artigo

Perfil dos atendimentos realizados na sala vermelha de um centro de trauma no distrito federal

Profile of services performed in the red room of a trauma center in the federal district

Perfil de los servicios realizados en la sala roja de un centro de trauma del distrito federal

RESUMO

Objetivo: Descrever o perfil clínico e epidemiológico de pacientes atendidos numa sala vermelha do trauma em um hospital público do Distrito Federal. Método:Estudo quantitativo, descritivo, transversal e analítico, utilizando dados do livro de admissões da sala vermelha do período de janeiro 2018 a janeiro 2019. Resultados:Dos 456 pacientes atendidos, 77,2% foram do sexo masculino, idade média 37 anos, 34% chegaram à noite, 70,6% vieram de via pública urbana, 37,9% chegaram por meio de ambulâncias do Corpo de Bombeiros. 32,5% foram encaminhados ao centro cirúrgico, 16,2% foram vítimas de atropelamento e32,7% com Trauma Cranioencefálico. Das escalas que foram possíveis de serem avaliadas,41,9%obtiveram nota 8 com média de 6 pontos. Conclusão:Otrauma cranioencefálicofoi a lesão/agravo mais prevalente, desfecho clínico mais comum foi o encaminhamento para o centro cirúrgico. As informações encontradas nesta pesquisa estão de acordo com a realidade brasileira comprovada pela literatura.

DESCRITORES: Perfil de saúde; Assistência hospitalar;Enfermagem em emergência; Equipe de respostas rápidas de hospitais.

ABSTRACT

Objective:Todescribetheclinicalandepidemiological profile ofpatientstreated in a red trauma room in a public hospital in the Federal District. Methods:Quantitative, descriptive, cross-sectionalandanalyticalstudy, using data fromtheredroomadmissions book fromJanuary 2018 toJanuary 2019. Results:Ofthe 456 patientsseen, 77.2% were male, mean age 37 years, 34% arrivedatnight, 70.6% came fromurbanpublicroads, 37.9% arrivedbyambulancefromtheFireDepartment. 32.5% werereferredtotheoperatingroom, 16.2% werevictimsofbeingrun over and 32.7% withTraumaticBrainInjury. Ofthescalesthatwerepossibletobeevaluated, 41.9% obtained grade 8 withanaverageof 6 points. Conclusion:Traumaticbraininjurywasthemostprevalentinjury/disease, andthemost common clinicaloutcomewasreferraltotheoperatingroom. The informationfound in thisresearchis in accordancewiththeBrazilian reality confirmedbytheliterature.

DESCRIPTORS: Health profile; Hospital assistance; Emergencynursing; Hospital rapid response team.

RESUMEN

Objetivo:Describirel perfil clínico y epidemiológico de los pacientes atendidos en una sala roja de traumatología de un hospital público del Distrito Federal. Métodos: Estudio cuantitativo, descriptivo, transversal y analítico, utilizando datosdel libro de ingresos de la sala roja de enero de 2018 a enero de 2019. Resultados: De los 456 pacientes atendidos, el 77,2% erandel sexo masculino, edad media 37 años, el 34% llegó a noche, el 70,6% procedía de lavía pública urbana, el 37,9% llegóenambulanciadelCuerpo de Bomberos. El 32,5% fueron derivados a quirófano, el 16,2% fueronvíctimas de atropello y el 32,7% con Traumatismo Craneoencefálico. De las escalas que se pudieronevaluar, el 41,9% obtuvo nota 8 con una media de 6 puntos. Conclusion: El traumatismo craneoencefálicofuelalesión/enfermedadmás prevalentes, y el desenlace clínico más comúnfueladerivación a quirófano. La información encontrada en esta investigación está de acuerdoconlarealidadbrasileña confirmada por la literatura.

DESCRIPTORES: Perfil de salud; asistencia hospitalaria; Enfermería de emergencia; Equipo de respuesta rápida del hospital.

