

Ending in a Crash

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Road traffic accidents are the main cause of mortality in young people worldwide, including Israel. They are responsible for more years of life lost than from most human diseases [1]. Even in Israel, a country constantly threatened by war and terrorism throughout the nation's short life, more people have been killed or injured as a result of RTA than from war and terrorism.

Most developed countries in the world have reached the understanding that this is one of the most important issues to be addressed by governments and decision makers. As a result many countries have instituted an intransigent national policy aimed at reducing both mortality and morbidity resulting from RTA. The World Health Organization estimates that each year, almost 1,200,000 people are killed and more than 50,000,000 people injured in road traffic crashes worldwide [2]. In Israel, about 500 people are killed and more than 110,000 people injured in RTA every year [3]. Over 10,000 casualties are admitted to Israeli hospitals annually as a result of motor accidents [4]. The gravest issue raised in the report is the forecast predicting that, without the implementation of stringent measures, the number of deaths and injuries will rise by 65% from the year 2000 to the year 2020, and in countries with low and middle income levels, the death numbers will rise by 80% [5] [Peleg et al, submitted].

The WHO report on Road Traffic Injury Prevention published in 2004 [2] noted that "within the World Bank, an interdisciplinary task force was established to ensure that this important issue was regarded as a major public health issue and tackled jointly by transport and public health specialties." The dimensions of this problem are enormous, as evidenced by the report's findings that road traffic crashes were the second major cause of death in young people (age 5–29 years) in 2002, and the third major cause of death in those aged 30–44 years [2]. The report estimates that although road traffic injuries ranked ninth on the scale of leading causes of the global burden of diseases in 1990, in 2020 they will be the third leading cause. Accordingly, the WHO estimates that the cost of RTA injuries will be 1.5% of the Gross National Product in middle-income countries and 2% in high-income countries [1].

In Israel, most of the people involved in the struggle to reduce RTA are aware that the government has not taken this issue seriously enough and therefore has not mobilized the requisite agencies (police, etc) necessary to combat this ever-present killer. True, the Israeli government has established national investigation committees that have dealt with some RTA issues, but as yet very

little has actually been implemented. Several years ago the National Council for Road Safety was established by law within the framework of the Ministry of Transport. The Council is responsible for coordinating between the different ministries and organizations involved in the RTA struggle and for formulating multidisciplinary policy. A telling example of the futility of this council is the fact that none of its members represents the Ministry of Health or any other health-related body. The paradox here is that the healthcare system in Israel is almost the only system in the country that demonstrates efficacy in this area. Over the past 5 years healthcare measures have reduced mortality from severe injuries, ISS 16+, by almost 30% [6]; and specifically in cases of RTA injuries, reductions exceeded 35% in the years 1998–2003. This can be interpreted as representing a reduction of at least 55 deaths from RTA in Israel during 2003. This finding emphasizes the importance of including the healthcare system as an essential partner in this crucial battle to save lives.

Israel has one of the highest ratios of RTA fatalities to number of vehicles. In 2002 the number of deaths per 100,000 cars in different countries was as follows: Israel 2.7, the United States 1.8, Australia 1.4, Germany 1.3, the Netherlands 1.2, and Japan and Great Britain 1.1 – less than half the ratio in Israel [7]. Moreover, the percentage of pedestrian mortality from RTA in Israel is one of the highest in the world – 37%. In the UK the percentage of pedestrian mortality is 25%, Switzerland 22%, Germany 13%, Italy 13%, and France and Belgium 10% [8].

The subject of the characteristics of RTA injuries in an urban trauma center is discussed by Marmor and colleagues in this issue of *IMAJ* [9]. The characteristics of RTA injuries in an urban area are different to those in hospitals located close to highways. In urban areas we expect to see more pedestrians and bicycle injuries. The authors confirm previous reports that more injuries occur during working days and fewer on weekends, and less severe RTA injuries as a result of speeding. However, it is important to note that Tel Aviv is not a representative urban area in Israel: it is the most crowded city in Israel according to both the volume of traffic and people throughout the week during long working days and extended leisure hours, and is also the business center of the country. An effervescent hub of activity, Tel Aviv is full of motorcycles constantly running against the clock and vehicles slowed by the busy crowds. In recent years, because of the heavy traffic in Tel Aviv, an ever-increasing number of people use motorcycles instead of cars, including many who commute to the city by train. This is reflected in the higher ratio of motorcycle injuries admitted to the Tel Aviv Sourasky Medical Center as compared to other trauma centers in

RTA = road traffic accidents
WHO = World Health Organization

the country. Furthermore, Tel Aviv has a relatively large proportion of the country's elderly population, which may contribute to the high ratio of pedestrian injuries recorded at the Sourasky Medical Center. Once again, this phenomenon is due to the population composition of the city.

