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RESEARCH

Caracterização dos acidentes de trânsito assistidos por um serviço de atendimento móvel de urgência

Characterization of traffic accidents attended by a mobile urgency care service

Caracterización de los accidentes de tráfico atendidos por un servicio de atención movil de urgencia

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ABSTRACT

Objective: characterizing the traffic accidents attended by the mobile urgency care service of Rio Grande do Norte. **Method:** a descriptive, exploratory research of a quantitative approach performed in a Service Mobile Urgency Care. **Results:** the sample consisted of 1.353 chips of attendance from January to June 2014. Stood out the male gender (78,0%), aged between 25 and 34 years old (29,9%). The highest number was in the weekend (53,9%), during the evening (25,9%) and the most recurrent type of collision was falling motorcycle (35,8%). The excoriations were the injuries most common (28,7%) and multiple traumas occurred in 34,1% of the victims. **Conclusion**: it is significant the importance of ongoing education of health professionals, because, how much faster and qualified the first assistance, the better the chances of a good prognosis. **Descriptors**: Traffic acidentes, First aid, Urgency relief.

RESUMO

Objetivo: caracterizar os acidentes de trânsito assistidos pelo serviço de atendimento móvel de urgência do Rio Grande do Norte. **Método:** pesquisa descritiva, exploratória, com abordagem quantitativa, realizada em um Serviço de Atendimento Móvel de Urgência. **Resultados**: a amostra foi composta por 1.353 fichas de atendimento de janeiro a junho de 2014. Destacou-se o sexo masculino (78,0%), com idade entre 25 e 34 anos (29,9%). O maior número foi no final de semana (53,9%), à noite (25,9%) e o tipo de colisão mais recorrente foi queda de moto (35,8%). As escoriações foram as lesões mais frequentes (28,7%) e o politraumatismo ocorreu em 34,1% das vítimas. **Conclusão:** ressalta-se a importância da educação permanente dos profissionais de saúde, pois, quanto mais rápido e qualificado for o primeiro atendimento, maiores serão as chances de um bom prognóstico. **Descritores**: Acidentes de trânsito, Primeiros socorros, Socorro de urgência.

RESUMEN

Objetivo: caracterizar los accidentes de tráfico atendidos por el servicio de atención de urgencia móvil de Rio Grande do Norte. **Método**: la investigación descriptiva, exploratoria, con enfoque cuantitativo, realizado en un Servicio Móvil de Urgencia. **Resultados**: la muestra consistió en 1.353 fichas de atención de enero a junio de 2014. Se destacaron los hombres (78,0%), con edades comprendidas entre los 25 y 34 años (29,9%). El número más alto fue en el fin de semana (53,9%), por la noche (25,9%) y el tipo más recurrente de colisión fue caer de la motocicleta (35,8%). Las excoriaciones fueron las lesiones más frecuentes (28,7%) y el trauma múltiple se produjo en el 34,1% de las víctimas. **Conclusión:** Hay que destacar la importancia de la educación permanente de los profesionales de la salud, ya que, cuánto más rápido y calificado el primer tratamiento, mejores serán las posibilidades de un buen pronóstico. **Descriptores:** Accidentes de trânsito, Primeros auxílios, Socorro de urgencia.

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INTRODUCTION

Deaths from accidents and violence more commonly called External Causes (EC) occupy the third cause of death in the general population and the first in population aged 1 to 39 years old, behind cardiovascular disease and cancer, respectively. Thus, the Traffic Accidents (TA) are the main causes of death in the EC labor force.[1-2]

External causes of morbidity and mortality are described in the twentieth chapter of the 10th edition of the International Classification of Diseases (ICD-10) and assemble all types of TA occurred on public streets into categories that start in the V01 code and ends at V099.[3]

According to the World Health Organization (WHO), every day dies in the world, TA, more than 3.000 people and is estimated to one death every thirty seconds as a result of TA. Brazilian data show that between 1980 and 2006 amounted to 2.824.093 deaths per EC, among these, the TA gained prominence. In the same period, the EC now represent the second cause of death in Brazil and the first for those who are aged between 5 and 39 years old. In 2009, records showed that in Brazil there was a fleet of 59.3 million cars and more than 400.000 traffic accidents in the same year.[4-5]

