

SCENARIO OF ROAD ACCIDENTS IN KERALA AND ITS ILL EFFECTS**BINU B PILLAI**

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ABSTRACT

Road accidents and its after effects lead to a major economic, social and health problem. The various costs experienced during and after the accidents include hospital expenses, administrative and court expenses, wastage of time and also the cost of intangible consequences like pain, grief and sufferings. Sudden increase in the number of motor vehicles with the same infrastructure of roads especially during the last two decades has been the major reason for the increasing number of road accidents. Several measures has been planned and implemented in our country to control the impact of injuries during road accidents such as awareness of safety programmes, new vehicle technology and introducing strict Motor Vehicle Act. This paper attempts to find out the main reasons of accidents occurring in Kerala and suggest how to control or minimize its causes.

Key words: - Accident, Grief, Pain, Safety, Suffering

INTRODUCTION

A Road Traffic Accident can be defined as, 'An event that occurs on a way or street open to public traffic; resulting in one or more persons being injured or killed, where at least one moving vehicle is involved. Thus it is a collision between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and geographical or architectural obstacles.' Road traffic accidents are a human tragedy. They involve high human suffering and socioeconomic costs in terms of premature deaths, injuries, loss of productivity etc¹.

No one can put a price tag on a human life, but there is a loss to the family, to the community, every time a person is killed or maimed or temporarily out of action in a road accident. Every year, more than 12000 thousand people die in road accidents around the world. Road accident fatalities reported in developing countries is about seventy percentages.

The first injury in road crash occurred on 30th may 1896 in New York City on account of a collision between a bicycle and a motor car. The first fatality in road crash was a pedestrian on 25th February 1899 in London. The first registration plates for motor vehicles were introduced by Paris police in 1893, followed by New York State in 1901 and Britain in 1903. It was only in the year 1903 the driving system was introduced in the world for first time in Britain, and in USA the development of traffic legislation commenced in the year 1924. Today accidents are the one of the leading causes of death in the world, particularly in the industrialized nations. Modern medical science has

conquered almost all causes of diseases; accidents have become a new epidemic of public health. All other epidemics throughout history have been due to some agencies like bacteria and virus, but road accidents are caused by man itself².

In our country the first provincial motor vehicle Act to control the movement of motor vehicles was passed as Bengal Province Act, 1903 which was followed by Bombay Province Act 1909, Burma Act 1906, Madras Act 1907, Punjab Act 1907 and United Provinces Act 1911. The Indian Motor Vehicle Act was first formulated in the year 1914, but it did not cover the safety regulations. In the Motor Vehicles Act 1939, some provisions were made for road safety³. The consequent regulation may be the Central Motor Vehicle Rules, 1989⁴, further in corporate with provisions about the quality of drivers, specific standards of vehicles including safety standards, regulation for driver's training etc. A study by the world health organization showed that in 1990, traffic crashes were assessed to be the ninth important cause of death in the world. By the year 2020, road accidents would be the third most important cause of death and disability facing the world community. The Table 1 given below is a projection indicating the ranking of leading causes of death worldwide.

