MEN AND TRAFFIC ACCIDENTS AND MOBILE PRE-HOSPITAL CARE
HOMENS E ACIDENTES DE TRÂNSITO E O ATENDIMENTO PRÉ-HOSPITALAR MÓVEL
HOMBRES Y ACCIDENTES DE TRÁNSITO Y LA ATENCIÓN PRE HOSPITALARIA MÓVIL

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ABSTRACT

Objective: to characterize the prehospital care provided to men victims of traffic accidents. **Method:** this is a quantitative, descriptive, cross-sectional study at a Mobile Emergency Service Headquarters, comprising a sample of 2,365 records of care documented in medical records of men who suffered accidents due to external causes. Results were presented in tables. **Results:** a high rate of traffic accidents involving motorcycles with young men of productive age was identified, where most of the attendance was performed by BSU and the shift with the highest incidence was nocturnal. **Conclusion:** it was verified, through the study, the indispensability of preventive, educational and inspection measures in the transit by organs. **Descriptors:** Masculinities; Human Health; External Causes; Traffic-Accidents. Traffic Accident. Injuries. Ambulatory Care.

RESUMO

Objetivo: caracterizar o atendimento pré-hospitalar prestados a homens vítimas de acidentes de trânsito. **Método:** trata-se de um estudo quantitativo, descritivo, transversal, numa sede do Serviço de Atendimento Móvel de Urgência, compondo-se a amostra por 2.365 registros de atendimentos documentados em prontuários de homens que sofreram acidentes por causas externas. Apresentaram-se os resultados em tabelas. **Resultados:** identificou-se um elevado índice de acidentes de trânsito envolvendo motocicletas com homens jovens em idade produtiva, onde a grande maioria dos atendimentos foi realizada por USB e o turno de maior incidência foi o noturno. **Conclusão:** verificou-se, por meio do estudo, a indispensabilidade de medidas de ações preventivas, educativas e de fiscalização no trânsito por parte de órgãos. **Descritores:** Masculinidades; Saúde do Homem; Causas Externas; Acidentes de Trânsito Acidente de Tráfego, Traumatismos; Assistência de Ambulatorial.

RESUMEN

Objetivo: caracterizar la atención pre hospitalaria prestada a hombres víctimas de accidentes de tránsito. **Método:** se trata de un estudio cuantitativo, descriptivo, transversal, en una sede del Servicio de Atención Móvil de Urgencia, con muestra compuesta por 2.365 registros de atendimientos documentados en prontuarios de hombres que sufrieron accidentes por causas externas. Se presentaron los resultados en tablas. **Resultados:** se identificó un elevado índice de accidentes de tránsito involucrando motocicletas con hombres jóvenes en edad productiva, donde la gran mayoría de las atenciones fue realizada por USB y el turno de mayor incidencia fue el nocturno. **Conclusión:** se verificó, por medio del estudio, la indispensable de medidas de acciones preventivas, educativas y de fiscalización en el tránsito por parte de órganos. **Descriptor:** Masculinidades; Salud del Hombre; Causas Externas; Accidentes de Tráfico Accidente de Tráfico, Traumatismos; Atención Ambulatoria.

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INTRODUCTION

Of particular note are the traffic accidents in the sphere of health care provided at the prehospital level. Attention is drawn to this aggravation because it has a significant impact on health, especially for the male population, since this is the main population affected by this phenomenon.

External causes are defined, in particular, accidents, in the current context, as complex diseases that are established as public health problems in Brazil and in the world. A total of 20,984 deaths were projected from a Mexican study, from 2011 to 2020,¹ and these numbers are alarming, especially when the main population is young adults. It was revealed, corroborating, by national study, that between 1995 and 2015 occurred 39 thousand deaths by accidents, of which about 13,200 were adolescents and young people.²

In the face of the non-occurrence of fatalities, the repercussions on health may be severe. It was studied that about 50 million suffer secondary injuries as a result of traffic accidents, of which 15 to 20% have the potential to present various sequelae.³ Among the associated worrying risk factors are alcohol and other drug use during the exercise of driving, the non-use of safety devices, such as a belt and a helmet, and speeding.⁴

It should be emphasized that investigating and promoting actions to reduce the burden of traffic injuries may not only help to save lives, but also enable a considerable increase in the social welfare of the population, especially those living in low-income countries. This can be achieved by investing in improving traffic, reducing costs and providing future debt, and allowing the GDP to increase, which would allow investment in other areas of health, given that 90% of traffic deaths are in low- and middle-income countries.⁵

It is pointed out that, when the subject involves a gender analysis, road safety diverges between men and women, reflecting modal, cultural characteristics that make up the external and individual factors and/or different travel behaviors among them, in different countries, as evidenced by a European study that comparatively analyzed road accidents by gender. It was also verified by the study that the male mortality rate due to traffic accidents in 2014 was three times higher than the respective rate of women.⁶

One sought to investigate the problem presented: "What is the characterization of prehospital care in men victims of traffic accidents in a metropolis of the Brazilian Northeast?".