TA represent a serious public health problem with major impact on morbidity and mortality of the population. In Brazil, alcohol consumption associated to driving is identified as one of the main reasons for accidents.[6-7]

With the creation of the Brazilian Traffic Code (BTC) in 1998, there was a 12% drop in deaths from TA between 2000 and 2001. Despite the decline, mortality from causes related to traffic in Brazil is still at high levels compared to other Latin American countries.[8]

With regard to non-fatal events, there is a large number of hospitalizations, visits to urgency services and permanent sequelae, resulting in high costs for society. The fact that young people are the most involved in TA, arouses special attention in relation to this group, since fits in a socially productive situation and is the age group that most influences within the economy. Additionally, the absenteeism rates by accident sequelae are responsible for the origin of large social security expenses.[1,4,7]

Given the above, it is understood that the aliens are a problem both for public health and for society, for the individuals involved in this type of occurrence, generally require highly complex treatment and this reality demands high budgetary costs.

In addition, young at peak productivity can evolve died or become unable to perform the activities of daily living, resulting in losses for the company. Thus, denotes the importance of the implementation of actions aimed at the decline in numbers of this type of accident, based on the consequences that carelessness can result in traffic.

Given the increase in TA over the years and its tragic consequence, the question is: "What is the characterization of traffic accidents assisted by emergency pre-hospital care in Rio Grande do Norte?" Given this reality, aimed to characterizing traffic accidents assisted by mobile answering service urgency of Rio Grande do Norte.

METHOD

It is a descriptive exploratory study with transversal design and quantitative approach, carried out in the Service Mobile Urgency of Rio Grande do Norte (SAMU 192 RN).

Data collection was carried out by the researchers in the period May to July 2014 and the population consisted of 1,353 nursing care records of TA occurrences, which were assisted by SAMU RN 192 between January and June 2014.

It was adopted as inclusion criteria the medical records TA victims during the stated period and the exclusion criteria were: victims with medical conditions, other traumatic emergencies and illegible notes.

The data collection instrument was developed by the researchers based on the SAMU 192 RN medical record, being composed by the following variables: Call data (date, day of week and time of the accident, municipality of occurrence and type of accident) victim data (sex and age) and data on the severity of the accident (vital signs, level of consciousness, Glasgow Coma Scale, types of injuries caused by the accident and anatomical segment injured).

Data were analyzed using descriptive statistics, organized in a spreadsheet in the statistical software Microsoft Excel 2007® and then were transported and tabulated in the SPSS version 20.0®. Results will be presented by their respective relative and absolute frequencies through tables and figures.

The research followed the ethical and legal aspects governing research involving human subjects, as recommended in Resolution no. 196/96 of the National Health Council, supplemented and updated by Resolution no. 466/12. Thus, the present study was examined and approved by the Research Ethics Committee of the University Hospital Onofre Lopes (CEP/HUOL) with protocol number 437/10 and Certificate Presentation to Ethics Assessment (CAAE): 0025.0.294.051-10.

RESULTS AND DISCUSSION

During the study period there were 3.069 calls were excluded from this study 1.716 chips as the selection criteria. Thus, the study sample consisted of 1.353 TA victims chips served by the SAMU 192 newborns in the period January-June 2014. Table 1 shows the distribution of gender and age of the victims involved in TA.

Table 1 - Characterization of the victims of traffic accidents as to gender and age group. Natal/RN, 2014.

CHARACTERIZATION OF THE VICTIMS	n	%
Gender		
Male	1055	78.0
Female	298	22.0
Age (in years)		
0 - 14	53	4.0
15 - 24	378	27.9
25 - 34	405	29.9
35 - 44	257	19.0
45 - 54	143	10.6
55 - 64	60	4.4
Over 65	42	3.1
Ignored	15	1.1
TOTAL	**1353**	**100.0**

According to Table 1, it was found that in 78.0% (n = 1.055) TA cases, the males are more involved. The age group that stood out in this type of accident was between 25 and 34, making up 29.9% (n = 405) of cases, followed by victims aged 15-24 (n = 378; 27.9%). Figure 1 shows the number of visits spread over days of the week for the days of the week.

