

ROAD TRAFFIC INJURIES: A DESCRIPTIVE ANALYSIS OF CASES RECEIVED AT THE EMERGENCY DEPARTMENT / KING HUSSEIN MEDICAL CENTER.

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ABSTRACT

Objective: To describe the frequency, pattern of injury, and medical treatment costs of road traffic injuries among patients seen at the Emergency Department of King Hussein Medical Center.

Methods: The medical records of Patients with road traffic injuries that presented to the Emergency Department at King Hussein Medical Center from 1st January to the 31st July 2005 were reviewed. Data collected were age, gender distribution, frequency, and pattern of injuries, outcome, and medical treatment costs.

Results: A total of 48413 patients were seen during the study period. Four hundred and twenty two of them (0.87%) were due to road traffic injuries. Among those 318(75%) were males, and 104 (25%) females. The patient's ages ranged between 2 and 60 years. A total of 259 patients (61%) were treated as outpatients, 146 patients (35%) as in-patients. 17 (4%) were fatal cases. Head and neck injuries were the most affected (63%), while internal viscera injuries were (2%). It cost JDs. 300,000 to treat the cases.

Conclusion: The study highlighted the medical and economic consequences of road traffic injuries. It emphasizes the need for urgent work to reduce the preventable causes of Road Traffic Injuries.

Key words: Road traffic injuries, Economic cost, Emergency department.

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Introduction

Road traffic injuries are a major public health challenge that requires concerted efforts for effective and sustainable prevention ⁽¹⁾. Of all the systems with which the people have to deal every day, road traffic systems are the most complex and the most dangerous ⁽²⁾. Worldwide, an estimated 1.2 million people are killed in road traffic accidents each year and as many as 50 million are injured ⁽³⁾. The top three leading causes of death and disability in both developed and developing countries for males and females in different age groups are: first the road traffic injuries followed by self-inflicted injuries and thirdly interpersonal violence ⁽²⁾.

Road traffic injuries are one of the main causes of death. It is a major health problem in Jordan with considerable socioeconomic impact which demands the involvement of all those concerned ⁽⁴⁾. Prevention of road traffic injuries is important both to the people and community. However, this has been either excluded from attention or treated in an inappropriate way ⁽⁵⁾.

Adequate measures for dealing with preventable aspects of trauma are poorly understood and more attention is needed ⁽⁶⁾, not only because of its fatality but also because of the economic burden ⁽⁷⁾. In Jordan RTI cost the country about JDs 103 millions (\$147 millions) during the year 1996 ^(8,9). This study was conducted to describe Road Traffic Injuries among patients seen at the Emergency Department of King Hussein Medical Center.

Methods

This is a retrospective study was conducted at the Emergency Department of King Hussein Medical Center from 1st. of January to the 31st. of July 2005. The medical records of Patients with Road Traffic Injuries who presented to the emergency Department were reviewed. Data collected were age, gender distribution, frequency, and pattern of injuries, their outcome, and the medical treatment costs.

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Results

The total ED attendance for the six months of the study period was 48413 of which 422 (0.87%) had road traffic injuries Table I. Among those there were 318(75%) males, 104(25%) females, a ratio of approximately 3:1. The patient's ages ranged from 2-60 years, the majority being between 10 and 40 years. The peak incidence was 20 - 30 years. (Table II).

A total of 256 patients (61%) were treated as outpatients, 146 patients (35%) were admitted, 17 cases (4%) were dead on arrival. (Table III).

Head and neck injuries accounted for (63%)of the cases, lower limbs injuries (27%), upper limbs injuries (18%), trunk injuries (14%) and the internal viscera (2%). Table VI.

The highest percentage of road traffic injuries was (38%) occurred during July, while the lowest percentage (16%) occurred during February. The relevant records showed that the medical costs come up to JDs 300,000 (Table V).

Discussion

Throughout the world as well as in Jordan, roads are bustling with cars, buses, trucks, and other types of vehicles. By making the transportation of goods and people faster and more efficient, these vehicles support economic and social development in many countries. But while motorized travel provides many benefits, it can also do serious harm unless safety is made a priority.