OBJECTIVE

- To characterize the pre-hospital care provided to men who have been victims of traffic accidents.

METHOD

This is a quantitative, descriptive, cross-sectional study carried out at the headquarters of SAMU (Emergency Mobile Service) in the city of Feira de Santana, Bahia, Brazil. The data was collected from October 15 to November 20, 2015 through documentary analysis of primary data, from January to December 2014, of the medical records of SAMU.

In order to collect the data, were included as inclusion criteria: men who suffered traffic accidents attended by the SAMU in the year 2014. Data from other external causes, occurrences of other causalities, inconclusive or unidentified data (underreporting) and illegibility of the recorded data were excluded. It is reported that, after applying the aforementioned criteria, the sample totaled a universe of 2,365 records of care documented in medical records.

In the same year, the service surveyed received 44,665 calls, of which 8,772 were calls and 12,135 calls, comprising a total of 31,380 calls, including the guidelines. It is detailed that, among the attendances, in 377 were verified deaths; 519 correspond to interhospital removals; 11,287, to outputs of basic units; 1,655, advanced; 1,0429 were adult clinical patients; 426, pediatric; 6,682 were traumatized patients; 811, obstetrics; 956, psychiatric; 31, victims of burns; three, victims of sexual aggression, with 5,265 patients being referred to the general hospital of greater capacity and complexity of the municipality, followed by 2,148 patients attended in the units of medium complexity (polyclinics).⁷

The data was cataloged in a pre-prepared form by the researchers, which included the following variables: year; health insurance; reference unit; type of accident; age group; initial state of the victim; use of alcohol and other drugs; time of occurrence; need for hospitalization; type of ambulance; type and location of the lesion; vehicle involved; condition of the victim at the time of the accident, evolution and conduct and observations of the patient.

After the data collection, the data were collected in a database in Microsoft Excel software and later organized into tables in the Microsoft Word program (2010) and discussed according to the literature. The research project was sent to SAMU, where it obtained the release for the data collection. This study was submitted for evaluation by the Ethics Committee of the Noble Faculty, being approved under protocol no. 1,241,252, in compliance with the ethical

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assumptions described in Resolution 466/12 of the National Health Council.

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RESULTS

From the data, it was identified that the traffic accidents occurred in the year 2014, in Feira de Santana, Bahia, Brazil, according to their characteristics, are not associated with alcohol

and other drugs, the reason for accidents was related to the phenomenon itself and, to a lesser extent, the causes related to the course of the work, and they occurred more at night, at approximately midnight, with men in the age group of 16 to 30 years, being available to the Basic Unit to attend the occurrences, which are presented in table 1 below.

Table 1. Quantitative of male victims affected by traffic accidents, according to the characteristics of the accidents. Feira de Santana (BA), Brazil, 2014.

Variables	Category	n	%
Alcohol and drugs	No	1846	78.05
	Yes	297	12.56
Type of accident	Traffic	1513	63.97
	Work	675	28.54
Time Range	00:00 to 05:59	165	6.98
	06:00 to 12:00	534	22.58
	12:01 to 18:00	692	29.26
	18:01 to 23:59	843	35.64
Type of Ambulance	BHU	2163	91.46
	SAU	106	4.48
	*Others	4	0.17
Age group (in years)	0 to 15	83	3.51
	16 to 30	1074	45.41
	31 to 60	974	41.18
	> 60	81	3.42

Note: in the category of alcohol and drugs, there were 222 absences of information; in the category of accident, there were 177 absences of information; in the time range category, there are 131 missing information; in the ambulance type category, there were 92 absences of information; in the age group, there were 153 absences of information.

The characteristics of the service provided by the SAMU team, according to table 2, in the initial examination of the victims, showed that the majority were stable (91.25%) and had a good level of consciousness (assessed from the Glasgow's Coma). A high rate of motorcycle accidents (40.89%) was found in the type of occurrence, with motorcycles being the largest number of vehicles involved in accidents (41.35%), where drivers themselves occupied the largest number of accidents victims (87.99%).