Studies agree with this research show that when between 65% and 85.8% of those involved in traffic accidents are male. The prevalence of men in traffic accidents is by tendency to be a more violent genre due to cultural and biological factors, thus providing a greater vulnerability to death from external causes. This type of accident can occur due to driving the vehicle at high speed, risky maneuvers, driving under the influence of alcohol and/or drugs, etc.[6,9-11]

Regarding the female victim, researchers showed that most were involved in traffic accidents in the passing position, unlike men, who have suffered trauma, mainly as drivers.[11]

A similar survey conducted by consulting the SAMU service records of Para State, showed that the age group with the highest incidence of involvement in TA corresponds to the victims aged 18-25, followed the victims aged 26-35 years old.[12]

Figure 1 – Number of distributed traffic accidents by days of the week. Natal/RN, 2014.

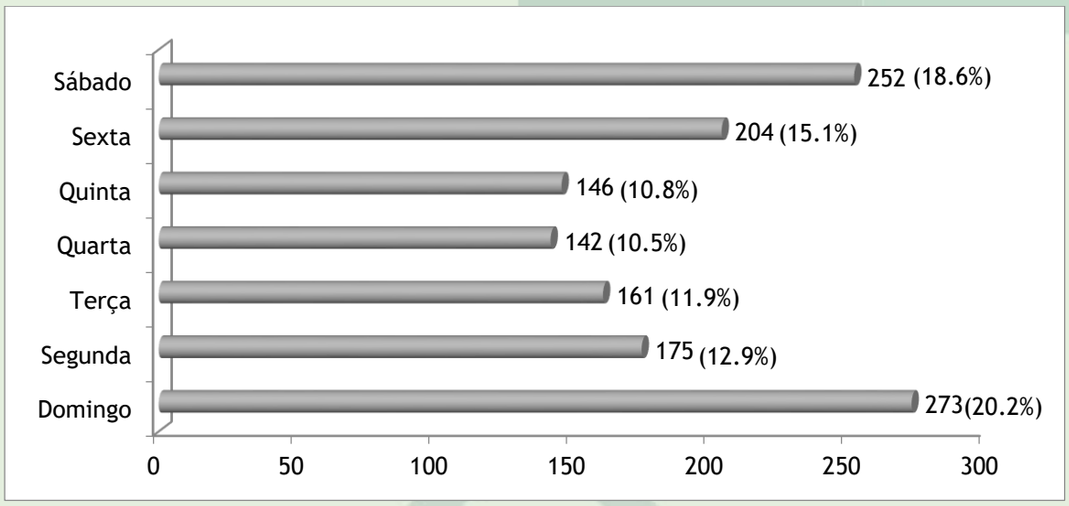
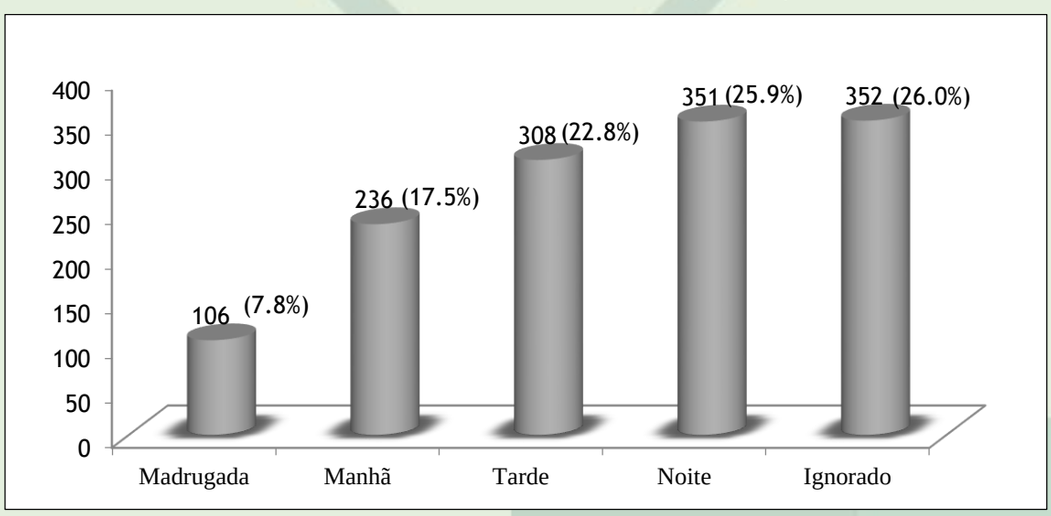


Figure 1 shows that the highest number of visits occurred over the weekend, with 53.9% (n = 729) of the occurrences and to a lesser extent, on Wednesday with 10.5% (n = 142) of cases assisted. Figure 2 will talk about the amount of TA distributed by times of the day (morning, afternoon, evening or dawn).