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INTRODUCTION

The Unified Health System (SUS) provides universality as one of the doctrinal principles, as it guarantees access to health services at all levels of care in an integrated, hierarchical manner and following a growing level of care for complexities. [1]

Assistance within the scope of the SUS was established through the organization of actions and procedures in three levels of complexity: primary care, secondary and tertiary care. In this context, tertiary care gained prominence, for providing care to serious victims,

including cases of trauma, understood as external causes of injury, which may be associated with traffic, drowning, falls, violence, burns, in addition to being one of the main causes of mortality in the world. [2] The increase in trauma rates accompanied the so-called epidemiological transition, that is, the replacement of deaths resulting from infectious-contagious or chronic degenerative diseases by deaths from external causes, where trauma is inserted. [3] [4]

Data from DATASUS also show that, in 2018, deaths from external causes made up approximately 11.5% of the total number of deaths in the country, with 1558 deaths occurring in the Federal District. These data show the dimension that trauma has taken in recent years and the great importance of, more and more, new studies appearing on the subject. [5]

Given this context, highly complex hospital care institutions become popular due to the health care they provide to the population. In the Federal District, Hospital de Base is the largest institution of this type and the second in the Midwest region in terms of number of visits, totaling approximately 600,000 per year. It constitutes a reference in the area of urgency and emergency by offering services in the trauma center, formed by the red and yellow room. The first provides assistance to patients at serious risk of death, as an example, victims of trauma in its various forms, especially cranioen-

cephalic ones, are mentioned. The second provides assistance to people without imminent risk of death, namely: falls, minor car accidents, among others. Therefore, knowledge of the profile of individuals who are assisted daily at this institution is conducive. [6]

Thus, the Hospital de Base Trauma Center is a reference for all other hospitals in the Federal District network. [6] Therefore, many polytrauma care tools were created to better manage these patients. Among them, the Revised Trauma Score (RTS) stands out, which is widely used by emergency services around the world. This score is classified as physiological, since it takes into account parameters of the patient's vital functions and depending on the result of each parameter, there is a corresponding value on the RTS scale, able to assess the probability of survival of polytraumatized patients and, depending on the severity of the case, indicate the recruitment of more specialized teams, in order to improve the approach to this type of patient. [7] [8]

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From this perspective, considering that its outcome has a strong impact on the victim's life, linked to the RTS tool, as it positively assists professionals who use it in their care activities. Therefore, the objective of this study is to describe the clinical and epidemiological profile of patients treated in a red trauma room in a public hospital in the Federal District.

METHOD

This is a descriptive, cross-sectional and analytical quantitative study, with data extracted from the red room admissions book. It was carried out in the Red Trauma Room of the Hospital de Base do Distrito Federal (HBDF - IGESDF), from January 2018 to January 2019.

To prepare this research, we chose to use the Revised Trauma Score (RTS). The Glasgow Coma Scale (GCS), Systolic Blood Pressure (SBP) and Respiratory Rate (RR) are used to calculate the RTS, each of these parameters was divided into five values, from 0 (zero) to 4 (four). These parameters, when analyzed, result in the probability of survival, giving us the RTS value, which varies from 0 (zero) to approximately 8 (eight).

The RTS was calculated by multiplying the constant of each parameter by their respective values. The scores were added, obtaining the index. RTS = (0.9368 x Glasgow) + (0.7326 x SBP) + (0.2908 x RR).

The criteria for inclusion in the sample were: admission to the red trauma room of the HBDF, information about the means of arrival at the unit by air or land, assistance provided by the SAMU or CBMDF. The following variables were included: sex; age; time of admission; service shift (morning, afternoon, night or early morning); origin of the occurrence; trauma mechanism; grievance; outcome; Revised Trauma Scale (RTS).

