

# Epidemiological study on road traffic accidents in Al-Najaf city during 2011

**Salam Jasim Mohammed**

**FIBMS**

## الخلاصة:

اجريت هذه الدراسة في مستشفى الصدر التعليمي للفترة من الاول من كانون الثاني ولغاية الحادي والثلاثين من كانون الاول لسنة 2011 الاصابات والوفيات نتيجة حوادث الطرق ووضع قاعدة بيانات لهذه المشكلة.

اظهرت هذه الدراسة ان هنالك (3438) حالة قد تم ادخالها الى وحدة الطوارئ خلال 2011 وكان منها 2092 (61%) و1346 (39%) . عدد الوفيات التي حصلت خلال 24 . عدد وفيات الذكور كان 10 (71%) اما عدد وفيات الاناث كان 4 (29%). حيث كان تشريح الاول الاكثر عددا من حيث الحوادث (556) اما تموز فهو الاقل (72). كما اظهرت الدراسة ان الفئة العمرية الاكثر عرضة لحوادث الطرق هي (15-44) .

هذه الدراسة تشير الى الحاجة الى المزيد من التركيز على المتطلبات التي تؤدي الى منع هذه الحوادث مثل التشريعات اللازمة وضرورة توعية سائقي المركبات بأهمية التقيد بالسرعة وارتداء حزام الامان وكذلك ارتداء واقية الرأس بالنسبة لسائق النارية كذلك توعية المشاة بالمرور من مناطق عبور المشاة من جهة اخرى يجب التأكيد على التعامل السريع مع الحوادث من خلال الاسعاف الفوري للمصابين في مكان الحادث وعند وصول المصاب الى المستشفى للتقليل من حالات الوفاة.

## Abstract:

**Objective:** this study was conducted to establish database about road traffic accidents (RTAs) morbidity and mortality and some associated factors in Al-Najaf city.

**Design:** A descriptive study on road traffic accidents injuries and deaths that had been admitted to the emergency unit at Al-Sader teaching hospital during the period from first of January till 31 December 2011. The data were collected from the statistics department of Al-Sader teaching hospital and then analyzed according to the month, sex and age group.

**Results:** The results of our study included 3438 RTAs that had been admitted to the emergency unit consisted of 2092 (61%) males and 1346 (39%) females, number of deaths that happen within 24 hours of admission to emergency unit were 14. The number of deaths among males were 10(71%) and females 4(29%). October had the highest road traffic accidents (556) while July had the lowest road traffic accidents (72). The age group that was mostly affected was 15-44 years.

**Conclusion:** There was marked increase in the RTA in 4 months (September, October, November and December). RTA injuries affected 15-44 year age group more than the other age groups followed by 5-14 year age group. Males were Affected more than females. Deaths were not related to the number of RTA ( there is no relationship between deaths and the number of crashes but it depends on the severity of the crashes) and this need improving road safety legislations and putting them into action (speed limits, seatbelt laws, helmet laws) and education of people about the danger of speed and the importance of seatbelt wearing and proper and rapid hospital care.

## INTRODUCTION

Road traffic injuries are the ninth leading cause of death in the world, resulting in 1.3 million deaths and between 20 and 50 million nonfatal injuries each year, and are the leading cause of death among young people aged 15–29 years. They are expected to become the fifth leading cause of death globally by 2030, and at least 90% of these deaths and injuries occur in low- and middle-income countries. Deaths and injuries from road crashes rival those of malaria and TB, killing over 3,000 persons every day around the world <sup>(1)</sup>. Most commonly affected road users are pedestrians, passengers and cyclists as opposed to drivers who are involved in most of the deaths and disabilities. This ever expanding epidemic targeting the young and productive generations is likely to take a heavy burden on the quality of life and socioeconomic growth of the region<sup>(2)</sup>.

The World Health Organization (WHO) in its international conference on RTA noted the importance of adequate data on traffic injuries. Indeed, accurate estimates of the public health burden of RTA can establish the priority of this public health problem, and provide a rational basis for policy decisions<sup>(3)</sup>. There are demographic differences in crash rates. For example, although young people tend to have good reaction times, disproportionately more young male drivers feature in accidents<sup>(4)</sup>.

Several factors explaining the considerable and growing burden of road traffic injuries in developing countries have been identified: growth in motor vehicle numbers, high proportion of vulnerable road users (pedestrians, motorcyclists, cyclists), poor enforcement of regulations, inadequacy of infrastructure, and poor access to health services<sup>(5)(6)</sup>. In many industrialized countries, traffic injuries are the leading causes of death in children, adolescents and young adults. Among elderly people injury death rates are even higher than among young ones but overshadowed by death from cancer and other de-generative disease<sup>(7)</sup>. Deaths from traffic injuries are avoidable or partly avoidable with treatment or with preventive measures or both. There are three major stages in the sequence of injury events during which countermeasures can be undertaken. For these reasons, deaths from traffic injuries are undoubtedly premature and avoidable<sup>(8)</sup>

### **Aim of study:**

1. To detect the road traffic accidents morbidity and mortality among different age group in addition to sex difference and time in Al-Najaf city.
2. To provide baseline data for the planning to deal with this problem by local health authorities.

