

Road Traffic Accidents Report
Group 5
Tuesday , 27 February 2018
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Road traffic accidents report

Definition of RTA

- A Road Traffic Accident (RTA) is when a road vehicle collides with another vehicle, pedestrian, animal or geographical or architectural obstacle. The RTAs can result in injury, property damage and death.
- A road accident refers to any accident involving at least one road vehicle, occurring on a road open to public circulation, and in which at least one person is injured or killed. Intentional acts (murder, suicide) and natural disasters are excluded.
- The definition of a road traffic accident occurs when a vehicle that is moving along a roadway collides with another vehicle or object. When you run a red light and hit a car going in the other direction, this is an example of a road traffic accident.

Magnitude of the Problem (globally, KSA)

- **Magnitude of the Problem in Saudi arabia:**

- Traffic accidents have increased during the past years.
 - More than fifth of cases handled by the Red Crescent have been classified under traffic accidents.
 - 6 injuries per 8 incidents recorded in the Kingdom; whereas the global ratio is one injury for each 8 accidents.
 - Loss rates of national product due to traffic accidents in Saudi Arabia are 4.7%, while they did not exceed 1.7% in Australia, England and the USA.
- (4)

- **Magnitude of the Problem globally:**

The magnitude of road traffic injuries globally :

- More than one million people are killed worldwide every year as a result of road traffic crashes.
- Road traffic injuries are the 11th leading cause of death and the 9th leading cause of disability-adjusted life years lost worldwide.
- The poor and vulnerable road users pedestrians, cyclists and motorcyclists bear the greatest burden.
- Some 90% of road traffic deaths occur in the developing world, which comprises two thirds of the global population.
- As motorization increases, many low income and middle income countries may face a growing toll of road traffic injuries, with potentially devastating consequences in human,

social and economic terms.

- Males are more likely to be involved in road traffic crashes than females.
- Economically active adults, aged 15–44 years, account for more than half of all the road traffic deaths.
- Without new or improved interventions, road traffic injuries will be the third leading cause of death by the year 2020.

Risk factors of RTA

Haddon matrix

The Haddon matrix is an analytical tool to help in identifying the risk factors before the crash, during the crash and after the crash, in relation to the person, vehicle and environment.

		FACTORS		
PHASE		HUMAN	VEHICLES AND EQUIPMENT	ENVIRONMENT
Pre-crash	Crash prevention	Information Attitudes Impairment Police enforcement	Roadworthiness Lighting Braking Handling Speed management	Road design and road layout Speed limits Pedestrian facilities
Crash	Injury prevention during the crash	Use of restraints Impairment	Occupant restraints Other safety devices Crash protective design	Crash-protective roadside objects
Post-crash	Life sustaining	First-aid skill Access to medics	Ease of access Fire risk	Rescue facilities Congestion

- **Speeding:**

An increase in average speed is directly related both to the likelihood of a crash occurring and to the severity of the consequences of the crash. For example, an increase of 1 km/h in mean vehicle speed results in an increase of 3% in the incidence of crashes resulting in injury and an increase of 4–5% in the incidence of fatal crashes.

An adult pedestrian’s risk of dying is less than 20% if struck by a car at 50 km/h and almost 60% if hit at 80 km/h.

- **Distracted driving:**

Drivers using **mobile phones** are approximately 4 times more likely to be involved in a crash than drivers not using a mobile phone.

Using a phone while driving **slows reaction** times (notably braking reaction time, but also reaction to traffic signals), and makes it difficult to keep in the correct lane, and to keep the correct following distances.

Hands-free phones are not much safer than hand-held phone sets, and texting

considerably increases the risk of a crash.

- **Nonuse of motorcycle helmets, seat-belts, and child restraints:**

Wearing a motorcycle helmet correctly can reduce the risk of death by almost 40% and the risk of severe injury by over 70%.

Wearing a seat-belt reduces the risk of a fatality among front-seat passengers by 40–50% and of rear-seat passengers by between 25–75%.

If correctly installed and used, child restraints reduce deaths among infants by approximately 70% and deaths among small children by between 54% and 80%.

- **Driving under the influence of alcohol and other psychoactive substances:**

In the case of **drink-driving**, the risk of a road traffic crash starts at low levels of blood alcohol concentration (**BAC**) and increases significantly when the driver's BAC is ≥ 0.04 g/dl.

In the case of **drug-driving**, the risk of incurring a road traffic crash is increased to differing degrees depending on the psychoactive drug used. For example, the risk of a fatal crash occurring among those who have used **amphetamines** is about 5 times the risk of someone who hasn't.

- **Unsafe vehicles:**

There are a number of **regulations** on vehicle safety that, if applied to countries' **manufacturing and production standards**, would potentially save many lives.

These include requiring vehicle manufacturers to meet front and side impact regulations, to include electronic stability control (to prevent oversteering) and to ensure airbags and seat-belts are fitted in all vehicles.

- **Unsafe road infrastructure:**

The design of roads can have a considerable impact on their safety. Ideally, roads should be **designed keeping in mind the safety of all road users**.

