

MANAGEMENT OF ROAD ACCIDENTS IN SIBIU COUNTY A RETROSPECTIVE STUDY BETWEEN 2012 AND 2016 -

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Abstract: Purpose: Road traffic events are a global problem that affects all sectors of society. Materials and methods: We conducted a longitudinal retrospective study over a 5-year period, on a total of 1710 cases, from the casuistry of the Sibiu Forensic Service. We aimed at the epidemiological distribution by age groups, gender, origin environment, hospital wards' distribution of patients hospitalized following the road accident, type of treatment applied, duration of hospitalization, number of deaths and type of traumatic lesions that resulted in death. Results: The study showed that over 10% of all forensic work addresses the victims of road accidents, over two-thirds of cases occur in males in the urban area with a maximum incidence in the age group of 20-40 years old. Most road traffic victims have multiple traumas.

INTRODUCTION

Traffic events have enormous social, economic and health impacts on individuals, communities and states.(1,2) Although, the socio-economic impact of road accidents (3,4,5) is of major importance from the perspective of national governments and development agencies, road safety research is disproportionately low, given the increased rate of mortality and morbidity.(6,7,8) Therefore, a way to quantify and monitor the road accident phenomenon in our country is necessary to promote a multifactorial approach of road events, from the perspective of the technical determinants (road vehicle), the infrastructure (road) and from those human-specific (drivers, pedestrians and passengers), as well as from the connections between them.(9,10)

PURPOSE

The paper aims at an integrative approach to the multidisciplinary consequences of road accidents, allowing the systemic interpretation and structural and functional integration of the phenomena separately recorded in health care and legal fields.

MATERIALS AND METHODS

The material taken into study is represented by the info-biographic and medical data that allow the correlation of the legal consequences with the forensic issue related to the victims of traffic accidents.

The method used is the retrospective longitudinal survey, with full examination of the study material, between 2012 and 2016, regarding the casuistry of Sibiu County Forensic Service.

RESULTS AND DISCUSSIONS

In the period 2012-2016, a total of 15,830 forensic activities were carried out within the Sibiu County Forensic Service and the Medias Forensic Office.

These works were addressed to 13,643 living persons and 2,187 deceased persons. A total of 1710 works, representing 10.8% of all works, addressed the victims of road accidents.

For the surviving victims of road accidents, 1,397 forensic documents were produced (81.69% of the total works). These represented 728 (52.11%) documents upon the request of the person (forensic examination reports) and 669 (47.88%) documents at the request of the criminal prosecution bodies.

For the victims dead in road accidents, 313 autopsy reports (18.30%) were conducted during the study period. Two thirds (56.9%) of the road accident victims were males, which corresponds to both the higher presence of this category in traffic and the influence of the personality type reflected in the driving style and lifestyle in general.

More than half of the forensic examinations for the survivors of traffic accidents are addressed to young adults aged 20-40 years old. This category is the socially active layer of the society, whose presence in traffic is the best represented.

Table no. 1. Distribution of survivors of road accidents by age group

Age	No.	%
10-19 years old	195	13,95
20-29 years old	398	28,48
30-39 years old	272	19,47
40-49 years old	170	12,16
50-59 years old	133	9,5
60-69 years old	109	7,8
70-79 years old	120	8,58
Total	1397	100,00

Approximately two-thirds of the work done is required for urban victims, as a result of increased mobility and the massive presence of urban residents in traffic.

Most road accident victims (75%) needed hospitalization. Of these, 88% suffered multiple traumas compared with only 12% with isolated trauma.

The emergency room recorded the highest number of

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admissions of road traffic accidents, 515 cases. The addressability to surgical wards was overwhelming (784 cases), compared to clinical departments (15 cases).

Table no. 2. Repartition of hospitalized patients per wards following the road accidents

Repartition	No.	%
Otorhinolaryngology	25	1,86
Plastic surgery	24	1,79
General surgery	87	6,49
Pediatric surgery	93	6,94
Orthopaedics	362	27,03
Neurosurgery	218	16,28
Neurology	15	1,12
Emergency Room	515	38,46
Total	1339	100,00

Most patients (642) required orthopedic / surgical maneuvers. In 481 cases, therapy was exclusively drug-conservative. It is noted the large number (492) of rehabilitation cures (balneo-kineto-physiotherapy), which were mainly addressed to patients who have undergone orthopedic maneuvers.

