



PROFILE OF THE CRANIOENCEPHALIC TRAUMA PERFORMED BY THE MOBILE ASSISTANCE SERVICE (SAMU) IN CARIRI CEARENSE

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ABSTRACT

Cranioencephalic trauma, among external causes, is responsible for high rates of morbidity, sequelae and death. For this reason, the patient with this clinical condition needs a specialized care, and a follow-up by competent professionals, and agile as should be the professionals who work in the Mobile Emergency Care Service, as they are responsible for providing the initial care and determinant for patient survival in life-threatening situations, as in a case of TBI. Therefore, this study aimed to investigate the number of patients with Cranioencephalic Trauma attended by the SAMU of the Region of Cariri Cearense from March 1, 2014 to August 25, 2016. It is a research with an approach of nature quantitative, descriptive and documentary basis, the data were collected in October 2016, through spreadsheets generated by Sys4web, with the objective of evaluating the quantitative of patients attended with TBI in the period from March 2014 to August 2016 made available by the Coordination of Service of Mobile Emergency Service of the Cariri Cearense section. The study made it possible to verify that head trauma is responsible for most of the services performed by SAMU in both children and other age groups, and the municipality with the highest TBI rate served by this service was Juazeiro do Norte, followed by Crato. In view of this, it is concluded that all health professionals who work in the emergency and emergency services, particularly the SAMU, should always provide care with agility, competence and quality, considering that these aspects are paramount for rehabilitation of the victim and increased likelihood of survival.

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INTRODUCTION

The care provided to patients who have suffered some type of trauma has become increasingly common in emergency and emergency care centers throughout Brazil, being considered a public health problem and a subject widely discussed by scholars and due to the high mortality and disability among the external causes.

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According to Oliveira, Ikuta and Regner (2008), trauma has been considered the greatest cause of death in the age group from 1 to 44 years. Cranioencephalic trauma (TBI) among external cause injuries is responsible for high morbidity rates, sequelae and death in this age group. It is also worth noting that approximately 30% to 70% of trauma deaths are related to severe TBI, and patients who survive this clinical condition tend to present severe neurological impairments that compromise their quality of life and well-being. In this context, Sousa (2006) defines traumatic brain injury as an affection of traumatic origin that affects the anatomy and / or functioning not only of the scalp and skull, but also of the

meninges and the brain or its vessels. The patient with cranioencephalic trauma requires specialized care and in the emergency sector, since there is an imminent risk of life, being obliged to use imaging tests such as computed tomography and radiography to know precisely the extent and extent of the trauma, and depending on the Severity of the case will require orotracheal intubation for mechanical ventilation, a series of drugs and intensive care unit (ICU) hospitalization. It is further added that Cranioencephalic Trauma is defined as an injury to the head from a physical force of external origin. According to the Brain Injury Association, traumatic brain injury (TBI) corresponds to any head injury that reaches the brain, usually caused by external trauma (BRAZIL, 2013). The individual who has undergone TBI may present normal in the first hours, or present some alteration in the level of consciousness, which may be decreased or elevated. In addition to altering the level of consciousness, ECT can affect cognitive function, behavior, emotional state and physical (RADOMSKI, 2008). ECT tends to cause changes in the anatomy of the skull, such as: laceration of the scalp, bone fractures, and impairment of intracranial structures such as meninges, encephalon or significant blood vessels, and even death or brain disorders that may be brief or durable, of cognitive and / or functional origin (MENON *et al.*, 2010). Relevant to this, Mascarenhas *et al.* (2010) state that the causes of TBI are linked to a group of diseases caused by external causes, the most common being: auto accidents, which account for 50% of the cases of this pathology and affect adolescents and young adults more frequently in the age group from 15 to 24 years old and 30% are from falls, especially in the elderly, and 20% from violent causes such as gunshot and white-arm injuries. It is also worth noting that, automobile accidents are responsible for the greater number of deaths than all other causes combined. Waiselfisz (2013), when he published the map of the violence of 2013, where he talks about traffic accidents and motorcycles, witnessed an increase in deaths from 2001 to 2011, with an increase of 41,7%. It verified that some states such as Rondônia, Bahia and Piauí, the deaths related to such accidents have doubled, being the Northeast and North to the regions with the greatest increase of these occurrences. Piauí, which in 2001 was in the 20th position, with an average of 15,3 deaths per 100 thousand inhabitants, in 2011 was in fourth place. Already Rondônia, that occupied the 11 position, was to 2^a position. Considering the increase in population, on the other hand, Roraima, Rio de Janeiro, Federal District, São Paulo and Amapá managed to reduce their rates in the period evaluated (2001 to 2011). In this regard, it should be noted that the care of patients with TBI requires that the physician and all his / her team have agility, skill and technical and scientific knowledge, specific and differentiated in the emergency and emergency services, especially those working in the Emergency Mobile Assistance Service, which are responsible for providing initial and determinant care for patient survival in life-threatening situations, as in a case of TBI.