This would mean making sure that there are adequate facilities for pedestrians, cyclists, and motorcyclists. Measures such as **footpaths, cycling lanes, safe crossing points, and other traffic calming measures** can be critical to reducing the risk of injury among these road users.

- **Inadequate post-crash care:**

Delay in detecting and providing care for those involved in a road traffic crash increase the severity of injuries.

Care of injuries after a crash has occurred is **extremely time-sensitive**: delays of minutes can make the difference between life and death.

- **Inadequate law enforcement of traffic laws:**

If traffic laws on seat-belt wearing, speed limits, helmets, and child restraints are not enforced, they cannot expect reduction in road traffic fatalities and injuries. Thus, if traffic laws are not enforced it is likely they will not be complied with and therefore will have very little chance of influencing behaviour.

Effective enforcement includes establishing, regularly updating, and enforcing laws at the national, and local levels that address the above mentioned risk factors. It includes also the definition of appropriate **penalties**.

Consequences

Health consequences of road traffic accidents(7)

1.On the driver of:

four-wheeled motor vehicles

- Head injuries as a result of the impact against the front part of the interior of the vehicle
- Chest trauma due to the impact on the steering wheel
- Injuries to lower extremities due to the impact on the dashboard

Two-wheeled vehicle :

- Severe intracranial injury,
- Injury to the shoulder girdle

2.The most affected group by traffic accidents are pedestrians. Because Pedestrians are not virtually protected, so their injuries are usually so severe that they lead to death, or cause a long-term illness of the individual, or a disability.

Injuries resulting from traffic accidents can be divided into two categories:

Temporary disabilities

It is defined as deterioration of physical or mental abilities of individuals that could prevent them from standard living, but there is a prospect that their injuries will stabilize.

Permanent disabilities.

Refers to physical or psychological harm that means restrictions at work or during other activities for the rest of life.

Socioeconomic Consequences of road traffic accidents:

More than 90% of road traffic deaths occur in low- and middle-income countries. Road traffic injury death rates are highest in the African region. Even within high-income countries, people from lower socioeconomic backgrounds are more likely to be involved in road traffic crashes.

Road traffic injuries put significant strain on families .Many families are driven into poverty by the cost of prolonged medical care,or even the extra funds needed to care for people with disability Globally, the economic cost of road traffic injuries is about US\$ 518 billion with low income and middle-income countries accounting for US\$ 65 billion.Social consequences affect the road traffic accident participants and families

Job losses, loss of amenity and fatal impact on the functioning of the whole family.

Social consequences affect the road traffic accident participants and families Job losses, loss of amenity and fatal impact on the functioning of the whole family.

Prevention and control

- **Primary prevention:** removal of circumstances causing injury - eg, traffic speed reduction, fitting stair gates for young children, Car seats and seatbelts, Mobile phones.
- **Secondary prevention:** reduces severity of injury should an accident occur - eg, use child safety car seats, bicycle helmets, acute emergency trauma care (paramedics).
- **Tertiary prevention:** optimal treatment and rehabilitation following injuries - eg, First-aid treatments, hospital care, and rehabilitation

Violations:

Violations Table (1)	<ul style="list-style-type: none">-Driving a vehicle without driving licence-Driving on the opposite direction-Non-stopping completely at the stop signal
Violations Table (2)	<ul style="list-style-type: none">-Non complying with road-limits marked on the lanes-Using expired licence
Violations Table (3)	<ul style="list-style-type: none">-Not wearing seat belts-Non-using safety seats meant for children-Using cell phone while driving-Violating rules for driving on roads
Violations Table (4)	<ul style="list-style-type: none">-Throwing any objects outside the vehicle while it is moving-Pedestrians crossing roads from places other than those allocated for them

	-Parking in places defined for persons with special needs if you are not from that category
Violations Table (5)	-Not wearing a helmet when riding a motorbike
Violations Table (6)	-Not stopping while the red traffic light was on
Violations Table (7)	-Driving under the influence of alcohol, drugs or medicine

Saher system: started on 19/04/2010

saher Offenses System includes "6" main ways that the citizen and resident must know:

1. Exceeded speed limit
2. drive in the unallocated tracks "drive after the yellow line on both sides of the road"
3. Cut the signal
4. Exceeding the allowed speed limit and the signal is green
5. Stand above the pedestrian line at the signal
6. Turning right unsystematically

Medical conditions that affect driving

- **Excessive sleepiness:** Sleepy drivers perform worse on tests than those over the alcohol limit. Increased awareness of sleep disorders and their treatment is needed, by both the public and by doctors.
- **Diabetes:** Hypoglycemia is an important cause of driving mishaps in those with type I diabetes. Drivers should take precautions such as checking their blood glucose before driving, taking meals and snacks
- **Epilepsy:** Identified risk factors for accidents include the number of anti-epileptic drugs, history of generalised seizures and seizure frequency.
- **Attention deficit hyperactivity disorder:** associated with an increased risk of serious transport accidents. There is evidence that this risk is reduced by medication in male patients but not in females.

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