The participants in the present research were aware of the consequences of inadequate care caused by the professionals' anxieties about feelings and techniques. Pre-hospital care is decisive for the victims' rehabilitation by preventing irreversible consequences or death; therefore, to act promptly and safely can be the dividing line between life and death, or a serious and permanent disability.¹⁷

In case a professional is not sure about procedures, 97.7% of them asked a colleague before acting as they were aware of the ethical complications of professional misconduct. At an emergency site thinking should be fast, comprehensive, flexible and objective. Health professionals of the Emergency Medical Service (EMS) may have only seconds to assess the situation, the patient's condition and the available resources in order to make decisions and help the victim.¹⁸

Therefore, health professionals need to be prepared both technically and ethically to provide appropriate care, respecting patients' rights, which, given the complexity of emergency calls, run the risk of being disregarded.¹⁷

CONCLUSION

This study characterizes PHC professionals working in two municipalities in the state of Rio Grande do Sul. The small number of participants could be considered a limitation of the research but its results presented significant data that may contribute to the reflection on the service.

The preponderance of male professionals aged over 36 years was evidenced by the study. As for the professional education, most were nursing technicians, followed by doctors and nurses. Almost all worked 12 hours-shifts and had more than five years' experience in PHC.

Most respondents were aware of the company's protocol for pre-hospital care and did not deem necessary to improve it. Specialization, books and courses were their means of technical and professional development. They knew about the ethical complications attached to professional misconduct and, if in doubt about a procedure, sought the help of a colleague.

The present research demonstrated the importance and need of constant training, in order to rethink and improve the professional practice. Permanent education creates spaces for reflection and promotes the acquisition of new technical knowledge and intervention strategies. It helps health professionals to overcome the individual and collective difficulties inherent to the practice, in order for them to meet the real needs of the population.

PHC comprises all interventions that occur before the patient's arrival at hospital. Its effectiveness positively influences the reduction of complications of a deficient primary care. It contributes to the reduction of morbidity and mortality rates and it prevents overcrowding in emergency units. Health care provided by a team of well-trained professionals could improve the quality of pre-hospital care.

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