Data were analyzed using the Microsoft Office Excel® 2010 program, which allowed analysis of the variables selected for the study, which were consolidated in the form of tables and graphs represen-

ting the results observed in the research, describing the categorical variables using distributions of absolute and relative frequencies and percentages and for numerical variables the averages.

The research followed resolution 510/2016 and was approved by the Research Ethics Committee (CEP) of Centro Universitário IESB-DF, CAAE 34510920.1.0000.8927, opinion nº 4.341.442.

RESULTS

The sample consisted of 456 patients, aged between 1 year and 65 years (mean age 37 years), 77.2% male (Table 2). 34% arrived at night (between 6 pm and 12 am), 70.6% came from an urban public road, and of these, 37.9% arrived using ambulances from the CBMDF service (Table 3).

32.5% were referred to the Surgical Center, 16.2% were victims of being run over and 32.7% with traumatic brain injury (TBI). Of the RTS scales that it was possible to analyze, 14.9% obtained a score of 8, with an average of 6 points

Table 1. Defining variables and constants of the Revised Trauma Score RTS scale

GCS	SBP (mmHg)	RR (irpm)	VALUE
13-15	>89	10-29	4
9-12	76-89	>29	3
6-8	50-75	6-9	2
4-5	1-49	1-5	1
3	0	0	0
0.9368	0.7326	0.2908	CONSTANTS

Source: CHAMPION et al., 1986.
Caption: RTS: Revised Trauma Score | GCS: Glasgow Coma Scale | SBP: Systolic Blood Pressure | RR: Respiratory rate

Table 2: Characterization of the sample by age and gender of patients assisted at the Red Trauma Room of the Hospital de Base in the Federal District. Brasilia – January 2018 to January 2019.

Variables	N = 456 (%)
Age	
Less than 1 year	4 (0,9%)
2 to 10 years	31 (6,8%)
11 to 20 years	55 (12,1%)
21 to 30 years	84 (18,4%)
31 to 40 years	87 (19,1%)
41 to 50 years	67 (14,7%)
51 to 64 years	36 (7,9%)
Over 65 years old	43 (9,4%)
Ignored	29 (6,4%)
Gender	
Female	104 (22,8%)
Male	352 (77,2%)

Source: Red Room of Trauma database (HBDF - IGESDF)

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(Table 4).

Figure 1 highlights the trauma mechanisms related to care, while Figure 2 illustrates the injuries identified during patient admission. As shown in the table below:

DISCUSSION

The profile of the patients found in this study was predominantly young adult individuals (31 to 40 years old) of the male sex. Such information is in accordance with data from DATASUS [5], which states that external causes are the main causes of death in the age group of 1 to 49 years in males.

Some authors point out that this profile related to males and younger age is due to their greater exposure to various health problems. Thus, men's vulnerability to numerous conditions of morbidity and mortality can be explained by economic activities and risk behaviors that they assume socially, as well as greater exposure to external violence. [9][10]

Regarding the time of rescue of these patients, there is a divergence in relation to what has been described in some studies, in which the morning and afternoon periods were more predominant. [11][12] Even so, the night period gains prominence, since in this period there are a greater number of festive events, with abusive use of alcoholic beverages and other drugs, related to excessive speed and exposure to risky maneuvers. In addition to human factors (physical fatigue and excessive activity) and environmental factors (weather conditions) which can cause human error and increase exposure to risks in traffic. [12] These factors, which are associated with the origin of urban public roads with 70.6% of cases.

A study also carried out in the Federal District (DF), published in 2018, showed that of the assistance provided by the Fire Department to victims of external causes, approximately 23% of the cases occurred on the highways surrounding the DF, where in the vast majority, the injuries occurred at times of great

movement and, in places far from the reference hospitals and without accessibility in a timely manner for the assistance of the ground team. [10]

As for origin, it was also observed that almost 6% of the consultations came from the state of Goiás and almost 1% from other states, which leads to the fact that in emergency situations, care must

be given unconditionally, regardless of the place of origin, and universally. [13]

A study also carried out in the Federal District, showed a higher prevalence of care provided by the CBMDF compared to the SAMU, which was justified by the difference in the number of rescue units available in each of the institutions.