Whiplash is an example of injury that is characteristic of "bumper to bumper" accidents at low speed and in the city. This type of injury is typical for a city plagued by traffic jams during most of the day and night. Due to the specific character of Tel Aviv and its marked differences in traffic, business, location, and citizens (demographic features), it is not a classic urban city in Israel and has a varied epidemiology of RTA injuries. Therefore, the epidemiology of casualties from RTA admitted to a Tel Aviv trauma center is uniquely characteristic, as exemplified by the incidence of motorcycle casualties in Tel Aviv compared to other places in Israel.

The methodology of studying RTA injuries in two periods without addressing the reasons why these specific 4 months were chosen can create some bias: March–April and July–September do not include the winter months. This is significant because the winter has some inherent characteristics such as skidding, visual disturbances, etc. Furthermore, July, August and March–April are months when both children and adults are on vacation, which naturally influences the results of RTA characteristic injuries. These casualties are not typical of the incidence of RTA during the spring and summer months. If motorcycles, bicycles and older population are added to the equation, the system of choosing 4 months only in the summer and spring can confer a specific bias.

In their article, Marmor et al. [9] characterized the ages of the RTA casualties, but did not examine the ages according to the specific vehicles involved; namely, cars, buses, bicycles, or pedestrians, etc., and if the casualties were the drivers of the said vehicles. Similarly, when data on RTA are presented according to hours and days, it would be more productive to show the correlation of the ages and the type of vehicles with the hours and the days. The calculation system for gender by type of vehicle as a method of processing data without relating to relevant details such as whether the casualty was a driver or passenger raises a bias. In other words, a car can transport five people while a motorcycle can transport only two; hence, it may be more meaningful, for instance, to compare the number of drivers injured. Furthermore, the relevance of combining data from 1995 with details from 2002 is questionable.

Marmor and co-workers state that motorcycles are a very popular means of transportation in Tel Aviv. This is certainly true, and I therefore urge the decision makers in the Tel Aviv municipality to address this specific phenomenon to ensure safety options and not ignore their responsibility.

Many aspects have changed in transportation in Tel Aviv since 1995. An increasing number of people commute to Tel Aviv by train and motorcycle. This is a growing trend in recent years that has gained momentum. Therefore, on the same grounds, I think it would be very interesting to compare the RTA outcomes in 1995 to 2003 or 2004 and to see if and how the trend of train travel in recent years has influenced the numbers and characteristics of Tel Aviv RTA injuries. Marmor and colleagues state: "it is possible that

designated minor trauma units will be more cost-effective." In my opinion the real question is: Does any minor injury such as whiplash or other very minor injury have to be transported to the hospital? Or is it a question of financial interests: for the hospital (emergency room fee), the patient (insurance), the emergency medical services (transportation fee).

These are some of the reasons why researchers of RTA injuries should relate to the more severe or hospitalized injuries, as presented in the article by Aharonson-Daniel et al. [10] as an example from Israel. Their article refers to all the RTA injury admissions to eight hospitals over a period of some years. This extended research highlights evolving trends that can be compared to those in other countries, presenting differences in trends and characteristics. In cases of minor trauma, there is a possibility of being biased by "insurance casualties," inflating the figures as opposed to dealing with hospitalized injuries.

In summary, RTA are the primary cause of death in the young and are also the catalyst for multifunctional disabilities that last a lifetime. The public health authorities believe that accidents can be prevented and that most of the casualties and disabilities arising from such traumas can be avoided. The health system has a crucial role to play at the secondary level of prevention of RTA, and possibly even more so at a tertiary level, after the accident – namely, minimize death and disabilities. We have an obligation not only to treat the injured but to publish our experience too. Unfortunately, we have not mastered the pen in highlighting these avoidable tragedies.

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