Considering the importance of this subject, much research is being done in order to identify the main causes and possible ways to prevent the injuries that can result in TBI, since the care to the patient with this condition has a high cost, which ends weighing in the budget of the public health sector, and making it more feasible from the socioeconomic point of view to avoid the need for these services through the implementation of educational and preventive measures. In view of this, the present research is justified by the need to demonstrate the quantification of TBI care performed by an

emergency medical service of the Cariri Cearense Region, due to its high magnitude and high mortality and disability. Thus, the present study aims to investigate the profile of patients with Cranioencephalic Trauma attended by the Mobile Emergency Service (SAMU) of the Region of Cariri Cearense from March 1, 2014 to August 25, 2016.

METHODS

An approach of quantitative nature, descriptive and with secondary data from information generated by the Emergency Medical Service of the Region of Cariri Cearense-CE was used. The study was developed in the region of Cariri Cearense, which is characterized as one of the largest centers of pilgrimages in Brazil and also the largest footwear pole in the Northeast. A very traditional town with regard to old customs such as low maintenance individual transport (bicycles, carts pulled by donkeys, etc.), there is a growing tendency to purchase motorcycles for personal transport and fleets of motorcycle-taxi services, to the point of creating often, chaotic situations in the middle of downtown traffic, due to the immense amount of motorcyclists in the streets. In view of this, it should be pointed out that the causes of TBI attended by the SAMU of said municipality may be directly related to motor vehicle, cycle and motorcycle accidents, which according to the pertinent literature have been the main cause of this pathology. Thus, in this study, data from the SAMU services of the Cariri Cearense region section between March 2014 and August 2016 were evaluated, the results being described in tables, which were distributed according to the type of HD (called); Type of APH (dinner); Total of visits to the patient with cranioencephalic trauma comparing it with the other types of trauma; Total ECT care in children. The data were collected in October 2016, through worksheets generated by Sys4web, with the objective of evaluating the number of patients treated with TBI in the period from March 2014 to August 2016 by SAMU of Juazeiro do Norte-CE.

Ethics Statement: It is worth emphasizing that the research will not involve direct risks to the patients assisted by the Mobile Emergency Care Service (SAMU) of the Cariri Cearense region, because it is a retrospective study, without direct interventions to the patient, based only on secondary data. Therefore, approval of the research by an Ethics Review Board is not required.

RESULTS

Table 1 refers to the type of HD (called) received by SAMU from the section of the Cariri region of Ceará.

Table 1. Distribution of the percentage of the type of HD (called) performed by SAMU of the section of the Cariri region of Ceará between March 2014 and August 2016

HD type (called)	N	(%)
Trauma	18.854	38,42
Psychiatry	2.212	4,50
Pediatrics	321	0,66
Obstetric	1.426	2,90
Neonate	146	0,30
Clinical	22.474	45,80
Uninformed	3.639	7,42
TOTAL	49.072	100

Source: Sys4web. SAMU, 2016.