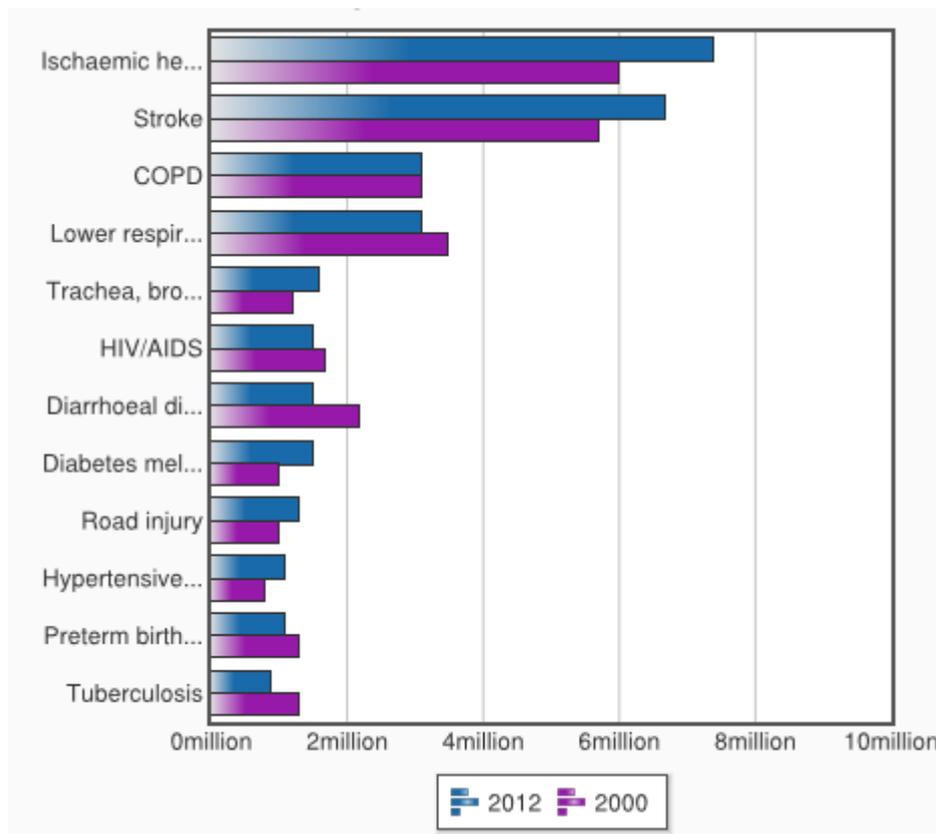
Table 1 Ranking of major causes of death

1990		2020	
Disease/Injury	Rank	Disease/injury	Rank
Respiratory	1	Ischaemic heart disease	1
Diarrhoeal diseases	2	Unipolar major depression	2
Perinatal	3	Road traffic accidents	3
Unipolar major depression	4	Cerebro vascular disease	4
Ischaemic heart disease	5	Pulmonary	5
Cerebro vascular disease	6	Respiratory	6
Tuberculosis	7	Tuberculosis	7
Measles	8	Diarrhoeal diseases	8
Road traffic accidents	9	HIV	9
Congenital anomalies	10	Perinatal	10
Malaria	11	Congenital anomalies	11
Pulmonary	12	Measles	12

According to World Health report on "Reducing Risk and Promoting Healthy Life" states that disease burden as measured in Disability Adjusted Life Years (DALYs) lost in road traffic injuries in the year 1990, was ranked ninth position. Going by current trends, it is expected that by the year 2020 it would rise to the 3rd position. Without action, road traffic crashes are predicted to result in the deaths of around 1.9 million people annually by 2020. In 2010, WHO and five other consortium

partners received funding from Bloomberg Philanthropies to further road safety in ten countries. The "Road Safety in 10 Countries (RS10) Project" supports the governments of Brazil, Cambodia, China, Egypt, India, Kenya, Mexico, the Russian Federation, Turkey and Viet Nam by focusing on selected key risks for road traffic crashes. Efforts are focused on strengthening legislation and enforcement, capacity development, and educating the public through social marketing campaigns. Furthermore, road traffic injuries cost low income and middle income countries each year between 1% and 2% of their Gross National Product, which is more than total development received annually by these countries⁵. Figure 1 shows the comparison of causes of death during the years 2000 and 2012.

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NATIONAL SCENARIO

Road accident scenario in the country is a matter of great concern, as it became a major social, economical and health problem. India has nearly six crore motor vehicle on road while the USA has a stock of more than 25 crores motor vehicles. Over 85,000 people are killed annually in our country, where as in the United States, less than 42,000 people are killed in traffic crashes. Every year more than 4 lakh accidents take place on Indian roads, leading to more than 80,000 fatalities. There is no denying the fact that the number of road accidents in our country is high. With about 5.5% of the total motor vehicle population in the world, the number of fatalities or persons killed per ten thousand vehicles is 14.39 in India, as against 17.10 in china and between 1.0 and 2.50 in many high income countries. In absolute terms, the number of road fatalities in our country is very high and ranks second highest in the world after China.

