Road Traffic Accidents (RTAs)

**Introduction:**

* Road traffic injuries are the eighth leading cause of death globally, and the leading cause of death for young people aged 15–29
* More than a million people die each year on the world’s roads, and the cost of dealing with the consequences of these road traffic crashes runs to billions of dollars.
* Current trends suggest that by 2030 road traffic deaths will become the fifth leading cause of death unless urgent action is taken*.*

**What do we mean by Road Traffic Accident?**

RTAs occur when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction, such as a tree or utility pole and result in injury, death, vehicle and property damage.

**Global burdens of RTA:**

Every day around the world, almost 16 000 people die from all types of injuries. Nearly 3,400 of those die on the world's roads every day. Worldwide, an estimated 1.2 million people are killed in road crashes each year and as many as 50 million are injured.

**The social and economic costs of road traffic injuries:**

In economic terms, the cost of road crash injuries is estimated at roughly 1% of gross national product (GNP) in low-income countries, 1.5% in middle-income countries and 2% in high-income countries. Moreover, the direct economic costs of global road crashes have been estimated at US$ 518 billion. For each road traffic injury death, there are survivors who are left with short-term or permanent disabilities that may result in continuing restrictions on their physical functioning, psychosocial consequences or a reduced quality of life. In 2002, road traffic injuries were the ninth leading cause of disability. Accounting for over 38 million disability, or 2.6% of the global burden of disease.

**Road traffic accidents in Saudi Arabia**

Road traffic accidents are a major health hazard in Saudi Arabia, particularly during Ramadan. An audit of RTAs over a one-year period revealed that, out of 361 victims, 16% were under 10 years and 47% between 11 and 30 years. Half of the children injured were pedestrians. There was a male to female ratio of 4:1 reflecting the driving laws in Saudi Arabia.

**Effects of RTAs in Saudi Arabia:**

Between 1971 and 1997; 564,762 people died or were injured in road traffic accidents, a figure equivalent to 3.5% of the total population in Saudi Arabia. During this period 66,914 people have died on the roads in Saudi Arabia due to road accidents, amounting to one person killed and four injured every hour.

Of deaths in Ministry of Health hospitals, 81% are due to road traffic accidents and 20% of their beds are occupied by traffic accidents victims. An average of 20 people die each and every day due to road accidents, which are the primary cause of death in males aged 16 to 36.During a one-year period between 2010 and 2011, 7,159 people died and more than 40,000 were injured in more than half a million traffic accidents .

Saudi Arabia experiences a high rate of deaths compared to other countries at 29 deaths per 100,000 populations. The annual loss resulting from traffic accidents is about 21 billion riyals, which represents about 4% of the national income. If current trends continue, Saudi Arabia could have more than 4 million traffic accidents a year by 2030.

**Causes of RTA (risk factor):**

We can classify them into two categories:

**A-human-related causes 80%**

* Excess speed
* Bad driving habits and road safety
* Violation of signals at intersections
* Distracted driving (texting or talking on the phone)
* Avoiding safety gears (belts)
* Intoxication (drugs and alcohol)

**B- Road safety and vehicle condition 20%**

* Road layouts
* Vehicle condition

**Prevention and control of RTA:**

**1- Primary prevention: removal of circumstances causing injury**

* **Measures towards drivers:**
* Heavy penalties should be imposed on ALL those who cross speed limits
* Raising of lower age limit for two wheelers and heavy vehicles to 21 years old
* Driving Test for issue of driving license is to be made more strict
* **Measures towards vehicles:**
* Insuring of the presence of airbags to minimize any injuries in case of an accident
* Regular vehicle checkup
* The use of seatbelts by the driver and all the vehicle passengers
* The use of child restraints in the presence of children in the vehicle
* **Measures towards Roads:**
* The construction of barriers with special zones and separate lanes in order to separate moving vehicles from pedestrians.
* Advertisement boards and other items that may obstruct visibility at junctions, curvatures and other parts should be removed
* Straightening / widening of roads implementation of one way traffic with proper marking of roads and signals

