PATTERN OF INJURIES DUE TO ROAD TRAFFIC ACCIDENTS (RTA): A RETROSPECTIVE STUDY ON CASES REFERED TO KASR AL-AINI HOSPITALS

Thesis

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بسم الله الرحمن الرحيم

سبحانَ الذِي سخر لَنا هذَا وما كُنا لَه مقْرِنين•
وإِنا إِلَى ربنا لَمنقَلِبونَ

صدق الله العظيم

(سورة الزخرف، الآية: ١٣،١٤)

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Thanks;

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ABBREVIATIONS

BAC	Blood alcohol concentration
CHI	Closed head injury
CSF	Cerebrospinal fluid
G	Gravity
g/dl	Gram per deciliter
Km/hr	Kilometer per hour
M\h	Meter per hour
NHTSA	National Highway Traffic Safety Administration
NINDS	National Institute of Neurological Disorders and Stroke.
OFCs	Oblique frontal collisions
RTA	Road traffic accidents
RTIs	Road traffic injuries
TBI	Traumatic brain injury
TCAs	Tricyclic antidepressants
THC	Tetrahydrocannabinol
VRU	Vulnerable road users
WASET	World Academy of Science, Engineering and Technology
WHO	World Health Organization

ABSTRACT

Worldwide road traffic injuries cause more than 1.2 million deaths every year, and are the leading cause of death among those aged 15-44 years**,** Unfortunately Egypt has got one of the highest world's road accidents rate and the problem is growing. **Objectives**: This work aimed to determine different types of injuries and, the prognosis and outcome of the injured cases. **Patients & Methods***:* It retrospectively overviewed 200 cases of road traffic accidents in Egypt examined at the Emergency Department, in Kasr Al-Aini Hospitals, through the year 2010 regarding their demographic data, different injuries, outcome and recording different types of vehicles involved in the accidents where any injuries on the road without involvement of a vehicle were excluded from the study. **Results:** most of the road traffic accidents (RTAs) occurred in Giza. The highest number of RTA victims were between >18 to 44 years, which represent (45.5%) of cases and males represented (88%) of the total cases. Most of road traffic accidents occurred during the morning and early afternoon (8 a.m.: 8 p.m.) which represented (48%) of cases. Cars represented (71%) of vehicles which were involved in the accidents, most cases of (RTAs)suffered from head and neck injuries (62.5%) and the lowest number of RTA victims suffered from spinal injuries (2 cases) (1%). The highest percent of cases were recovered (66%), while the mortality percent was 17.5% with 29 males and 6 female. The highest number of cases was not working (37.5%) and the number of children were 18 cases (9%) with the youngest was 1.5 years and the oldest was 18 years old. **Conclusion:** RTAs constitute a major public health problem and it is considered the leading cause of accidental injury under the age of forty which is the most active section in our country and in the whole world. **Recommendation:** Fulfilling the recommended data collection sheet will give very valuable information about road traffic accidents to find solutions which are applicable to our country.

Keywords: Egypt, Road Traffic Accidents, vehicles, injuries

INTRODUCTION

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In Egypt, the rapid increase in the number of vehicles, in addition to the overpopulation and the lack of proper strategy for prevention of road traffic accidents (RTAs)**,** contribute to make Egypt as one of the highest world's road accidents rate **(Darwish** *et al.,* **2001)**.

According to statistics and information center, **General Traffic Administration (2008)** the number of RTA injured and dead victims in great Cairo from 2000 to 2007 was 13374 and 3607 respectively.

Worldwide road traffic injuries cause more than 1.2 million deaths every year, and are the leading cause of death among those aged 15-44 years. Eighty percent (80%) of these deaths occurred in low and middle income countries **(Hofman** *et al.,* **2005)**.

Beside human causalities, other aspects of losses include material damages such as the vehicles involved in these accidents or the publicly – owned properties that lie on the road and the bad physical and psychological effects on the survived victims as well as the families and friends of the causalities. That is why it is important to pay attention to this problem not only as a social problem that costs a lot of people their lives but also as an economic problem that costs the society a lot of money and adds an undesirable economic burden on it **(World Academy of Science, Engineering and Technology, 2010)**.

Investigations of transport and traffic related injuries may call upon the entire spectrum of forensic sciences and medico legal expertise **(James and Smock, 2003)**.

Forensic investigations of RTAs require evaluation of risk factors and cause of death. In addition, the forensic medicine specialists determine whether a RTA has caused disability and if it has been so, they make the estimation of disability percentages **(Burcu** *et al.,* **2005)**.

The commonest injury was fracture of bones particularly of the head and face and closely followed by the lower extremites and then upper limbs while the least affected region of the body was the abdomen **(Punjab Academy of Forensic Medicine and Toxicology, 2010)**.

AIM OF THE WORK

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This work would retrospectively overview 200 cases of road traffic accidents in Egypt examined at the emergency department, in Kasr Al Aini hospital, through the year 2010.

The work aimed to determine different types of injuries and, the prognosis and outcome of the injured cases. Age group and the gender most affected, socioeconomic status were also concerned and whenever possible toxicological findings.

All data were submitted to statistical analysis and compared to the results of other concerned study.

In this way some progress towards objective medico-legal assessment and evaluation of road traffic accidents in Egypt might be achieved.

REVIEW OF LITERATURE

CHAPTER (1)

CAUSES OF ROAD TRAFFIC ACCIDENTS

The important question is "what are the causes of these traffic crashes?" The causes of crashes and fatalities are usually complex and involve many factors in combination. Traffic crashes are caused due to interaction of vehicle, driver, roadway and environmental factors. These factors will be discussed in detail (**Aworemi** *et al.*, **2010)**.

Causes of road traffic accidents could be:

I. Human factors:
   a. Behavioural factors
   b. Medical causes
II. Environmental and road factors:
   a. Weather conditions
   b. Road related factors
III. Vehicle related factors and different collisions.

I. HUMAN FACTORS

(A) BEHAVIOURAL FACTORS:

Behavioural factors and associated decision-making processes are generally accepted to be the main underlying cause of most motor vehicle collisions, injuries, and fatalities **(Micheal, 2007)**.

Behaviours that contribute significantly to motor vehicle incidents, injury, and death include:

1. Driving at an excessive speed for the prevailing conditions
2. Driving while intoxicated with alcohol
3. Driving under the influence of drugs
4. Driving while fatigued or drowsy
5. Inattention and distraction from the task of driving
6. Behaviour associated with a history of traffic law violations
7. Age-related issues (inexperience)