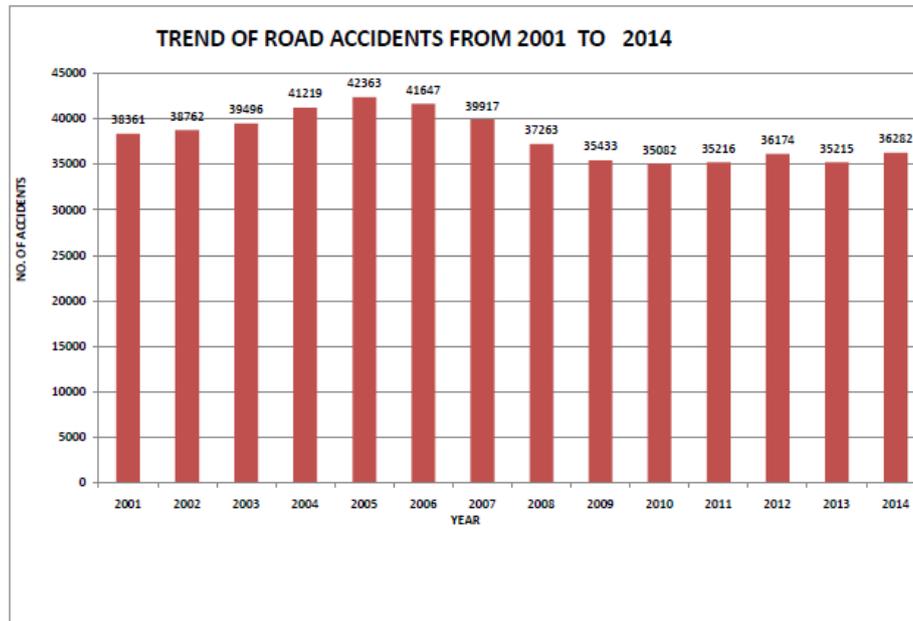
In India, more than a million are injured annually and about a lakh are killed in road traffic accidents⁶. It causes the country to lose around 55,000 crores annually which is 2 to 3% of Gross Domestic Production (GDP)⁷. This cross sectional study was conducted to elucidate the role of various factors involved in road traffic accidents. As per the recent statistics available, nearly 4.4 lakh accidents (one road accident every minute) take place on Indian roads every year, resulting in death of over 94,968 people (one road accident death every 6 minutes) and causing injuries to another 6 lakh persons. In other words, 235 persons die and another 1600 get injured/ hospitalized every day due to road traffic accidents. These accidents result in huge economic loss of about Rs 15,000 crores per year to the country, besides pain, grief and suffering caused to the families of the victims. It implies that accident cost has increased to almost one percent of GDP⁸.

In our country, twelve road safety related themes are selected annually and incorporated in Road Safety calendars, which are printed and circulated to different states/ UTs by department of Road Transport and Highways. Additional themes are selected for road safety campaigns through the print and electronic media. Besides road safety week is celebrated in our country each year, with a theme selected each year to focus on an aspect of road safety.

KERALA SCENARIO

Kerala State is blessed with high literacy rate, better health care, and higher density of population distribution and connectivity of roads to all villages. Kerala is one of the leading states in high rate of road accidents and injuries. Road accidents are considered to be the third major cause of death in the state. Heart ailments and cancer are the other diseases that take a heavy toll of human lives in the Kerala State. The state of Kerala has nearly 3% of the country's population but it has recorded about 10 % of the country's road traffic accidents. According to the causality figures recorded in major medical college hospitals in the state, nearly 70% of the head injuries are reportedly caused due to traffic crashes.