Table 2. Percentage of male victims of traffic accidents, according to the characteristics of the care. Feira de Santana (BA), Brazil, 2014.

Variable	Category	n	%
Initial exam	Stable with preserved level of consciousness	2158	91.25
	Unstable	49	2.07
	Critical	21	0.89
	Severe	15	0.63
Type of occurrence	Motorcycle accidents	967	40.89
	Car Collision x Motorcycle	796	33.66
	Running over	144	6.09
	Car accident	57	2.41
	Motorcycle collision x Bike	50	2.11
	Motorcycle collision x Truck	39	1.65
	Car Collision x Bike	33	1.40
	Rollover	11	0.47
	Car Collision x Truck	10	0.42
	Motorcycle collision x Bus	9	0.38
	Motorcycle	978	41.35
	Motorcycle x Car	800	33.83
	Car	83	3.51
	Motorcycle x Motorcycle	62	2.62
Vehicles involved	Motorcycle x Bike	46	1.95
	Carro x Bike	32	1.35
	Motorcycle x Truck	32	1.35
	Car x Car	19	0.80
	Motorcycle x Bus	14	0.59
	Car x Truck	13	0.55
	Driver	2081	87.99
	Pedestrian	157	6.64
	Ride	4	0.17
	Biker	2	0.08
Victims	Cyclist	1	0.04

Note: in the initial examination category, there were 122 absences of information; in the category of occurrence, there were 249 absences of information; in the category vehicles involved, there were 318 absences of information; in the victims category, there were 120 absences of information.

It was found a higher incidence of injuries (56.58%), whose prevalent location was the right

lower limbs (6.98%), leading to a high number of public hospitalizations (84.36%).

Table 3. Percentage of male victims of traffic accidents, according to the characteristics of the injuries. Feira de Santana (BA), Brazil, 2014.

Variable	Category	n	%
Types of lesions	Wounds	1338	56.58
	Others	244	10.32
	Wounds and Other	57	2.41
	Pain	13	0.55
	Wounds and Fractures	8	0.34
	Fracture	8	0.34
	Other and Dor	5	0.21
	Deformity	2	0.08
	Fractures and Other	2	0.08
	Dislocations	2	0.08
	LRL	165	6.98
	Face	154	6.51
Location of Lesions	LLL	152	6.43
	URL	86	3.64
	ULL	79	3.34
	Skull	77	3.26
	ULL and LLL	46	1.95
	ULRL and LLRL	41	1.73
	URL and LRL	32	1.35
	UL and LL	26	1.10
Hospitalization	Yes	1995	84.36
	No	177	7.48

Note: In the category of injuries, there were 686 absences of information; in the local category of injuries, there were 1507 absences of information; in the hospitalization category, there were 1818 absences of information. It is noteworthy that some of these victims refused service, went to the health service on their own or with the help of third parties.

DISCUSSION

It was possible, through the findings, to identify that traffic accidents, followed by work accidents, involved men in a significant prevalence. The population of men of childbearing age is affected by these types of health problems, which can lead to significant losses, such as disability and the possibility of death. This fact is reflected in social and economic impacts through the costs generated and the decrease in productivity.⁸⁻⁹

It has been observed the high growth of traffic accidents by different researchers strongly associated with the inclusion of motorcycles as a means of transport for the development of work activities due to their agility and low cost and the lack of regulation of the use of this means of transport. This factor has been reversed in important alterations in the morbimortality profile of these users.¹⁰

The Personal injury caused by motor vehicle road accidents, PICMVRA, regulated by Law 6,194, promulgated on December 19, 1974, is set up as a way of repairing Personal Injury Caused by Land Vehicle Vehicles, in a social insurance that has the function of supporting the victims of traffic accidents, including their family members, by indemnifying them in cases of permanent disability or death, as well as reimbursement of any medical expenses arising from the accident caused by any overland motor vehicle or its loads, to persons who are transported or not.⁹

Victims of damage caused by vehicles on the road are entitled to insurance, and it covers different situations, such as: reimbursement of Medical and Supplementary Care Expenses (MSCE), partial or total invalidity and death. It was verified, due to the necessity of the amparo offered by this insurance, by a study carried out in Paraná, Brazil¹⁰, that the amounts paid per year with hospitalizations and treatments are due to accidents involving motorcycles in which 82% of the costs were subsidized by the PICMVRA's own fund and 18% were covered by the Unified Health System (UHS).