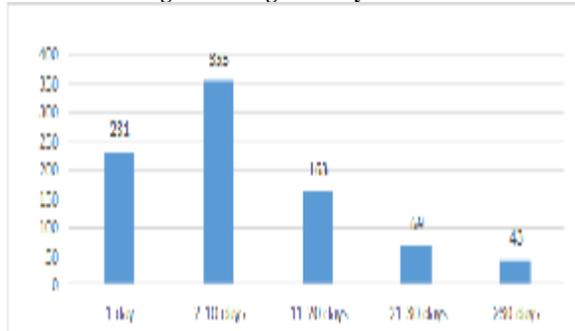
Table no. 3. Types of therapies applied to road accidents victims

Type of therapy	No
Drug therapy	481
Surgical treatment	163
Orthopaedic treatment	328
Orthopaedic – surgical treatment	151
Neurosurgical treatment	18
Rehabilitation	492

Regarding the number of days of admission of victims of road accidents, the following clarifications are required:

- The number of days of hospitalization does not overlap with the temporary incapacity to work (sick leave), which exceeds the hospitalization period in the vast majority of cases.
- The number of days of hospitalization does not coincide with the duration of the medical care needed to heal the traumatic injuries in the forensic sense, duration which results in the legal framing of the person who committed the road accident and which is, on a case-by-case basis, higher or less than the period of hospitalization, being regulated by specific scales.

Figure no. 1. Repartition of hospitalized road accidents victims according to the length of stay



Most victims of traffic accidents (355) required 2-10 days of hospitalization. The second place is the one-day admission (231). The proportion of short-term admissions does not always indicate the severity of the injuries, in many cases during this reduced hospitalization period, the patient being subjected to orthopedic and / or surgical care, which later required home care, ambulatory treatments and check-ups, as well as long-term recovery treatments.

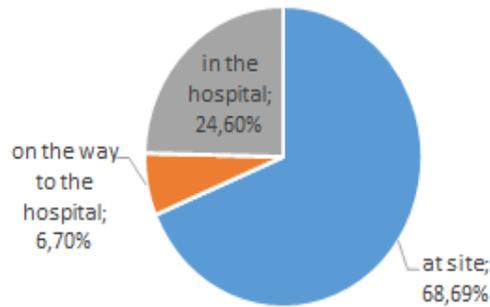
Also, in some situations, surgery was required after a certain amount of time.

Of the deaths that occurred during the studied five years (2187 cases) in Sibiu County, 14.31% (313 cases) were caused by traffic accidents.

Approximately 20% of the total victims of road traffic accidents died (313 deaths, 18.30%).

Most of the victims died at the site of the accident, i.e. 215 people, highlighting the seriousness of these accidents and the significant losses of human life. 21 people died on their way to the hospital, and 77 of the victims lost their lives in the hospital despite the medical care given.

Figure no. 2. Distribution of cases by the time of death in the road accident victims

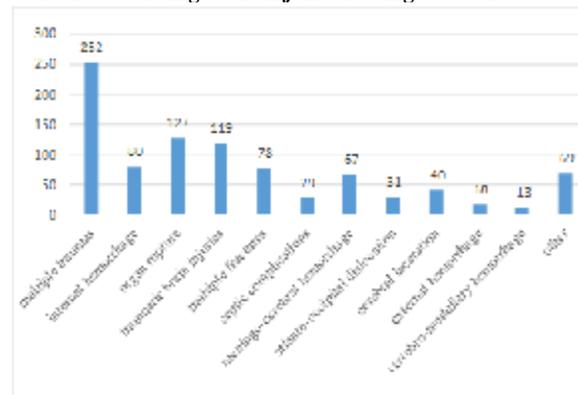


In most cases (85%), there was a polymorphism of injuries in the deceased victims. Associated or not with the multiple traumas, the second cause as the frequency of deaths is organ rupture (127), then the traumatic brain injuries (119).

In the occupants of the cars involved in accidents, poly traumas were the main cause of death, followed by visceral ruptures and cranio-cerebral traumas.

In pedestrians, the main cause of death was multiple traumas, followed by cranio-cerebral traumas.

Figure no. 3. Repartition of dead victims due to road accidents according to the injuries leading to death



CONCLUSIONS

Of the total forensic activities due to road accidents, 81.69% addressed to living persons and 18.30% to deceased victims.

Half of the forensic examinations for the survivors of traffic accidents were addressed to young adults aged 20-40, of whom two-thirds were men, mainly from urban areas.

Most victims of road accidents required hospitalization (75%), most of them having multiple traumas (88%). Addressability to surgical wards was overwhelming.

In the case of deceased victims, traffic accidents account for 14.31% of the total autopsies performed, namely 18.30% of autopsies for violent deaths.

More than two-thirds of deaths occurred on the spot, the victims having multiple traumas in 88% of cases.

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