### **SUBJECTS AND METHODS:**

A descriptive study on road traffic accidents injuries and deaths that have been admitted to the emergency unit at Al-Sader teaching hospital during the period

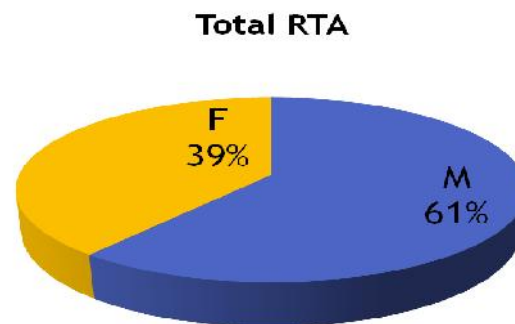
from first of January till 31 December 2011. The data were collected from the statistics department of Al-Sader teaching hospital and then analyzed according to the month, sex and age group.

### Case definition

For the purpose of the study, an RTA was defined as an accident, which took place on the road between two or more objects, in which one is any kind of moving vehicle and the other either a human being or other moving vehicle.

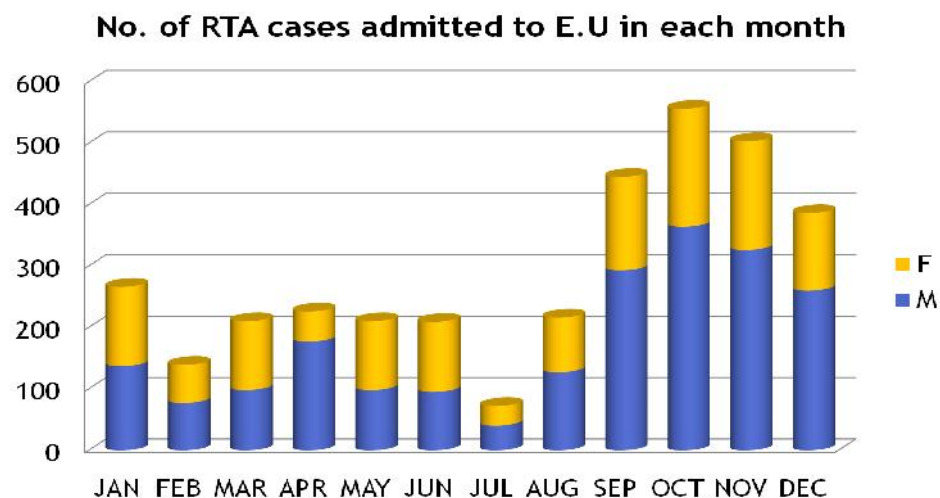
## RESULTS:

The results of our study consist of 3438 RTAs have been admitted to the emergency unit consist of 2092 (61%) males and 1346 (39%) females as shown in figure number (1)

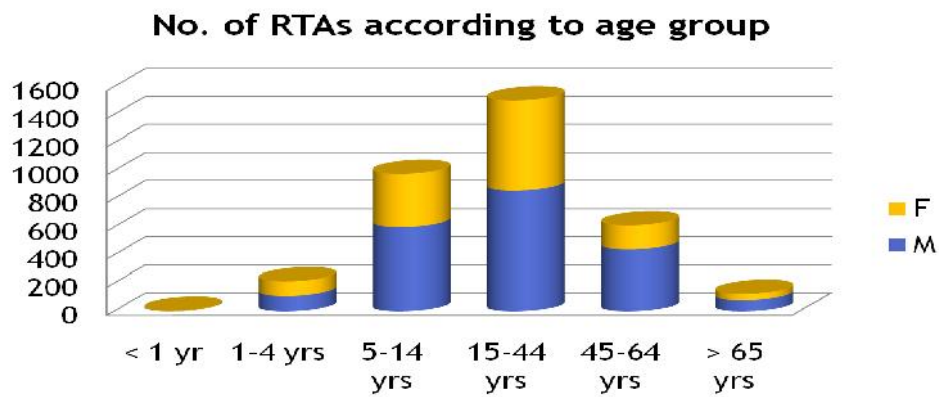


Figure(1) sex distribution of road traffic accidents.