According to data from the corpora-

Table 3: Characterization of the rescue of patients assisted in the Trauma Red Room of the Hospital de Base in the Federal District. Brasília – January 2018 to January 2019.	
Variables	**N = 456 (%)**
Arrival time	
Morning	87 (19,1%)
Afternoon	140 (30,7%)
Night	155 (34,0%)
Dawn	74 (16,2%)
Origin	
Hospital	53 (11,6%)
Home	17 (3,7%)
Urban public way	322 (70,6%)
Goiás	27 (5,9%)
Other states	4 (0,9%)
Ignored	33 (7,2%)
Transportation	
Aeromedical	80 (17,5%)
Private ambulance	20 (4,4%)
CBMDF	173 (37,9%)
SAMU/DF	163 (35,7%)
SAMU/GO	18 (3,9%)
PMDF	2 (0,4%)
Outcome	
Surgical center	148 (32,5%)
Private Hospital	14 (3,1%)
Nursery	67 (14,7%)
Neurocardiovascular Center	7 (1,5%)
Death	61 (13,4%)
Yellow room	29 (6,4%)
USAT	78 (17,1%)
UTI	32 (7,0%)
IGNORED	20 (4,3%)

Source: Red Room of Trauma database (HBDF – IGESDF)
Caption: CBMDF: Federal District Military Fire Brigade | SAMU: Mobile Emergency Care Service | USAT: Advanced Trauma Support Unit | ICU: Intensive Care Unit

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tions themselves, the CBMDF has 50 rescue vehicles, while the SAMU has only 38, divided between basic and advanced life support units. [12]

It is worth mentioning the use of the aeromedical service, as it is an important tool to minimize complications for the patient, streamline the service and collaborate to get to the hospital as soon as possible, even in places of difficult access. In addition to obtaining a better response from the victim in a service, as there is a greater possibility of survival in the first hour after trauma. [14] However, the present study allowed us to observe only 17.5% of the services brought by aircraft.

For the clinical outcome variable, it was observed that 32.5% of patients admitted to the red trauma room were referred to the operating room, as they needed immediate surgical interventions as a means of guaranteeing their survival. This data corroborates a study also carried out in the Federal District, where 38.1% of the 113 trauma victims were referred to the operating room. [11] This demonstrates the service's resoluteness, as well as the team's preparation to carry out an adequate assessment of highly complex trauma victims, in addition to affirming the importance of pre-hospital care time, as its contribution to reducing mortality and sequelae in trauma victims is notorious. [15]

In view of this, considering the difference between the minimum and maximum response times in care, transport and on the scene, can contribute to the survival or worsening of these patients' condition, especially late support, as there is an increase in the wait for definitive treatment, which can influence the neurological damage, hemodynamic instability and increase the risk of Cardiorespiratory Arrest (CRA). Thus, the longest scene time is related to cases of ICU admission and/or deaths, as well as the shortest time is related to hospital discharge and/or referral to the operating room. [15]