**2- Secondary prevention: reduce severity of injury should and accident occur**

* **Rapid Response to The Scene**
* Put as many ambulances in areas where accidents occur more frequently and in every other areas in the city.
* Provide the proper roads for all ambulances to decrease the time to reach the accident and return to the hospital quickly.
* **Efficient Response of Dealing and Managing the injured people by the paramedics.**
* Training the paramedics in the ambulances to use the best techniques of saving lives.
* Provide good ambulances with proper equipment.
* Providing appropriate number of beds and physicians in the ER to handle car accident victims.
* **Educate the People about how to deal with accidents**
* Not to Overcrowd around the accident
* Call 997
* Keep the injured person relaxed
* How to exit the car properly
* Do not move the injured.
* Educate people about the importance of donating blood to save other patients including the RTA injuries.

**3- Tertiary prevention: optimal treatment and rehabilitation following injury**

* **Medical rehabilitation:** restoration of function or physical loss ex: *Prosthetic Legs*
* **Educational rehabilitation:** change of educational methods ex: Education for blind people.
* **Vocational (occupational) rehabilitation:** restoration of the capacity to earn a livelihood
* **Social rehabilitation:** restoration of family and social relationships
* **Psychological rehabilitation:** restoration of personal confidence by insuring the person that he still can be an important member in the community

**Prevention strategies: measures against road traffic accidents in KSA:**

The Saudi government controls the following elements in order to provide a safe driving environment for the driver, passengers and pedestrians:

1. **Road safety**:

The authorities have constructed good quality road network within and between the territories of the Kingdome, as well as providing obstacle-clearing services (e.g. dust and sand), installing traffic control aids (traffic lights, warning signs), and restricting commercial trucks from using the roads at certain times to decrease crowding.

1. **Vehicle safety**:

Implementation of a mandatory periodic car check up and maintenance which aims to Maximize vehicle's service life, Protect the environment, Keep road users safe including drivers, passengers, and the pedestrians, and Discover problems before getting worse. All in all resulting less road traffic accidents.

1. **The Driver**:

Drivers are not legally allowed to drive in this country without passing a driver test and obtaining a driver’s license; which means that drivers would be familiar and well oriented with all the driving legislations and laws in this country, creating more knowledgeable drivers leading to less road traffic accidents.

Drivers must be of the age of 18 or older, pass a driving test and provide a medical report that proves they do not suffer from any medical condition that might hinder their driving ability.

1. **Violations**:

Implementation of penalties on violating the law has created more responsible drivers, leading to less road traffic accidents. Penalties range from paying fines to detaining the vehicle.

1. **Point system**:

Identifies for each traffic offense a certain number of points according to seriousness of the offense on public safety & thin points will recorded, when it exceeded the maximum allowable points the driver's license will withdrawn.

1. **Saher system:**

Saher is an "Automated System" for the management of traffic via E-Systems covering major cities in Saudi Arabia It aims to achieve:

* Improve the level of traffic safety.
* Use the latest advanced technologies in intelligent transportation (ITS) to found a safe traffic environment.
* Raise the efficiency of existing road networks.
* Strengthen the public security by using the latest surveillance systems.
* Implement traffic regulations strictly and continuity.

Saher offers:

* Live control of traffic flow.
* Traffic management.
* Help speeding processing of traffic cases
* Increase the efficiency of traffic patrols.
* Live monitoring of traffic cases and accidents.
* Violations auto-detect.

1. Awareness campaigns:

The traffic department have organized many awareness campaigns regarding road safety; the latest is (Road safety week for GCC – 2013) which provided many activities including lectures and informative plays, ‘road safety park’ where children can drive mini cars and are taught by traffic officers about driving instruction and road safety, visiting schools and teaching students about road safety and many other activities.

All these elements were seriously taken in consideration by the government to decrease and prevent road traffic accidents.