It is revealed that in Brazil, due to the high values, few drivers rely on private insurance and, as a result of this problem, are spent annually, with traffic accidents, about 28 million reais in Brazil. This amount has been spent with treatments and rehabilitation, these costs of public services that generate economic and social losses, sometimes irreparable.¹¹

It was found that alcohol and other drugs were used during the driving season, with a low number of drivers using alcohol and other drugs, but with the suspicion of use in some cases, notified in this way by the team in the SAMU service records, except for the period in which the micareta

occurred (festive event) in April, when there was a high index of this conduct.

There are accidents, although alcohol consumption has not been recorded in a prevalent way, strongly associated with the use of alcohol, which has, in its composition, psychoactive substances that lead to behavioral changes that generate impacts for themselves and others and their abusive use constitutes an aggravation to public health.¹²⁻³ There were collisions, rollovers, falls and run-ins closely linked to drivers who consumed alcohol and, in this regard, when analyzed in a study of victims who suffered collisions, high levels of alcohol were identified in the body of the injured.¹⁴

Several initiatives in Brazil have been implemented, based on the desire to reduce the occurrence of accidents, in recent years. In 2001, in order to promote this reduction, the National Policy for the Reduction of Morbidity and Mortality due to Accidents and Violence was implemented by means of Ordinance MH/GM No. 737, of May 16, which aimed to guide the sector's performance health in the context of these events.¹⁵

It should be noted that, although a new policy has been implemented to promote the reduction of morbidity and mortality due to accidents and violence, in addition to the formulation of new legislation, such as the "Dry Law", municipal traffic control, improvement of vehicle safety and electronic surveillance, it has not been possible to significantly reduce the deaths and disabilities resulting from this problem, and there is a need for further intensification of actions.¹³ It should be noted that in 2010 alone, 42,830 deaths from land transport accidents were registered in the Mortality Information System, with the male population being the most affected (81.6%), in the age group of 20-59 years.¹⁶⁻⁷

A high incidence of accidents were identified during the night period from 6:00 p.m. to 11:59 p.m. in the hour range in which the occurrence occurred, totaling 843 (35.65%) cases in the year 2014. In the follow-up, it is assumed that these accidents are related to the high flow of traffic in the hour when workers return home and in which other people are leaving bars and/or restaurants, consequently associated with use of alcohol, changes in sleep patterns and many other aspects that contribute to the increase in the number of accidents.¹⁴

The age group of those involved in the most prevalent accidents at 16 to 30 years of age, with adolescent men and young adults, mostly at productive age, confirms the national and international evidence on the aspect.^{18-9,21-3} Linked to the age range are the social and cultural behaviors constructed among young men in whom dangerous driving (high speeds) and aggressiveness

(performing risky maneuvers) are usually part of their constructs.

Attention is drawn to the possibility of adopting these behaviors as social and cultural attributes of being male, to gender relational issues, as well as the constructions of masculinities. This is evidenced by health indicators that have revealed that in 2009 alone, external causes, followed by poisoning, were the first reason for male hospitalization in public health services in the UHS, reaching men in the age group of 20 49 years old, being the third cause of death among the male audience aged 50 to 59 years related to the risk behaviors adopted.²⁴

In this way, it is believed that the construction of hegemonic masculinity, the one that is constituted in forms based on the opposition of the feminine universe and domination of women and of feminized feminist behaviors, such as health care and protection, has been reversed in untimely, dangerous, low-bodily and auto-toxic attitudes that incite greater exposure to men.²⁵ It is structured, as a consequence of this system, by hegemonic exercise of the construction of masculine identity, a social imaginary of being strong, imposing, invincible and invulnerable. These attributes are ended by exposing men to situations of extreme gravity, with a risk to life-long life, and revealing themselves in other repercussions, such as the difficulty and low demand for services and health care and the non-recognition of the needs of self-care.

It was implanted as a reflection of the dangerous constructions of masculinities, anchored in the high rates of male morbidity and mortality, especially for causes that could be avoided, as in the case of external causes, in Brazil, a policy to care for the male segment. In 2009, the National Policy for Integral Care to Human Health emerges in the country, aiming to promote actions that impact on the promotion of men's health, highlighting, in one of its axes of action, the prevention of accidents and violence.²⁶

It was verified, on the type of assistance provided to the victims by the SAMU, that the assistance was provided with the support of the Basic Support Units (BSU), which serve patients who require less complex, non-invasive conducts offered without presence of the medical professional in locus. It was demanded, for the victims served, referral to the reference hospital units.