Rapid increase in the number of motor vehicles has been the major reason for the increasing number of road accidents in our state. The vehicle population has increased by almost 20 percent per year. Almost 60 percent of motor vehicles in the state are two wheelers. Two wheeler populations increased from mere 0.5 lakh in 1980 to 50.41 lakh in 2013. The Kerala state has recorded the third highest number of road accidents in the whole of the country after Maharashtra and Tamil Nadu. The accident rate of Kerala is the highest in the country with 15 accidents per 1000 vehicles, which is twice that of all Indian average⁹. Even bigger states like Uttar Pradesh, Madhya Pradesh, Gujarat, Rajasthan and Andhra Pradesh have reported far less number of accidents compared to Kerala State. (Economic Review 2014) The trend of motor vehicle accidents in Kerala is shown in the Figure 2

Figure 2

Source: Economic Review, State Planning Board, Kerala

From the figure it is to be noted that, in the year 2001 the total number of road accidents were 38361 and it rose to 42363 in the year 2005. From the year 2006 onwards there is a slight decreasing tendency in accidents and it come to 36282 in 2014.

Based on the information gathered from Motor Accident Claim Tribunal (MACT), the total cost of accidents in Kerala was Rs 291.27 crores at 1998 prices. At current prices in 2013-2014, the total cost of accidents works out to more than Rs 500 crore per annum. This is a terrible price we have to pay for mobility of people in the state.

CAUSES OF ACCIDENTS

Police records shows that rash and negligent driving on the part of the drivers is the main cause of road accidents. According to records, almost 95% of accidents occurred due to the fault of drivers of the motor vehicles. The rest of the accidents are caused due to various other reasons like traffic, bad weather, poor road condition, fault of pedestrian's etc¹⁰. Road accidents are caused due to one or more of the following reasons.

- Rash driving and unhealthy completion of vehicles
- Defective eye sight of drivers
- Poor surface condition and badly maintained side shoulders of roads
- Uncontrolled access streets and unmanned junctions
- Least care regard to traffic rule
- Haphazard parking on road side
- Location of bus stops close to junctions
- Lack of pedestrian crossing, walkway facilities etc
- Encroachment/dumping of materials on the road
- Rapid increase in personalized modes of transport
- A lack of road discipline

- Improper roadway features (Environment)¹¹

Table 2 shows the district wise details of primary causes of Motor vehicle Accidents during 2013

SI No:	Name of the District	Fault of Driver of motor vehicles	Fault of Driver other than motor vehicles	Fault of Cyclist	Fault of Pedestrian	Fault of Passengers	Defect of motor vehicles	Defect of road surface	Bad weather condition	Other causes	Causes not known	Total
1	Thiruvananthapuram City	1860	0	0	0	0	0	0	0	115	0	1975
2	Thiruvananthapuram Rural	2545	0	0	0	0	0	0	0	189	0	2734
3	Kollam	3051	0	0	0	0	0	0	0	130	0	2181
4	Pathanamthitta	1319	0	0	0	0	0	0	0	73	0	1392
5	Alappuzha	3601	0	0	0	0	0	0	0	0	0	3716
6	Kottayam	2571	0	2	6	0	13	52	18	0	115	2674
7	Idukki	942	0	0	3	0	20	3	0	0	12	968
8	Ernakulam City	2275	0	0	0	0	0	0	0	0	0	2275
9	Ernakulam Rural	3456	0	1	0	0	0	0	0	3	0	3460
10	Trissur	3835	0	0	0	0	0	0	0	39	0	3893
11	Palakkad	2127	0	0	0	0	38	0	0	0	19	2165
12	Malappuram	2700	0	0	0	0	21	0	0	0	0	2721
13	Kozhikode City	1228	0	0	0	0	18	0	0	0	0	1246
14	Kozhikode Rural	1592	0	0	0	0	0	0	0	0	0	1593
15	Wayanad	589	0	0	0	0	0	0	0	1	1	599
16	Kannur	1827	0	0	0	0	0	0	0	13	0	1840
17	Kasaragod	772	0	0	0	0	0	0	0	0	0	772
	Total	36290	0	3	9	0	110	55	18	563	147	37204
	Percentage to Total	97.54	0	0.01	0.02	0	0.32	0.05	0.05	1.51	0.40	100

Source: Director General of Police

COST OF ROAD ACCIDENTS

The economic cost occurred due to road crashes and injuries mainly effects middle income countries between 1% and 1.5% of their gross national product (GNP) and for high income countries it is 2 % of GNP⁷. Economic costs are just the tip of iceberg for everyone killed, injured or disabled by a road traffic crash there are countless others deeper in to poverty by the expenses of prolonged medical care, loss of a family bread winner or the added burden of caring for the disabled⁸. It is difficult to assign monetary value on pain and suffering caused by road accidents.

