

DYNAMIC APPROACH OF THE DEATHS BY TRAUMA IN SIBIU COUNTY

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Keywords: traumatic deceased victims, traffic accident, train accident, work accidents, falling accidents, homicide

Abstract: The purpose of the present study is a dynamic approach of the posttraumatic deaths in Sibiu County, after the exclusion of self inflicted violence. The research was conducted through a retrospective epidemiological survey between 2006 - 2010. The study material included biographical and medical data recorded in the Forensic Department of Sibiu County and Sibiu County Clinical Emergency Hospital. The findings show that, of all autopsies performed during the period under review, one third (38.22%) are due to trauma. Among these the first places are occupied by traffic accidents (51%), falls from height and at the same level (36%) and murder (6%). Two thirds of the victims that died from traumatic mechanisms are men (75.34%). Half of the victims died immediately (54.45%), in other cases the deaths occurred after medical assistance.

Cuvinte cheie: moarte traumatică, accident rutier, accident de tren, accident de muncă, cădere de la înălțime, omor

Rezumat: Scopul studiului este o evaluare dinamică a deceselor produse de factori traumatici în județul Sibiu, după excluderea sinuciderilor. Cercetarea s-a realizat printr-o anchetă epidemiologică retrospectivă, în perioada 2006-2010. Materialul luat în studiu conține date info-biografice și medicale din arhivele Serviciului de Medicină Legală Sibiu și ale Spitalului Clinic Județean de Urgență Sibiu. Concluziile studiului arată că, din totalul autopsiilor efectuate în perioada menționată, o treime (38,22%) sunt datorate agenților traumatici. Dintre acestea, pe primele locuri se situează accidentele rutiere (51%), căderile de la înălțime și la același nivel (36%) și omorul (6%). Două treimi din victimele decedate prin mecanisme traumatice sunt bărbați (75,34%). Jumătate din victime au decedat pe loc (54,45%), în restul cazurilor decesele au survenit după acordarea de asistență medicală.

INTRODUCTION

In the European Union (EU) every two minutes one person dies by trauma (256,000 annually), 73 are treated outside the hospital, 136 are treated in emergency units and 28 are hospitalized. Trauma ranks 4th in terms of causes of death after cardiovascular diseases, cancer and respiratory diseases. [1]. Statistically it is shown that trauma affects predominantly young population, being responsible for a significant number of deaths among children, adolescents and young people, more than any other cause. [2] By studying the causing mechanisms and circumstances of injuries we can make recommendations upon death prevention, in order to reduce trauma mortality and morbidity. [3] At EU level there is a very important difference in trauma mortality levels between countries. Thus, Netherlands is the country with the lowest incidence of trauma mortality while Rumania has one of the highest values of trauma mortality. It was shown that if trauma mortality in Europe would be reduced to the Netherlands level, more than 100,000 lives would be saved annually in Europe, which is very important because they will be among the youth. [4]

Between 2005-2009, Sibiu County occupied one of the top places in terms of trauma mortality. [1]

THE PURPOSE OF STUDY

The purpose of the study is to assess the dynamics and characteristics of trauma mortality death mechanism.

MATERIAL AND METHODS

The study was conducted by the observational method, based on a retrospective longitudinal survey with the study of all cases registered in the mention period. The study material is represented by a number of 1528 fatalities registered in Sibiu County, during 2006-2010. Data were collected from: the Autopsy Reports of the Department of Forensic of Sibiu County, Case histories and medical documents issued by the Emergency Unit, the Hospital Emergency Ambulance Service of Sibiu County and the Mobile Emergency and Extrication Service of Sibiu County.

RESULTS AND DISCUSSIONS

During 2006-2010, the Department of Forensic of Sibiu County registered a number of 1528 Autopsy Reports, of which 584 (35.219%) trauma deaths.

Table no. 1. The share of trauma deaths between 2006-2010

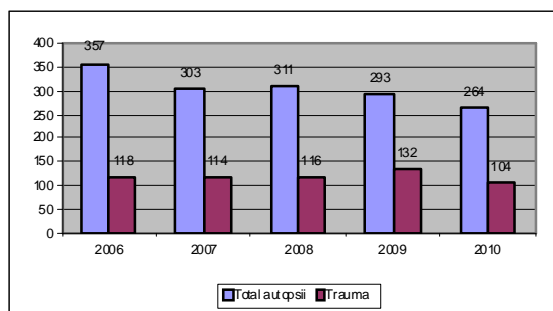
No	Death cause	No. of cases	Percent
1	Traumă	584	35,219
2	Alte cauze	944	64,781
3	Total	1528	100

Among all trauma deaths that occurred within five years of study (584 cases) in Sibiu County, 51% died in road accidents, 3% in rail accidents, 36% after falls from height and at the same level, 6% of homicide and 1% after other causes.

