

Road Traffic Accidents Report

F3 - Seminar

COMM311



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Objective 1

The objective 1: Describe the epidemiology and the magnitude of injuries particularly road traffic accidents globally and in Saudi Arabia ⁽¹⁻³⁾

Globally:

- Road traffic injuries are considered as one of the leading causes to death for children and young adults aged 5-29 years currently they estimated to be the eighth leading cause of death across all age groups globally ⁽¹⁾
- Approximately 1.35 million people die each year as a result of road traffic crashes, while 20 to 50 million people suffer from non-fatal injuries, with many incurring a disability as a result of their injury. ⁽¹⁾
- Based on the WHO Global Status Report on Road Safety 2018. In the last year only 1,354,840 road users have died due to Road Traffic Accidents, of whom 392,904 were car drivers, 40,646 were cyclists, 379,356 were motorcyclists and 311,614 were pedestrians. ⁽²⁾
- 93% of road traffic deaths occur in low- and middle-income countries. The road traffic injury death rates are highest in the African region. ⁽¹⁾
- Road traffic crashes cost most countries 3% of their gross domestic product. ⁽¹⁾

Kingdom of Saudi Arabia:

- Road traffic accidents are considered to be Saudi Arabia's main cause of death for 16-30-year-old males with 19 killed daily, and 4 injured every hour in KSA.
- Road traffic fatality in the Kingdom of Saudi Arabia (KSA) accounts for 4.7% of all mortalities and it is increased over the last decade from 17.4-28.8 per 100,000 population That make Saudi Arabia a Country which have higher number of deaths from RTAs among high income states. ⁽²⁻³⁾
- Motor vehicles are the main means of transportation within, and in-between cities. ⁽⁴⁾
- In 2018 **Saudi Arabia reported** 9,311 deaths as estimated by the WHO and 9,031 reported by the Saudi Government. The Deaths/100k 28.8 as estimated by the WHO. ⁽²⁻³⁾

Total number of road traffic injuries (2018-2020) by age group ⁵					
Year	Below 18 Years	19-30	31-40	41-50	Over 51
2018	4,230	9,028	8,204	5,493	3,624
2019	4,549	9,841	8,639	5,816	4,011
2020	3,202	7,596	6,527	7,596	3,202
Total number of road traffic deaths (2018-2020) by age group					
Year	Below 18 Years	19-30	31-40	41-50	Over 51
2018	816	1,864	1,428	785	894
2019	827	1,742	1,486	913	786
2020	587	1,463	1,182	740	646

Total number of road traffic injuries (2019-2020) by gender ⁵		
Year	Male	Female
2019	27,281	5,629
2020	21,492	4,069
Total number of road traffic deaths (2019-2020) by age group		
Year	Male	Female
2019	5,081	673
2020	4,108	510

Objective 2



The objective 2: Risk factors for road traffic injuries: ^(1,6)

→ **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.

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

Driving under the influence of alcohol and any psychoactive substance or drug increases the risk of a crash that results in death or serious injuries.

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

→ **Distracted driving:**

Visual distraction: taking your eyes off the road.

Manual distraction: taking your hands off the wheel.

Cognitive distraction: taking your mind off driving.

→ **Unsafe road infrastructure.**

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

Traffic laws on drink-driving, seat-belt wearing, speed limits, helmets, and child restraints.

Objective 3

The objective: Understand principles of injury particularly road traffic injuries prevention and control ⁽⁷⁾

Global plan for the decade of action for road safety 2011 -2020

- The World Health Organization and the United Nations regional commissions, in cooperation with the United Nations Road Safety Collaboration and other stakeholders, to prepare a plan intended as a guiding document for countries, and at the same time for facilitating coordinated and concerted action towards the achievement of the goal and objectives of the Decade of Action for Road Safety 2011–2020.
- Countries are encouraged to implement the following five pillars, based on the recommendations of the World report on road traffic injury prevention and proposed by the Commission for Global Road Safety.



Pillar 1: Road safety management

- Establish a set of achievable and long-term targets for national activities based on the analysis of national traffic crash data.
- Assure funding the activities implementation.
- Develop a strategy that build a data collection system and set a baseline data to monitor progress in reducing road traffic injuries and fatalities, and also economic indicators such as cost.

Pillar 2: Safer roads and mobility

- Promote road safety ownership and accountability among road authorities, road engineers and urban planners by:
 - Encouraging governments and road authorities to set a target to “eliminate high risk roads by 2020”.
 - Monitoring the safety performance of investments in road infrastructure by national road authorities, development banks and other agencies.

Pillar 3: Safer vehicles

- Encourage agreement to ensure that all new motor vehicles are equipped with seatbelts and anchorages that meet regulatory requirements and pass applicable crash test standards (as minimum safety features).
- Encourage application of pedestrian protection regulations and increased research into safety technologies designed to reduce risks to vulnerable road users.

Pillar 4: Safer road users

- Increase awareness of road safety risk factors and prevention measures.
- Set and seek compliance with speed limits and evidence-based standards and rules.
- Set and seek compliance with laws and evidence-based standards and rules for motorcycle helmets to reduce head-injuries.
- Promote establishment of Graduated Driver Licensing systems for novice drivers.