With regard to the type of trauma mechanism, 16.2% of the visits were due to


Figure 1: Mechanism of trauma in patients treated at the Trauma Red Room of the Hospital de Base in the Federal District. Brasilia – January 2018 to January 2019.
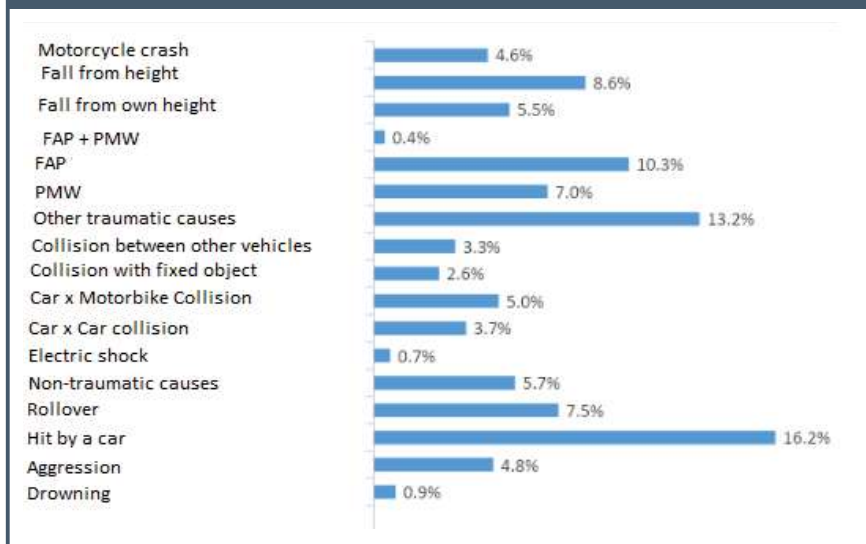
Source: Red Room of Trauma database (HBDF - IGESDF)
Caption: FAP: Firearm Perforation | PMW: Piercing by melee weapon

Figura 2: Injuries related to the trauma mechanism of patients treated at the Red Trauma Room of the Hospital de Base in the Federal District. Brasilia – January 2018 to January 2019.
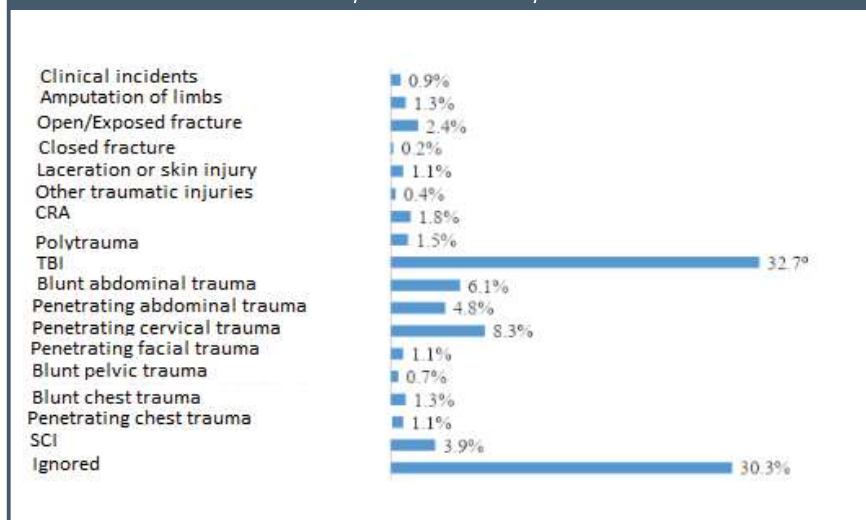
Source: Red Room of Trauma database (HBDF - IGESDF)
Caption: CRA: Cardiorespiratory Arrest | TBI: Traumatic Brain Injury | SCI: Spinal Cord Injury

being run over; 13.2% for other traumatic causes; 10.3% for Perforation by Firearm (FAP) and 8.6% for fall from height. The literature states that trauma is related to urban violence, traffic events, homicides, assaults, falls, drowning, poisoning, suicide, burns, among others. [10]

According to a study by Costa and Fortes (2018), other external causes (accidents and violence) accounted for

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42.9% of cases, with emphasis on being run over (16.5%) which accounted for 52.6% of deaths. Thus, it corroborates a study carried out in an ICU, saying that being run over is the main cause of death in patients who are victims of traffic accidents. [16] Another study that evaluated the profile of care provided by the SAMU team, carried out in Rio Grande do Sul, observed that, among the traumatic reasons, the highest incidence of care was related to car accidents, followed by falls and assaults. [17]

