FACTORS AFFECTING ROAD TRAFFIC ACCIDENTS IN BENGHAZI, LIBYA

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Objectives: The aim of the study was to evaluate the factors responsible for road traffic accidents in Benghazi.

Material and Methods: Retrospective and descriptive studies were done in the years 2006-2007. The data was collected from Traffic and License Department, Benghazi. The data were analyzed, based on fatalities, the severely handicapped, hit and run victims and were correlated with age, sex, time, environmental factors, type of roads, etc.

Results: One-Thousand-Two-Hundred-Sixty-Five accidents occurred between the years 2006-2007 within the Benghazi city limits; 11.14% of the injuries were fatal; 67.35% of the victims had severe injuries and 21.51% escaped with minor injuries. Table 1 shows that 73.04% lost their lives within the city limits, 13.47% on the fly-over, and 2.12% on minor roads connected to main roads within the city limits. The mean of the accidents and its standard deviation were 16.66±25.67 with a variance of fatality of 1.54.

Conclusion: It is concluded from the studies that major road traffic accidents occur because of environmental stress factors. In addition, fatalities and the seriousness of the accidents depend on a number of factors such as the age of the vehicle, safety measures, human error and time and place of accident.

Key Words: Accidents, Fatality, Environmental factors.

J Fam Community Med 2009;16(1):7-9

INTRODUCTION

The major cause of sudden deaths in Benghazi is Road Traffic Accidents. The sad fact is that road traffic accidents constitute the number one killer in Libya. 1 Not a day goes by in Libya without the deaths of families, young men, women and children in horrific car accidents. 1 It is estimated that more than one million people lose their lives as a result of road accidents. 2 A number of factors, including human error, the vehicle, safety measures, environment and place of accident influence the seriousness of the accident. The

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Department of Transport and License in Benghazi determines the relationship between safety and liability in accidents. This had promoted the understanding of the elements of the environment and ideas of safety that greatly influence the driver's attitude. There will therefore, be practical recommendations, and an enforcement of the road and traffic regulations to reduce the number of road traffic accidents. Male drivers are responsible for highest number of fatalities in major accidents in the world.

The purpose of the study was to identify all major factors, responsible for road accidents in Benghazi.

MATERIAL AND METHODS
The Department of Transport and License in Benghazi collects data on the incidence of Road Traffic accidents. It identifies, any relationship between the development of the culture of safety and the likelihood of accidents. The result is an understanding of the elements of the environment and the culture of safety that tend to have greatest influence on the driver's attitude. Consequently, practical recommendations will emanate on how the ideas of safety and road traffic rules can reduce the road traffic accidents. The study was conducted between the years 2006 and 2007 in Benghazi. Data was collected from Traffic and License Department and analyzed statistically according to different parameters such as age, sex, time, environmental factors, type of roads, vehicles running out of control, non-adherence to traffic rules, drunk driving, lack of concentration while driving, change of lanes, etc. Data entry and analysis were carried out with the help of statistical analysis.

RESULTS
A total of 1265 accidents occurred during the years 2006-2007 within Benghazi city limits, 11.14% were fatal, 67.35% caused severe injuries and 21.51% escaped with minor injuries. Table 1 shows that 73.04% lost their lives within the city limits. This is followed by 13.47% who died on the fly-over, and 2.12% on minor roads connected to main roads within the city. The mean and its standard deviation of accidents were 16.66± 25.67 and variance of fatality was 1.54.

Table 2 shows accidents resulting in severe injuries. The major accidents occurred within city limits (87.67%) followed by 5.98% on the coastal highway and least number of accidents was 2.11% on minor roads linking main road. The mean of the severely injured persons in total number of accidents is 16.66± 31.82. The variance of the total number of accidents is 1.91.

Table 3 shows accidents and deaths that occurred within 24 hours: 39.23% occurred between 13:00-18:00 hours, followed by 33.84% from 18:00 to 24:00 hours and the lowest number of accidents 5.38% 0-6 hours with a mean of 24.99± 13.01 and a variance of 0.52.

Table 4 shows hit and run victims (both sexes). Males were 85.93% of the total hit and run victims, while female were 14.06%. The table also presents ages of the victims.
DISCUSSION
One-hundred-thirty people lost their lives between 2006 and 2007, while 850 people were severely injured (Table 1 and 2). The accidents and deaths were not due to a single cause, but were the result of combination of failures, including driver error, problems with the vehicle, surface of the road and lay-out, weather conditions and the time of day.7,8

More road accidents occurred here late at night than occurred in developed countries.9 The results, (Table 3), revealed that 33.84% of the accidents occurring between 2006 and 2007, may have been due to environmental factors such as fog or winter rains. In addition, unlit streets, lack of concentration by drivers, aggression, faulty car tyres, failure of the brake system and vehicle lights and age of the vehicle were contributing factors. Collision occurred as a result of obstruction of the roads by broken down vehicles and reduced visibility resulting from bad car lights, which is a typical feature of accidents in Benghazi. The study confirmed that reduced visibility as a result of Ghibli (sirocco), winter rains also led to accidents.10,11

One of the causes of accidents in Benghazi city is suburban expansion of Benghazi city in the last few years. This has led to a phenomenal increase in the use of motor vehicles. Road accidents are inevitable consequences of the increased distances traveled since the tendency is to drive at high speeds to reach destinations more quickly. Conflicting desires of drivers and their lack of courtesy, multiple access points and exits on both sides of the road, advertisements that distract drivers’ attention, signs, visibility, and parked cars may be some of the causes of collisions. It is evident from the results that the highest number of fatalities was recorded near the city (73.04%) compared to 0% on the city’s main roads and rough roads. The accidents and high velocity impact collisions on the highway and main road were due to high speeds and the sudden change of lanes by drivers without due care or regard for other drivers or oncoming vehicles.10

Accidents involving pedestrians increase with urbanization. They are usually the victims of hit and run (Table 4). This increased risk-involving pedestrians as a result of the lack of crosswalks and sidewalks and inadequate lighting on small roads. Together with other factors such as alcohol abuse and pedestrian carelessness, the number of accidents increase. It is also possible that a large number of these accidents have been noted as having been caused by the distraction of the driver or other observational failures. Studies9,10 have shown that most accidents occur in the early hours of the morning whereas, the study in Benghazi showed that most accidents occurred between 13:00 and 24:00 hours. This could be attributed to stress and environmental factors.

CONCLUSION
It is concluded from the studies that major road traffic accidents occur as a result of environmental factors and stress. In addition, fatalities and the seriousness of the accidents depend on number of factors such as the age of the vehicle, safety measures, human error and time and place of accident.

ACKNOWLEDGEMENTS
All the authors are very thankful to Colonel Dr. Ashour, Director of Traffic and License Department, Benghazi, Captain Khalid Siddique and Mr. Salem Zyani of the Statistics and Records Department of Traffic and License for their valuable support with data.

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