Table 1 shows that, from March 2014 to August 2016, 49.072 cases were performed by the SAMU of the Cariri Cearense

region, of which 18.854 (38,42%) were by trauma; 2.212 (4,5%) due to psychiatric disorders; 321 (0,6%) pediatric visits; 1.426 (2,9) for obstetric reasons; 146 (0,3%) care for the newborn; 22.474 (45,8%) were clinically attended and 3.639 (7,42%) were not informed. In Table 2, the quantitative of the type of APH (scene) realized by SAMU is observed.

Table 2. Distribution of the percentage of the type of APH (scene) realized by the SAMU of the section of the region of the Cariri Cearense between March of 2014 to August of 2016

Tipo de APH (cena)	N	(%)
Trauma	18.478	40,56
Psychiatry	2.553	5,60
Pediatrics	297	0,65
Obstetric	1.372	3,02
Neonate	120	0,26
Clinical	22.740	49,91
TOTAL	45.560	100

Source: Sys4web. SAMU, 2016.

Table 3. Distribution of the percentage of cities served by the SAMU of the section of the Cariri Cearense region between March 2014 and August 2016

Number of attendances different cities realized by the SAMU of the section of the region of Cariri Cearense in the region	N	(%)
Abaiara	5	0,01
Acopiara	1.716	3,50
Araripe	1	0
Arneiroz	3	0,01
Assaré	554	1,13
Baixio	1	0
Barbalha	414	0,84
Barro	8	0,02
Brejo Santo	1.813	3,69
Campos Sales	1.064	2,17
Caririação	13	0,03
Cariús	6	0,01
Cedro	815	1,66
Crato	6.021	12,27
Farias Brito	1.074	2,19
Icó	17	0,03
Iguatu	4.990	10,17
Jardim	5	0,01
Jati	329	0,67
Juazeiro do Norte	24.172	49,26
Jucás	511	1,04
Lavras da Mangabeira	9	0,02
Mauriti	32	0,07
Missão Velha	19	0,04
Mombaça	878	1,79
Nova Olinda	4	0,01
Orós	744	1,52
Parambu	1	0
Penaforte	263	0,54
Piquet Carneiro	1	0
Porteiras	6	0,01
Potengi	1	0
Quixelô	1	0
Saboeiro	320	0,65
Salitre	453	0,92
Santana do Cariri	4	0,01
Tarrafas	2	0
Tauá	1.583	3,23
Várzea Alegre	1.219	2,48
TOTAL	45.560	100

Source: Sys4web. SAMU, 2016.

Regarding the type of APH, it can be seen in Table 2 that the SAMU of the Cariri Cearense region provided 45.560 pre-hospital visits (scene), of which 18.478 (40,56%) were due to trauma; 2.553 (5,60%) psychiatric; 297 (0,65%) pediatric; 1.372 (3,02%) obstetricians; 120 (0,26%) neonates and 22.740 (49,91%) clinicians.

Table 4. Distribution of the percentage of the type of APH (scene) pediatric performed by SAMU of the section of the Cariri Cearense region between March 2014 and August 2016

Causes of prehospital care provided to the child	N	(%)
Car Accident	1	4
B.C. Bicycle	1	4
B.C. moto	3	12
Tramplng	3	12
Face Fracture	1	4
Politrauma	1	4
Fall from own height	2	8
Fall of heights	6	24
TCE	7	28
TOTAL	25	100

Source: Sys4web SAMU, 2016.

Table 5. Distribution of the percentage of the type of APH (scene) to other age groups performed by the SAMU of the section of the Cariri Cearense region between March 2014 and August 2016.