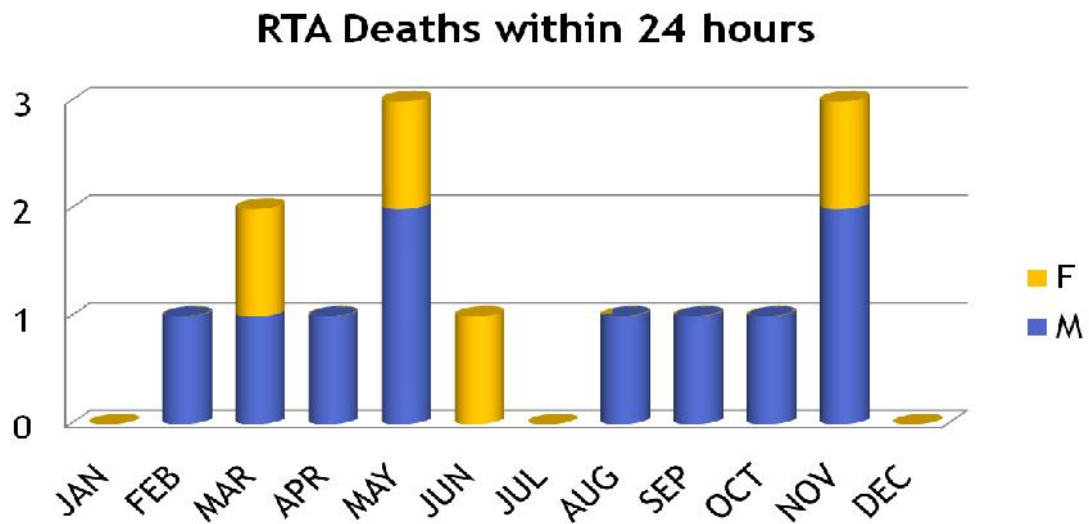
In figure number(2) the distribution of road traffic accidents according to months, in which October has the highest road traffic accidents (556) while July has the lowest road traffic accidents (72).



Figure(2) number of road traffic accidents admitted to emergency unit in each month.

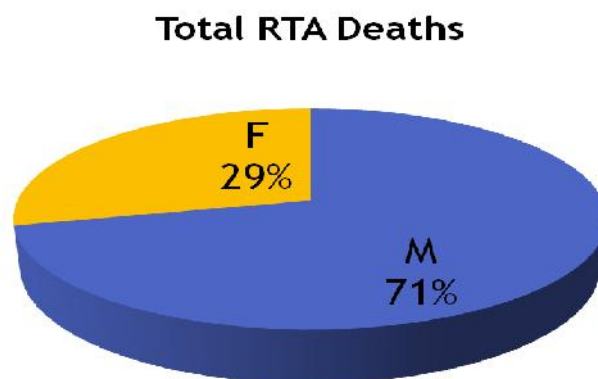


Figure(3) number of road traffic accidents according to age group.



Figure(4) deaths due to road traffic accidents within 24 hours of admission.

The total number of deaths were (14), 10(71%) of them were males and 4(29%) of them were females, as shown in figure (5)



Figure(5) total RTA deaths according to sex

## DISCUSSION:

In this study there were a high number of road traffic accidents admitted to emergency unit at Al-Sader teaching hospital (3438 cases) during 2011 which may increase during the next years because of large number of new cars in addition to absence of legislations and safe roads and this goes with ( Kopits and Cropper, 2003 ) which say that Projections indicate that, without new and sustained commitment to prevent such injuries, the situation will worsen with a projected increase in deaths of about 65% over the next 20 years<sup>(9)</sup>. In our study the road traffic accidents were more among males than females and this can be seen in most studies like (Niina Korhonen, Seppo Niemi, etal)<sup>(10)</sup> and this could be due to the drivers and motor cyclist and even bicycles exclusively for males in our culture because of traditions in addition the males tend to move speedily.

The peak road traffic accidents were in four months, which are September, October, November, and December. This may be due to the fact that during these months the roads are more crowded because of the starting of the academic year. On the opposite side July has the lowest road traffic accidents because it is the end of academic years and large number of the people transfer to the north or to other countries because of hot weather and even the movement of the people become less because of hotness. This result disagree with (J.H.H. Yeung, C.S.M. Leung, etal)<sup>(11)</sup> due to the difference in the holidays and the weather.

In this study the age group that is mostly affected with RTAs was (15-44)years and this agree with(Badrinarayan Mishra, Nidhi D Sinha, etal)<sup>(12)</sup> and this can be explained by the fact that such age group is the manpower and most of their time outside the houses and more prone to RTAs, in addition to their tendency to move quickly specially motor cycles and cars. Young car drivers run a higher risk of road traffic crash (RTC) and road traffic injury (RTI)<sup>(13)</sup>

The total number of deaths in our study was only 14(0.004%) which is differ from (Janice H.H. Yeung a, Annice Ling Mui Chang)<sup>(14)</sup> which is about 0.21%, this may be in our study we only register deaths that happen within 24 hours of admission while other study take all deaths.

## CONCLUSIONS:

1. There is marked increase in the RTA in 4 months (September, October, November and December)
2. RTA injuries affect 15-44 year age group more than the other age groups followed by 5-14 year age group

3. Males are Affected more than females
4. Deaths are not related to the number of RTA ( there is no relationship between deaths and the number of crashes but it depend on the severity of the crashes)

## **RECOMMENDATIONS:**

- Are aimed at prevention of RTA and prevention of death from RTA
- A. Prevention of RTA (Road Safety)
    - Improving road safety legislations and putting them into action (speed limits, seatbelt laws, helmet laws)
    - Applying traffic calming measures such as speed bumps
    - Education of people about the danger of speed and the importance of seatbelt wearing
  - B. Prevention of death from an RTA
    - Improving pre-hospital care by trained staff
    - Fast transfer to hospital
    - Proper and rapid hospital care

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