Authors[9,12] have shown in their research that the highest incidence of TA occurred over the weekend and the largest number of consultations was held at night, similar to this study.

Figure 2 – Distribution of the number of traffic accidents according to the period. Natal/RN, 2014.



According to Figure 2, it is observed that the highest number of TA occurred overnight, comprising 25.9% (n = 351) of calls. However, in 26.0% (n = 352) of the sample was negligence

of the professionals on the annotation of this data in the medical record. It was found that the fewest TA happened in the morning period (n = 106; 7.8%).

Some factors may be associated with the highest number of accidents at night, such as variation of the limited exposure for the headlight range, use dark clothing by pedestrians, vehicles flagged and small contrast to the environment, speeding, disregarding traffic signals and use of alcohol and/or other drugs.[9]

Of the 1.353 accidents, 221 occurred only in the countryside of Rio Grande do Norte, which includes 16.3% (n = 221) of the sample, and 83.7% (n = 1,132) of cases were assisted in metropolitan state area. This may be related to the further development of the metropolitan area with the large number of circulating vehicles and hence high statistics TA occurrences. Table 2 will be found to characterize the type of collision.

The fact of the Metropolitan of Rio Grande do Norte region is considered the place with the highest TA rate of occurrence may be related to proximity to the state capital and therefore be the area of greatest traffic of vehicles and persons and commercial concentration.

The metropolitan region of Rio Grande do Norte consists of 10 municipalities, namely: Natal, which is the capital, Ceara Mirim, Extremoz, Macaíba, Monte Alegre, Nísia Floresta, Parnamirim, São Gonçalo do Amarante, São Jose de Mipibu and Vera Cruz. The interior of the state consists of the rest, totaling 147 municipalities.

Table 2 - Characterization of the type of colision. Natal/RN, 2014.

CHARACTERIZATION OF THE TYPE OF COLISION	n	%
Motorcycle crash	484	35.8
Motorcycle x Car	333	24.6
Hit and run	119	8.8
Motorcycle x Motorcycle	112	8.3
Rollover	76	5.6
Car x Car	45	3.3
Motorcycle x Bicycle	42	3.1
Motorcycle x Truck	23	1.7
Motorcycle x Animal	22	1.6
Car x Bicycle	18	1.3
Motorcycle x Fixed object	17	1.3
Car x Fixed object	16	1.2
Car x Truck	10	0.8
Motorcycle x Bus	9	0.7
Car x Bus	8	0.6
Car x Animal	7	0.5
Motorcycle x Cart	3	0.2
Truck x Bicycle	3	0.2
Bus x Bicycle	2	0.1
Car x Cart	2	0.1
Car x Ambulance	1	0.1

Motorcycle x Tractor	1	0.1
TOTAL	**1.353**	**100.0**

Table 2 shows that the most frequent type of collision was motorcycle fall, with 484 (35.8%) calls, followed by collision between motorcycle and car, consisting of 24.6% (n = 333) of cases. To a lesser extent, there was met the collision between car and ambulance and between bike and tractor, both with one case (0.1%). Table 3 demonstrates the characterization of injuries caused by the accident and the injured anatomical segments.

A publication made in 2012 in the state of Para says that the nature of the most common TA were motorcycle falls, which is the highest coverage, followed by collisions between car and motorcycle, these results corroborate the findings of this study.[12]

A research[13] reveals that in a public urgency service and expert in trauma care, located in the municipality of Curitiba (Parana), pedestrian collisions represent a major cause of trauma between TA. However, in this study it was identified that only 8.8% of patients cared for by SAMU 192 RN was by trampling. Other authors4 claim that this type of occurrence may be related to the inability, incompetence and negligence of some drivers, aggregate motor disabilities, visual and/or hearing of pedestrians.