Causes of prehospital care provided to other age groups by the SAMU of the Cariri Cearense branch	N	(%)
Auto accident x auto	114	0,66
Auto accident x motorcycle	1.651	9,62
Ac. Auto x bus	7	0,04
Ac. Auto x post	45	0,26
Ac. with venomous animals	2	0,01
Ac. Car	262	1,52
Ac. with bike	313	1,82
Ac. with truck	41	0,23
Ac. with collective	5	0,03
Ac. with motorcycle	5.688	33,1
Ac. with multiple victims	40	0,23
Ac. by bus	30	0,17
Ac. motorcycle x motorcycle	1.113	6,49
Ac. moto x bus	36	0,21
Ac. moto x poste	39	0,23
Drowning	15	0,09
Asphyxiation	5	0,29
Tramplng	863	5,03
Fallen trauma	20	0,01
Rollover	234	1,4
Electric shock	34	0,20
Hanging	35	0,20
Sprain	28	0,17
Scoring	255	1,49
Crushing	6	0,03
Strangulation	1	0
Trauma-FAB	389	2,30
Trauma - FCC	16	0,09
Multiple Injury Trauma	38	0,22
Trauma - FPAF	454	2,64
Costal Artery Fracture	16	0,09
Facial / pelvis fracture	23	0,13
Spine fracture	14	0,08
Face fracture	32	0,19
Femur fracture	120	0,70
Hand fracture	28	0,16
Fracture of MMII	328	1,91
Fracture of MMSS	168	0,98
Multiple fractures	8	0,04
Bite of animals	3	0,01
Politrauma	66	0,38
Fall from own height	2.327	13,54
Fall of height	578	3,4
Trauma - Burn	76	0,47
Trauma - burial	4	0,02
Cranioencephalic trauma (TBI)	597	3,47
Abdomen trauma	43	0,25
Face trauma	96	0,56
Trauma of MMII	146	0,85
Trauma of MMSS	69	0,40
Chest trauma	32	0,18
Eye trauma	9	0,28
Trauma- TRM	46	0,05
Trauma - victim of aggression	530	3,08
Trauma - rape victim	5	0,03
TOTAL	17.177	100

Source: Sys4web SAMU, 2016.

Table 3 refers to the number of services performed by SAMU of the Cariri Cearense section in different cities in the region. As for the municipalities, SAMU provided 45.560 visits during the period evaluated, with the following municipalities with the highest number of occurrences: Juazeiro do Norte with 24.172 (49,26%) attending, followed by Crato with 6.021 (12,27%) occurrences, Iguatu with 4.990 (10,17%) occurrences, Brejo Santo with 1.813 (3,69%) visits, Acopiara with 1.716 (3,5%), in Tauá there were 1.583 (3,23%) visits and Várzea Alegre provided 1,219 (2,48%) service. It is worth noting that all the aforementioned services were provided between March 2014 and August 2016. Table 4 shows the causes of SAMU care in children. It is worth mentioning that SAMU, when receiving the calls of the occurrences, asks the age of the victim, and often those who do not know how to tell the age of the victim, however, report that it is a child. The total number of visits performed by the SAMU of the Cariri Cearense region was 17.177, with the distribution as a percentage of these in Table 5, as follows: among the different types of trauma, the most representative was Cranioencephalic Trauma in 597 (3,47%) followed by trauma per victim of aggression with 530 (3,08%) cases and trauma from firearm projectile injury (FPAF) with 454 (2,64%) cases.

DISCUSSION

With the study, it was possible to observe a greater number of clinical visits performed by SAMU and then the visits caused by some type of trauma (Tab.1). Relevant to this, Silva (2010) affirms that the Emergency Mobile Care Service (SAMU 192) responds to requests for medical assistance from individuals affected by their health, such as clinical, psychiatric, surgical, traumatic, obstetric and gynecological, through free telephone calls, through the 192, of specific use of the Centers of Emergency Medical Regulation of SAMU, as established in the decree published by Presidency of the Republic nº 5.055, on April 27, 2004. Thus, after acceptance and recognition of calls, aid applications are evaluated by the regulatory doctor who identifies the level of urgency, based on established protocols and determines which resource is needed to provide care adequately and effectively, which can include from a simple medical recommendation to send an Advanced Life Support Unit to the place of occurrence or even mobi other means of assistance when necessary. The above author adds that in addition to the communication and referral of the necessary means of assistance, the central regulation is responsible for monitoring all care, and supporting the requests of the intervention team, such as: preparing the hospital unit to receive the patient / victim; seek to lead the patient to a reference unit appropriate to the patient's needs and ensure the continuity of the care provided by the SAMU team.