Social cost includes direct and indirect cost. The direct costs are cost of medical treatment normally include emergency treatment, cost for medicines and for serious injuries, the cost of long term care and rehabilitation, funeral expenses, administrative cost of processing medical payments to providers etc. the indirect costs are loss in productivity associated with the death or injury. Productivity losses include the value of lost house hold services and the value of lost earnings from the victim, care givers and family replacement cost of lost house hold work, compensation for lost earnings through litigation, insurance or welfare programs etc.

Injured people often suffer physical pain and emotional anguish that is beyond any economic compensation. Permanent disability, paraplegia, quadriplegia, loss of eye sight, or brain damage, can deprive an individual of the ability to achieve even minor goals and result in dependence on others for economic support and routine physical care. Other resource costs include police, legal, fire, victim services plus cost of property damage or loss in injury incidents¹².

Medical cost and lost productivity do not capture the psychological losses associated with road traffic crashes, either to those injured or to their families. These costs might possibly exceed the productivity losses and medical costs associated with pre mature death, were they accurately quantifiable. Road traffic crashes also place a heavy burden on the family and friends of the injured person, many of whom also experience adverse social, physical and psychological effects¹³.

REMEDIAL MEASURES

1. Locate and identified the accident prone areas scientifically and suitable schemes to be implemented.
2. Avoid unhealthy competition and over speeding of private buses on national highways.
3. Unauthorized speed breakers to be removed on national highways as it is a circular from Government of India (speed breakers should not be constructed on highways, as this would defeat the basic purpose of providing obstruction free movement).
4. Organizing public awareness program in State, District and local level
5. Strict enforcement of traffic rules (Lack of inter departmental coordination results in delay in implementation of road safety measures. Traffic police are not available in adequate numbers except in major cities. Even available police personnel are posted for other duties. There is a need to set up a dedicated Traffic Police Wing in each district and also for major towns in the state. Multidisciplinary Road Safety Task Force should be constituted in each district that could be given special training. This task force should visit the accident sites and prepare investigation reports on various aspects and recommended suitable safety measures. Poor eye sight of drivers has been one of the main reasons for increase in the number of accidents on the roads.)
6. Medical checkup should be made compulsory before issuing driving license.

7. Highway patrolling should be extended to all major roads and should not be limited to NHs only. They should be given special training for the evacuation of accident victims, providing emergency relief measures and also arranging first aid to the injured persons.
8. Unauthorized parking of auto rickshaw, taxi, tempo vans along the main road causes obstruction to smooth movement of traffic.
9. Regular breath analyzer checking by police on the roads should be carried out on highways to avoid drunken driving.
10. Road Safety education for school children should be introduced as a part of curriculum.
11. To minimize the glare related accidents in night, planting of trees on road side should be undertaken without affecting the sight distance.
12. The road dividers, traffic islands should be green turf rather than concreting.

Road safety programme conducted by NATPAC are

1. Safe road to school – a proactive programme for promoting safety of school children
2. Safe community programme for selected Panchayats
3. Accident abatement measures for selected urban areas
4. Strategies for safe transportation of dangerous goods in Kerala
5. Pre and post enforcement impact on the use of helmet and seat belt in selected cities

CONCLUSION

Many countries have achieved sharp reductions in the number of crashes and injuries by creating and enforcement of laws, governing speed limits, alcohol impairment, use of seat-belts and helmets, making vehicles more protective for occupants, and formulating and implementing transport policies that encourage safety. To prevent Road Traffic Injury on roads in our State, we should consider and use sustainable safety programme of different countries as per our requirements which would bring down the number of accidents and fatalities on roads in future. Safety management is mainly confined to the regulation of traffic, pedestrian movement and crowd control. Whatever be the limitations in the road network and transport facilities, the traveling public is more concerned about their safe and comfortable route. To achieve this ultimate aim, there is a requirement for every traffic authority to keep abreast with the latest trends and techniques of traffic engineering and management.

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