TBI also stands out as an important cause of death, physical or mental disability and as a neurological disease with the greatest impact on quality of life, with a combination of neural damage, vascular insufficiency and inflammatory effects, happening after blunt or penetrating injuries and encompassing skull fractures and damage to brain tissue. [10][17]

A study carried out in the ICU of a reference hospital for trauma victims in the Federal District, showed the predominance of TBI, mainly the severe type, followed by polytrauma and fractures, also showing that injuries to the extremities are more frequent, however, that lesions in the encephalic segment are more severe, and may cause intracranial hemorrhages and cerebral contusions, leading to a greater possibility of death. [15]

Another point addressed by the present study is the Revised Trauma Score (RTS), which consists of an index classified as physiological, since it takes into account parameters of the patient's vital functions, the Glasgow Coma Scale (GCS), assessment of systolic blood pressure (SBP) and respiratory rate (RR). This score is widely used by emergency services around the world, capable of assessing the morbidity and mortality of polytrauma patients, where the higher the final value, the better the prognosis, making it possible to know the probability of survival. Of the patients admitted to the red trauma room, 41.9% scored 8 on the RTS, with an average of 6 points, which demonstrates a high probability of survival. A study carried out at the uni-

versity hospital in Paraná analyzed that most patients were admitted with RTS values above 7, concluding a good probability of survival. [8]

One study identified that the number of deaths confirms lower RTS rates, as well as patients who died late and had the lowest RTS. In addition, it was observed that many victims referred to the ICU and the ward had higher RTS rates [11], corroborating data from the present study.

In view of this, it is known that in addition to the severity of the patient caused by the trauma mechanism, the issues discussed above can predict the high number of deaths in the immediate outcome and the prolonged hospitalization time of these victims, with risk of further sequelae or even late deaths. Information about the RTS and its parameters confirm the advantage of using the scale in clinical practice, as it provides PHC teams with information about the patient's physiological conditions at the scene and during transport, the level of complexity and for correct intra-hospital decision-making. [11]

A study that included observing medical records of patients admitted to a

hospital in Maringá, concluded the need to improve the quality of records, with more complete information and that bring data about the care that was performed for and with the patient. This will allow the registrations made to reach levels of excellence. It is believed that this problem may be related to an experienced reality, marked by the high number of urgent and emergency procedures and also by the overcrowding of sectors, although it should not be a justification for not carrying out or the absence of information about the patient's conditions in their medical records. [18]

CONCLUSION

The information found in this research is in accordance with the Brazilian reality proven by the literature. There is still a need for more studies in the area that give due importance to the theme, demonstrating its real magnitude, confirming the need for greater investment in human resources and infrastructure, thus reducing trauma rates in the Federal District and other states.

The present study had some limitations, such as the collection of the data-

Table 4: Characterization of the RTS of the patients assisted in the Red Trauma Room of the Hospital de Base in the Federal District. Brasilia – January 2018 to January 2019.

Variables	Absolute Frequency N = 456 (%)	Relative frequency N = 236 (%)
Revised Trauma Score (RTS)		
0 points	9 (2,0%)	9 (3,8%)
1 points	2 (0,4%)	2 (0,8%)
2 points	4 (0,9%)	4 (1,7%)
3 points	14 (3,1%)	14 (5,9%)
4 points	34 (7,5%)	34 (14,4%)
5 points	14 (3,1%)	14 (5,9%)
6 points	18 (3,9%)	18 (7,6%)
7 points	42 (9,2%)	42 (17,8%)
8 points	99 (21,7%)	99 (41,9%)
Ignored	220 (48,2%)	–

Source: Red Room of Trauma database (HBDF - IGESDF)

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base, which would be essential and which also impaired the quality of the study. However, even so, the study may contribute not only to support new research, but to stimulate discussion on the subject, in order to expand the production of scientific knowledge, whether to promote health or prevent injuries, since it will only be improved if there is research, commitment and expansion of the quality of care provided to trauma victims, demanding differentiated practices and policies, which are able to understand the framework of injury mechanisms and their aggravations, in addition to the efforts of services and professionals.