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Figure no. 1. Dynamics of trauma deaths during 2002-2006

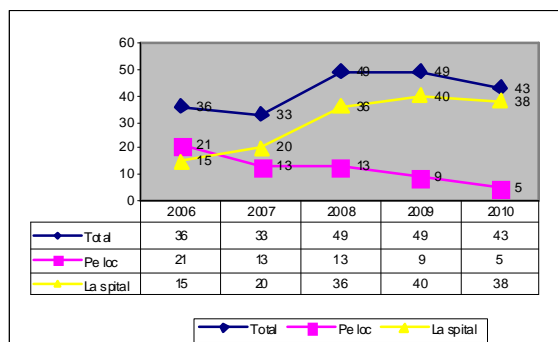


Overall, the share of deaths caused by trauma remains at a relatively constant level during the study period.

The annual number of road accident victims through the first four years of study is almost constant, a sudden decline in 2010. This could be the cause of the upgrades completed on sections of national roads to ease traffic Sibiu. We expect this trend to continue into 2011 due to entry into the ring road surrounding the city of Sibiu in December 2010.

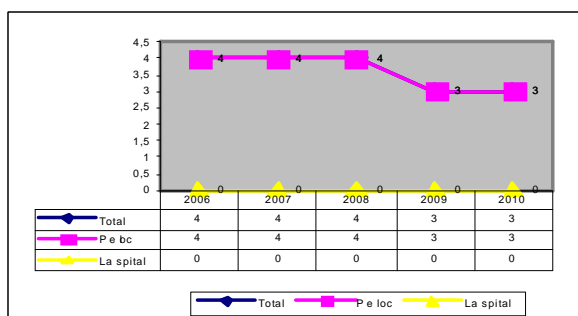
The number of patients who died after receiving care is constant in all the five years of study, and the number of patients who died on the spot is constant in the first four years, with a significant decrease in parallel with the total number of deaths by accident 2010.

Figure no. 3. Dynamics of the number of the deaths by falling during 2006 - 2010



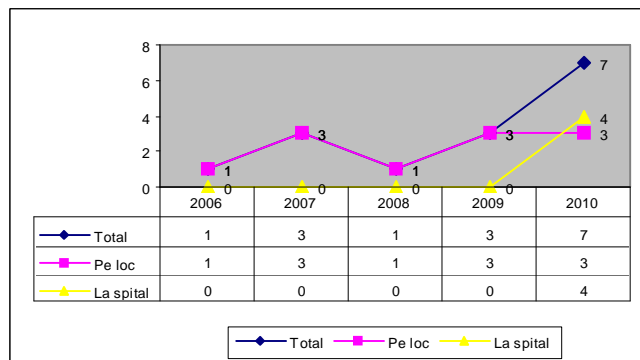
The number of deaths by falling at the same level or from height reached a peak in 2008 and 2009. During the interval studio describes a decreasing trend in the number of patients who died on the spot by this mechanism, with the explanation more timely intervention crews and permanent increase in pre-hospital intensive care medical equipment performance. The number of patients dying in hospital is increasing due to the older patients who undergo an surgical intervention for bone fractures.

Figure no. 4. The number of deaths in train accidents during 2006 - 2010



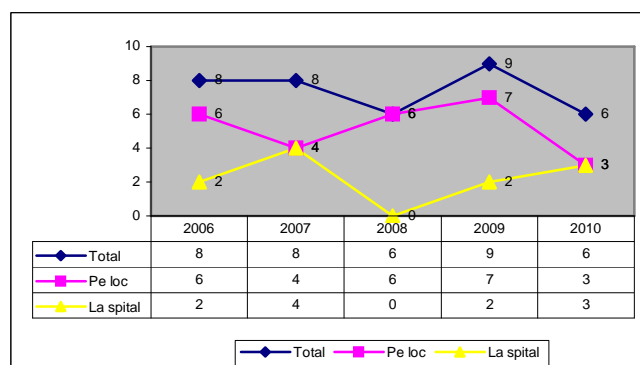
During the study period, the number of victims remained constant, death occurs immediately before pre-hospital intervention teams, which highlights the extreme violence of the impact of railway accidents.

Figure no. 5. Number of deaths by accidents at work in the years 2006-2010



The annual number of accident victims registered light variation within the study, with a significant increase in 2010 compared to the previous years. An important factor for the serious accidents at work is increasing the "black" labor cases without observance of labor protection rules.

Figure no. 6. Evolution of the deaths by homicide during 2006 - 2010



The number of deaths by homicide during the study was mixed, with a frequency peak in 2009, a period coinciding with the highest value in cases of death on the spot.

CONCLUSIONS

During 2006-2010, the Forensic Service of Sibiu County registered a number of 1528 autopsy reports of which 584 (38.22%) for trauma fatalities. The main causes of traumatic deaths were traffic accidents (51%) and fall from height and at the same level (36%).

There is a clear predominance of male victims of traumatic deaths mechanisms (about 75%).

Half of the deaths occurred in the place (54%) before any medical intervention can be provided.

The annual number of road accident victims through the period 2006-2009 is approximately constant, the highest value recorded in 2009 (about 45% of all autopsies), then noticed a significant reduction in mortality in 2010.

During the study, the number of victims remained constant, death occurs immediately before pre-hospital interventions, which highlights the extreme violence of the impact of railway accidents.

The study was conducted within doctoral research.

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