It was also verified that the greatest number of services performed by the SAMU of the section of the Cariri region of Ceará were the clinician and trauma (Tab.2). This may be associated with the agility of the SAMU service and the lack of orientation of the population on the priorities of the problems that should trigger the service. According to Cabral and Souza (2008), when analyzing the SAMU demand and its spatial distribution in a city in the Northeast of Brazil, they observed that 5,8 7% of the services provided by SAMU were for clinical reasons, (23,1%), with hypertensive diseases accounting for 71,5% of the total number of patients in this group), followed by 21,8% of the visits belong to the second group, in which are the symptoms, signs and alterations

detected during the clinical and laboratory evaluation, which do not fit elsewhere, and the third group corresponds to gynecological and / or obstetric care, with percentage representation of 13,8% of the demand for the service evaluated. It is noteworthy that, 22,4% of the assistance provided by the team of said SAMU for clinical reasons had motivation ignored. Reinforcing the previous argument, Rocha *et al.* (2014), when developing a survey about the profile of the occurrences in an emergency mobile service, found a predominance of clinical cases. Likewise, Gonzaga *et al.* (2013) verified when evaluating the services performed by SAMU from 2006 to 2012 in the municipality of Cantadua in the interior of Paulista, that 50,7% of these were due to clinical causes. According to the DATASUS in 2013, SAMU services from traumatic causes accounted for 24.2% of the visits, ranking second, among which include: traffic accidents, violence and falls, which are considered one of the main causes of death in the country, being the third most common cause of death, second only to cardiovascular diseases and neoplasias. These data corroborate with those of the present research, since the assistance provided by the SAMU of a section in the region of Cariri Cearense due to traumatic causes was in second place, where 18.478 patients (40,56%) were assisted by this reason and the first place was occupied by clinical causes, with 22.740 (49,91%) between the period from March 2014 to August 2016.

Pitteri and Monteiro (2013) investigated the services provided by the SAMU of Palmas-TO, and found that 41,5% were due to clinical causes and 42,6% due to external reasons, 48,1% of the visits due to external causes were caused for traffic accidents with motorcycles. The obstetric causes were responsible for 11,8% of the visits and 4% for psychiatric causes such as agitation, depression, heteroaggression, suicide and suicide attempt, psychotic outbreak among others and 27,4% of all psychiatric visits were ignored. Findings similar to the study were also found by Rocha *et al.* (2014), when assessing the causes of the services provided by the Emergency Mobile Service of the Macroregion Centro Sul, Barbacena region from August 2012 to March 2013, identified that the service performed 5.545 visits, the majority of which corresponded to 3.881 (Of obstetric occurrences, 157 (2,8%) due to psychiatric causes, 85 (1%), 5% for pediatric causes and 45 (0.8%) for other causes. When analyzing the cranioencephalic trauma care performed by the SAMU of the Cariri Cearense region, it was verified that the majority of these occurred in the city of Juazeiro do Norte, then in Crato, and it is pertinent to point out that the quantitative found is proportional to the number of inhabitants, because these municipalities are larger than the others. In this context, the Extraordinary Audit Report of the municipality of Juazeiro do Norte, with data from April 14 to May 27, 2015, indicates that hospitalizations due to trauma and accidents continued to grow, the majority of these resulting from motorcycle accidents. a significant increase in stroke treatment, and a representative increase in the diagnosis after the implantation of the service at the regional hospital. Such data compared to the year 2012, since those of 2013 were not considered, due to a growth rate in progress, making it easier to show, two years later, that the quality of health care in the municipality has been regressing, and that hospitalizations due to resolvable causes in basic care have grown rather than reduced. In addition, infectious diseases affecting the intestine have also increased in the last three years, as well as hospitalizations for dengue, tuberculosis, leprosy, diabetes mellitus, and pediatric