Pillar 5: Post crash response

- Develop hospital trauma care systems and evaluate the quality of care through the implementation of good practices
- Provide early rehabilitation and support to injured patients and those bereaved by road traffic crashes
- Provide encouragement and incentives for employers to hire and retain people with disabilities
- Encourage research and development into improving post crash response.

Objective 4

The objective: Apply injury epidemiology principles to road traffic incidents ⁽⁸⁾

Studies of injury patterns are helpful in injury control. Injury epidemiology models perceive three factors to explain the injury phenomenon as (Haddon et al., 1964): the host (the person injured), the agent (the energy leading to injury), and the environment (physical, biological and organizational). Among the environmental factors, transient factors (those changing with time) are the most immediate factors causing injury. ⁽⁸⁾

The resulting nine-cell Haddon Matrix models a dynamic system, with each cell of the matrix allowing opportunities for intervention to reduce road crash injury. ⁽⁸⁾

FIGURE 1.3

The Haddon Matrix

PHASE		FACTORS		
		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

Objective 5

The objective: Identify the programs for prevention and control for those problems in Saudi Arabia ⁽⁹⁻¹²⁾

Saher 9

- An automated system that uses cameras and radars to control and report traffic violations automatically like one's using their phone while driving, speeding etc.
- It aims to improve the level of traffic safety and implement traffic regulation.
- This law enforcement system has proved its effectiveness by reducing the injuries caused by road traffic accidents by 43% in its first month of implementation.

The Saudi Society for Traffic Safety Salama 10

Aims to spread the concept of commitment to traffic safety, improve traffic behavior, and reduce the rates of accidents and deaths. During the 5th Forum on February 2020, several recommendations were presented:

1. Recommendations related to **traffic control** aspects
 - Activating the black points system for traffic violations.
 - Carry out drug and alcohol testing (alcohol content should not exceed 0.5 grams / liter).
 - Establishing a program to raise the efficiency of accident investigators for better inputs of accident reports.
 - Merging accident databases with the competent authorities in the field of traffic safety.
2. Recommendations related to **engineering** aspects
 - Setting standards for approving engineering projects for roads, intersections and roundabouts.
 - Finding stations for weighing trucks to reduce the excess weights on the road networks.
 - Activating the concept of "safe lanes" .
3. Recommendations related to **educational** aspects
 - Providing specializations related to traffic safety (eg: traffic engineers, transportation, roads, bridges).
 - Training of specialized cadres in order to enable them to spread traffic awareness in the community.

Vision 2030 11,12

Under the National Transformation Program, **The objective:** Improve Living Standards and Safety objective aims:

- Reduce the number of traffic fatalities from 28 to 23 per 100,000 population.

The 2018 vision progress report showed: Enhance traffic safety:

- Reduce the number of traffic fatalities by 3 thousand incidents which were avoided in 2018.
- Decrease the percentage of serious traffic offences by 40% in comparison to 2017

Initiatives launched within the aim of **enhancing traffic safety**, which included:

- Activating the traffic safety system with the participation of several ministries, under the leadership of the Ministerial Committee for Traffic Safety.
- The expansion of fixed and mobile automatic monitoring in all regions of the Kingdom.
- The opening of **86** new emergency centers on the Kingdom's roads.
- The amendment of the traffic system and thickening Penalties for violations affecting public safety.
- Raising the level of road safety in curves by installing protective barriers and shock absorbing devices.
- Launching awareness campaigns and programs to raise the level of traffic safety.

Objective 6

The objective: Scenario discussion and it should be based on health education to prevent road traffic injuries. ⁽¹³⁻¹⁵⁾

Scenario: you have seen a family (mother, father and 2 children aged 7 years and 6 years and an infant) who had a recent road traffic accident; all members of the family has had a form of injuries ranging from mild to moderate. The father was driving the car and the mother was sitting in the front seat carrying the infant in her lap. None of them were wearing a car seat belt. The older child also had a previous history of head injury when he was playing in the main road of the street with his bicycle without wearing a helmet.

Make them understand that injuries and deaths are preventable , by following the next steps:

Driver and passengers safety:

- Always use a seat belt on every trip, no matter how short. Be sure to buckle up whether you are in the front seat or the back seat of the vehicle.
- Obey speed limits.
- Drive without distractions. For example, don't use a cell phone or text while driving.
- Do not drive while impaired by alcohol or drugs, and avoid riding with a driver who is impaired.

Children safety:

- Make sure children under 12 are always properly buckled in a car seat, booster seat, or seat belt that is appropriate for their age, height, and weight, and make sure they are buckled in the back seat of the vehicle.

Child's safety while on bicycle:

- Encourage the child to wear a helmet at an early stage, and ensure it is always worn properly.
- Helmets should cover the upper part of the forehead and sit level on the head.
- Children under nine years of age should not ride on the road without adult supervision.

Work out routes to various places that have safe crossings, such as at traffic lights, and avoid places that can hide a child from a driver's view (such as curves or bushes).

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