REFERÊNCIAS

1. Silva HCet al. Trauma in elderly people: access to the health system through prehospital care. Rev latino-amenferm. 2016.

2. Organização Mundial de Saúde. Carga global de doenças. Disponível em: <www.who.int/healthinfo/global_burden_disease/en/>. Acesso em: 30 de set. 2022.

3. Brasil. Ministério da Saúde. Transição demográfica e epidemiológica: a Epidemiologia e Serviços de Saúde revisita e atualiza o tema. Epidemiol. Serv. Saúde. v. 21, n.4, p.529-532, out.-dez., 2012.

4. Oliveira SN, Ramos BJet al. EmergencyCareUnits (Upa) 24h: The Nurses' Perception. Texto &contextenferm. 2015

5. BRASIL. Ministério da Saúde. Sistema de informações sobre mortalidade. Disponivel em: <http://www2.datasus.gov.br/DATASUS/index.php?area=0203>. Acesso em: 27 nov. 2020

6. Brasil. Ministério da Saúde. Plano de ação regional da rede de atenção às urgências e emergências do distrito federal. Brasília, 2018.

7. Domingues CAet al. Desempenho dos ajustes do Trauma andInjurySeverity Score (TRISS): revisão integrativa. RevEscEnferm USP. 2015;49(Esp):138-46.

8. Alvarez BD et al. Avaliação do Escore de Trauma Revisado (RTS) em 200 vítimas de trauma com mecanismos diferentes. RevColBrasCir, v. 43, n. 5, p. 334-40, 2016.

9. Rodrigues AIG et al. Perfil dos usuários atendidos no serviço de emergência em um hospital universitário em Pernambuco. Revista Baiana de Saúde Pública, v. 39, n. 1, p. 13, 2015.

10. Maia PKS. Perfil das vítimas atendidas pelo serviço aeromédico do Corpo de Bombeiros Militar do Distrito Federal. 2015.

11. Praça WR. Vítimas de trauma no DF: perfil epidemiológico e atendimento pré e intra-hospitalar pelo SAMU. 2015.

12. Cunha EC, Melo LFM. Perfil epidemiológico de motociclista atendido por trauma cranioencefálico na Sala Amarela-Hospital Referência ao Trauma do Distrito Federal. Comunicação em Ciências da Saúde, 2019.

13. Soares EP, Scherer MDA,O'dwyerG. Inserção de um hospital de grande porte na Rede de Urgências e Emergências da região Centro-Oeste. Saúde em Debate, v. 39, p. 616-626, 2015.

14. Slaviero RS et al. Perfil epidemiológico dos pacientes atendidos no período de 2014 a 2016 pelo serviço de transporte aeromédico interhospitalar vinculado ao consórcio intermunicipal samu oeste, como parte integrante da rede paraná urgência. Revista Thêma et Scientia, v. 7, n. 2E, p. 206-222, 2017.

15. Costa ACC, Fortes RC. Principais intercorrências e desfechos clínicos de idosos vítimas de trauma na unidade de terapia intensiva. CogitareEnferm., 2018.

16. Freitas MG. et al. Elderly patients attended in emergency health services in Brazil: a study for victims of falls and traffic accidents. Ciência & Saúde Coletiva, v. 20, p. 701-712, 2015.

17. Santos F et al. Traumatismo cranioencefálico: causas e perfil das vítimas atendidas no pronto-socorro de Pelotas/ Rio Grande do Sul, Brasil. REME – Rev Min Enferm. 2013 out/dez. v. 17, n. 4, pp. 882-887.

18. Venturini DA, Marconi SS. Anotações de enfermagem em uma unidade cirúrgica de um hospital escola. RevBrasEnferm, Brasília 2008 set-out; 61(5): 570-5.