The high statistics involving motorcyclists in TA are justified by the considerable increase in motorcycle use as a working tool. To this end, it is suggested that there is adequate supervision so that the use of protective equipment such as helmet, is ongoing. The vulnerability and exposure of motorcyclists in TA are evident, since the motorcycle is a vehicle that allows for continuous exposure of the conductor all the way, unlike the vehicles, which are enclosed vehicle and consequently this fact contributes to the slightest trauma in cases of accidents.[6,10]

Table 3 - Characterization of lesions caused by the accident and the injured anatomical segments. Natal/RN, 2014.

CHARACTERIZATION OF LESIONS	n	%
Types of lesions		
Excoriation	388	28.7
More than one type of lesion	259	19.1
Blunt cut or lacerating	164	12.1
Lesion non identified	155	11.5
Closed fracture	153	11.3
Without lesion	90	6.7
Compound fracture	65	4.8
Edema	46	3.4
Dislocation	14	1.0
Hematoma	11	0.8
Burn	4	0.3
Ecchymosis	3	0.2
Contusion	1	0.1

TOTAL	**1353**	**100.0**
Anatomical segments injured		
More than one anatomic injured segment (patients)	461	34.1
Lower limbs	302	22.3
Head and Face	205	15.2
Upper limbs	178	13.2
Thoracic region	32	2.4
Lumbar region	31	2.3
Cervical region	18	1.3
Abdominal region	12	0.9
Ignored	12	0.9
Pelvic region	10	0.7
Sacral region	3	0.2
Dorsal region	2	0.1
TOTAL	**1266***	**93.6***

***** The other victims (n=87; 6.4%) did not suffered injury in any anatomical segment.

In relation to the types of lesions, Table 3 shows that there was highlighted for abrasions, which occurred in 388 (28.7%) cases, followed by individuals who were affected by more than one type of lesion (n = 259; 19.1%). It was found that three (0.2%) victims had the kind of injury a bruise and one (0.1%) the injury.

With regard to injured anatomical segments, it was found that the treated individuals 1.353, 461 (34.1%) had more than one anatomical injured segment (polytrauma) and 302 (22.3%) had lower limbs affected. In lower frequency, it was found that three (0.2%) people had the sacral region affected by the accident and two (0.1%) were injured in the dorsal region, as shown in Table 3. Additionally, it was observed that the lower limbs (n = 302; 22.3%) and upper (n = 178; 13.2%), when added (n = 480; 35.5%), exceeding the number of multiple trauma (n = 461; 34.1%). It is noteworthy that 6.4% (n = 87) of the victims there was no injured anatomical region.

Authors[14-15] disagree with this research when registering in the most common type of injuries victims were contusions, abrasions and cuts, respectively, and to a lesser extent identified himself open fractures. While the findings of this study show that occurred in greater quantities abrasions, there were followed by multiple trauma and cutting, and to a lesser extent, bruising. In contrast, [16]other publications agree with the results of current research reports that when there was a greater number of the bruises type injuries.

Regarding the anatomical segment injured in TA, disagree[17] authors of this study have proposed that when there was a greater involvement of the lower limbs, followed by polytrauma. The same authors above also state that there was only one case of head and face injury, as this research reveals that there were 205 occurrences of this type of damage.

CONCLUSION

Of the 1.353 cases of TA assisted by SAMU RN 192 between January and June 2014, a greater involvement of men, distributed in the age group between 25 and 34 years old. The largest number of consultations took place over the weekend at night and the most recurrent type of collision was motorcycle fall. However, most professionals who met the medical records neglected to turn the information in the document. The most common types of injuries were bruises and the most affected anatomical segments by TA were multiple trauma (over an injured anatomical region) and the lower limbs.

It is understood that the TA are considered a public health problem responsible for generating high costs for the health sector and physical consequences and/or psychological for individuals suffering this type of accident, in addition to substantial losses in young subjects, in age highly productive for society due to death or disability resulting from TA.

To alleviate this reality, denotes the need of stronger enforcement of traffic laws associated with investment in education of pedestrians and vehicle drivers. In addition, it emphasizes the importance of continuing education for health professionals working in the urgency and emergency area, since the faster and qualified for our first assistance, the greater the chances of a good prognosis.

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