An accident usually takes place due to the interaction of a number of causes: bad driving is frequently a major reason but other factors may contribute to a variable extent; these include environmental conditions such as street lighting; the layout of crossroads, vehicle defects, alcoholic intoxication and natural disease of the driver (5,6).

Road traffic injuries are the leading cause of death for young adults, the WHO report mentioned that, the Road Traffic Injuries are common among age groups (15-29), which is similar in our study; the mean age being 29 years (3).

The top three leading causes of death in industrialized countries for males and females in the age groups 15-44 years are: Road traffic injuries, self- inflicted injuries and Interpersonal violence respectively (10,11).

Our study reported a lower incidence of road traffic injuries among females the ratio being 3 male to 1 female (12,13).

The commonest injuries in our study were the head and the neck (63%). (In Asir study 46% (2)). As regards the cause of death among victims of road traffic injuries the medical reports revealed that 75% were due to fractures at the base of the skull. This finding coincides with the results of other studies (2,14,16).

There is no doubt that road traffic injuries, whether fatal or not, cause a socioeconomic burden to the victims themselves, their families and their country. Our study showed that the medical treatment costs of road traffic injuries more than JDs 300,000. While in another study conducted by AL-Masaeid *et al* in 1998, showed that the economic costs of Traffic Accidents in Jordan costs the country about JD 103 million (8).

Conclusion and Recommendations

Road traffic accidents are still and progress as a major public health problem, both in developed and developing communities (2). Such accidents lead to depletion of valuable resources, especially human resources. Studies of road traffic injuries have shown that the vast majority of victims are males of working age, so such losses have adverse consequences on families, communities and the country's economy. Every effort should be made to minimize these loses (15,17). The following recommendations would help minimize the magnitude of the problem in Jordan:

1. Traffic awareness in the community should be raised through the mass media.
2. Traffic laws should be strictly enforced, especially regarding the age of drivers.
3. The enforcement of the use seatbelts.
4. Good restrain systems for small children who should never be allowed to be in front seats.
5. Immediate and safe care at the scene of the accidents. Cases should be moved in such a way to prevent worsening of the existing injuries (as in case of neck and spinal injuries).
6. A center for road traffic injuries studies should be established, to support traffic awareness, traffic safety promotion, studies and research in the area of road traffic injuries.

Table I. Number of patients attending the ED of King Hussein Medical Center each month. (January to June 2005)

Month	No. of patient	No. of RTA	%
January	8532	60	0.70
February	8568	54	0.63
March	8420	75	0.89
April	8568	58	0.67
May	7165	57	0.79
June	7160	118	1.64
Total	48413	422	0.87

Table II. Age and gender of 422 patients.

Age group (Years)	Male	Female	Total	%
0-9	14	8	22	5.2
10-19	48	11	59	13.9
20-29	134	46	180	42.7
30-39	81	14	95	22.6
40-49	25	16	41	9.8
50-59	11	6	17	4
06-70	5	3	8	1.8
Total	318	104	422	100

Table III. Classification of Road Traffic Injuries according the severity.

Degree of injuries	No. of Cases	%
Mild injuries	256	61
Sever injuries	146	35
Deaths	17	4
Total	422	100

Table IV. Parts of the body involved in Road Traffic Injuries.

Parts of the body	No. of the Patients	%
Head and Neck	256	63
Lower limbs	113	27
Upper Limbs	75	18
Trunk	59	14
Internal Viscera	9	2

Table V. Road Traffic Injuries per Month and Medical Treatment Costs. (By JDs)

Type and Cost of Treatment	Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Total
Outpatients	No. of patients	31	26	48	38	30	86	259
Medical treatment cost	Hospital expense	2184	2650	3697	3017	3230	7055	21835
Inpatients	No. of patients	27	17	23	24	25	30	146
Treatment cost	Hospital expense	39433	28174	47814	44022	59500	65128	284072
Total	No. of patient	58	43	71	62	55	116	405
	Economic cost	41617	31404	51511	47039	62150	72183	305907

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