In some cases, the need for Advanced Life Support was observed to provide care for the victims. It is worth noting that, in 2003, the National Policy on Emergency Care was implemented, which consolidates the deployment of the mobile emergency service component, through the creation of SAMU-192 (Mobile Urgency Care Service), which is competent to attend in

areas of national, regional and municipal scope, in clinical, traumatic, obstetrical, psychiatric, neonatal and geriatric situations, also acting in telephone instructions provided by the regulatory physician (in cases where such conduct applies) and transfers between hospitals of serious patients. This service is composed of management teams (general, Nursing, medical, permanent and administrative education center).²⁷⁻⁸

It was also observed that most of the victims were hemodynamically stable and maintained their level of consciousness preserved, a characteristic that was evaluated by the criteria proposed by the Glasgow Coma Scale (GCS). This scale is a clinical instrument used internationally for the evaluation of patients in intensive care and emergency services, established in 1974 at the University of Glasgow by Teasdale and Jennett, and aims to define the level of consciousness, taking as basis numerical values in the evaluation of motor, verbal and ocular opening responses.^{29,30}

In the year under investigation, a high accident rate was observed for motorcycles (967 cases, 40%), with drivers being the most affected and constituting a higher prevalence, a statistic that, according to a study carried out in Vitória, Espírito Santo, Brazil, and in a hospital of reference in trauma in the State of Pernambuco, Brazil, is in agreement with the panorama of the Brazilian traffic accidents, which continue to present a high demand of the emergency health services for this type of cause.³¹⁻²

It is pointed out in this study that the lesions that most affected the victims of accidents were the musculoskeletal ones, affecting, on a larger scale, the limbs (upper and lower), followed by the more serious cranioencephalic lesions, resulting from the non-use safety equipment. It is known that the use of seat belts and helmets reduces the incidence of cranioencephalic, thoracic and abdominal injuries, but has no effect on limb injuries, which are more vulnerable parts, but these devices must be strictly used.¹⁴

In view of this problem, it is described how great the impacts are generated to the health system, due to the overcrowding of the hospitals, mostly, those linked to the UHS, and to the whole network that compose health care, such as the SAMU.³¹ It can be seen that sectors such as orthopedics, motor rehabilitation, emergency units, surgical centers and Intensive Care Unit (ICU) are the most affected and are the most expensive.³³ This has led to a significant increase in costs to the public coffers, with funding for long-term hospitalizations, surgical interventions and treatments that include expenses for medical expenses and also for relatives and/or dependents of the victims.³⁴

It should be noted that traffic accidents present different peculiarities, involving problematic issues, such as those related to employment and income, education (illiteracy and traffic education), culture, social and gender issues, associated with the large contingent of drivers in the cities, and should be analyzed in an expanded, intersectoral and multiprofessional way to find strategies to understand the dynamics that permeate the phenomenon. It is believed that promoting an analysis that seeks to better understand traffic behaviors and attitudes that explain situations, such as rejecting the use of safety equipment and other unprotected and unhealthy practices, may be seen as an important tool for the promotion of education and health strategies to be employed.

CONCLUSION

It was identified by the study that the main victims of traffic accidents were drivers, young adult men, with accidents caused by motorcycles, resulting from the non-use of individual safety equipment, with a higher prevalence at night, with a supposed association with alcohol consumption, generating traumas in their prevalence in upper and lower limbs. The basic support units (BSU) were available, with the victims being hemodynamically stable and with a level of conscience preserved, requiring the referral to hospital reference units.

From the data produced, reflections on the need to promote education actions in the traffic and driver training and inspection of infractions by the competent bodies that significantly impact the reduction of accidents are generated. As a positive reflection of these actions, it is hoped that there will be scope for expanding local, regional and national public policies, such as the improvement of health indicators and, as a consequence, the reduction of social security costs and for UHS.

It is also necessary to investigate and discuss the social constructions of masculinities as a way of seeking to unveil the elements that stimulate, precipitate and intensify the adoption of risk behaviors in traffic, which have had a serious health problem for men and public health, given the complexity of the grievance. The need to intensify health promotion actions that discuss the possibility of the construction of a new man permeated by new expressions of masculinities that value life and promote the culture of peace is seen as an emergency.

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