care, among other basic attention is compromised (CARNEIRO, 2015). Regarding the causes of care in emergency services by TCE, Nunes *et al.* (2016) found that 111 of these came from a motorcyclist accident in young adults aged 18 to 40 years who lived in different localities. CRAJUBAR (Crato, Juazeiro and Barbalha) with 45 cases (40,54%) and 66 cases (59,46%) in the next regions; being more common during the weekends; where 109 cases (98,20%) were discharged, 01 case (0,9%) was transferred, 01 died (0,9%), being the stay rate of approximately 7 days with a minimum duration of one day and maximum of 26 days; the proportion of cases was 96 (86,49%) for men and 15 (13,51%) among women. Seen this, Mark; Alves and Santos (2016) evaluated the attendance of head injury in the state of Ceará between 2010 and 2014, using DATASUS data, and verified a greater number of hospitalizations in the year 2013. However, the other years presented a small values. Regarding the sex variable, in all the years investigated, a greater number of new cases were observed among men, possibly due to their exposure to higher risk conditions, such as traffic accidents. The most affected age group was 20 and 29 years old.

It was evidenced with the accomplishment of the study, a greater number of children attended by the SAMU of the Cariri section of Ceará with traumacranioencephalic, being this one of the conditions more serious when compared to the others, that can leave sequels and compromise the quality of life and well-being of them. Relevant to this, Carli and Orliaguet (2004) point out that traumatic brain injury (TBI) occurs more frequently among children who are victims of trauma, and this clinical condition is responsible for more than 75% of deaths during childhood. Adekoya and Majumder (2004) stress that although the main cause of TBI varies in several places, traffic accidents, falls and aggressions correspond to the most common causes of this disease. Corroborating with the findings of the study, Batista *et al.* (2015), when analyzing the causes of hospitalizations in patients admitted to a pediatric intensive care unit at the Children's Hospital Our Lady of Glory in Vitória - ES, observed that 94 hospitalizations were due to trauma, 58 of them with head trauma and 36 with polytrauma or other types of trauma. It should be noted that eighteen were injured by firearm projectiles, five had injuries to the abdomen, four due to drowning, three because they had been bitten by scorpions, two by burning and the others by other reasons. The trauma from a firearm was verified in a child aged three years and the other 17 in adolescents over 10 years. The aforementioned authors add that the most relevant diagnoses according to stratification by age group and evolution to discharge and death were synthesized and presented as follows: 149 pediatric hospitalizations were detected for postoperative care, of which 29 were submitted to abdominal surgery, three for head and neck surgery, 14 for cardiac surgery, 50 for neurological surgery, 25 for orthopedic surgery and 29 for thoracic surgery. Neurological surgery was more common in the age group in children over five years of age, where 15 cases were five to 10 years old and 18 were adolescents older than 10 years. Of the children undergoing orthopedic surgery, six were in the age range of 5 to 10 years and 19 occurred among those over 10 years of age. Regarding thoracic surgeries, 20 of these were performed in children under five years of age and nine in patients older than five years. Namachivayam *et al.* (2010), in the profile of children admitted to a PICU in Australia in the last three decades, found a 13% decrease in traffic accidents in 1982 to 7% among years of 2005 and 2006, due to the greater requirement of

compliance with the laws in that country and the implementation of educational measures. However, the reality of Brazil is different from Australia, because victims of traffic accidents overcrowd the PICUs, due to traumatic brain injury, as well as severe orthopedic injuries and polytrauma. An average of 19 days of hospitalization was observed, and among the most common injuries are firearm injuries, especially in children over 10 years of age, which is directly related to violence in the State. Oliveira *et al.* (2010), studying the causes of hospitalization in the SUS in children aged 1 to 4 years, from 1998 to 2007, using DATASUS data, observed that external causes present higher morbidity in the population evaluated, in all regions of Brazil. parents.

Machado Filho *et al.* (2010) state that accidents involving bicycles or motorcycles are responsible for the greater number of deaths or severe traumas when compared to other forms of accidents. However, some preventive and educational measures, such as the use of helmets and compliance with traffic regulations, can reduce the number of these types of accidents, which in turn lead to psychological damages and serious sequelae, requiring special attention from the public authorities. According to Franciozi *et al.* (2008), a survey conducted in the USA found that 2.000 children and young people die each year from auto accidents and 110.000 have non-fatal injuries. As for the accidents, it was verified with the highest index with motorcycle in 5.688 of the victims, followed by the accident between car and motorcycle with 1.651 (9,62%); cases, being also significant the fall of the height itself, with 2.327 cases and fall of height in 578 of the individuals attended. The data related to the motor vehicle and motorcycle accident is directly related to the TBI, because according to the pertinent literature, these types of accidents are the main cause of the aggravation. However, the data generated by the Sys4web SAMU do not make clear the consequences of these accidents, and the number of cases seen with TBI were diagnosed during the APH at the place of the incident, so the evolution of the cases of accidents with motorcycle and between cars and motorcycles. In this same perspective, the State Health Plan from 2012 to 2015 emphasized that the most common causes of hospitalizations in Ceará were from injuries and poisonings and other consequences of external sources corresponded to the third cause of hospitalizations by the SUS, where in 2010 there were 42.507 hospitalizations. The causes of hospitalizations with the greatest number of visits were to the forearm fracture with 6.969 hospitalizations and the head trauma with 6.435 hospitalizations.

Corroborating the findings of the study, Ruy and Rosa (2011) investigated the frequent causes of TBI in patients admitted to the ICU of a highly complex hospital in the southern region of Santa Catarina, and found that 55,9% were caused by car accidents or motorcycle, followed by road accidents with 19,4% of the cases and 15,1% of the cases resulted from a fall. They also found that motor vehicle and motorcycle accidents were the most common cause of TBI. On the other hand, other studies point to falls as the most common cause of TBI (mainly among the elderly), followed by auto accidents. Butcher *et al.* (2007) state that the proportion of TBI secondary to violence has increased in the last ten years and accounted for 7 to 10 percent of cases. Reinforcing the previous argument, Lopes, Costa and Carvalho (2013), when tracing the epidemiological profile of the patients affected by cranioencephalic trauma attended at a public hospital in

Teresina, verified that traffic accidents are the main causes of cranioccephalic trauma. It is more frequent in motorcycle accidents, which occur more frequently, regardless of the degree of TBI, always being in first place with the corresponding percentages: 63,19%, 68,43% and 65%. They also observed that this type of accident is the main cause of mild TBI, with runners being the second highest cause with 11,53% of cases and the third highest cause were falls from the same height with 5,1% of cases, different from In other studies, car accidents ranked sixth, with only 4,21% of cases. In moderate TBI, car accidents were the third cause with 6,19% and in second place were the trampling with 8,4%. The second cause of severe TBI corresponds to car accidents with 8,13% and third place is 7,50%. In this study, Santos et al (2008) emphasized that traffic accidents contribute significantly to increase the overall incidence of head injury and, therefore, present a worldwide disposition to increase the number of hospitalizations associated with this clinical condition. Particularly because there is a large increase in the fleet of cars and motorcycles, because of the ease of buying them, where they are increasingly gaining acceptance in society because they are low cost and fast (SANTOS *et al.*, 2008).

Conclusion

Cranioccephalic trauma is responsible for most of the care performed by SAMU, and the data obtained from the diagnosis established at the service scene, however, this clinical condition may present a higher percentage among the evaluated period, since many of the causes of the care, depending of gravity can result in TBI, for example, automobile and motorcycle accidents, which are considered by many scholars as the main causes of the pathology being studied.

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