Road Traffic Accidents in India

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ABSTRACT

Road traffic accidents (RTAs) result in tremendous loss of lives and prolonged morbidity besides causing sufferings to relatives and friends. Loss of lives and useful working hours inflict heavy damage to a nation’s economic activity, loss of breadwinner to family, and deprivation of family bond of love and security. Increasing traffic accidents and subsequent trauma creates heavy burden on our scarce funds and already overburdened hospitals. Road traffic accidents are one of the major causes of death and illness which is preventable. There is tremendous rise in RTAs due to increase in vehicular volume on our roads, incredible speeding of the vehicles, poor driving skills, drunk driving, bad roads, poor traffic control, and lack of public awareness, rampant indiscipline, incompetent authorities and lack of implementation of existing laws to tackle the menace of disrespect to law and rules. The solution to the problem lies in reducing the volume of traffic on roads by instituting efficient public transport system all over, like the one prevalent in advanced nations of the world, honest road engineering, universal education and training of all citizens in driving, creating awareness about road safety precautions, enforcing strict punishments upon offenders indulging in drunk driving and crossing the speed limits, and regulating control of traffic on highways and accident-prone areas.

Keywords: Drunk driving, Indian roads, Prevention of road traffic accidents, Road rage, Road traffic accidents.

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INTRODUCTION

Road traffic accidents (RTAs) are among the top five causes of morbidity and mortality in Southeast Asian countries. Road traffic accidents in India are emerging as the major cause of death and injury with subsequent disability and burden on economy and strength of the nation. In 2011 alone, India witnessed 4.97 lakh reported RTAs, 142,485 reported deaths, an accident every 1 minute, and a death every 3.7 minutes, followed by unimaginable suffering to kith and kin and loss of property. The economic damage due to RTAs results in more than 3.7% loss of national GDP of India. Road traffic accidents, trauma, and deaths are increasing steadily with increase in number of vehicles on road, more prosperity leading to increased travel and host of other factors associated with poor engineering of the roads, negligent and rash driving, unchecked speed of vehicles on road, drunk driving, lack of alertness and diversion of mind, and numerous other factors. Even as road traffic injury rates in many high-income countries have stabilized or declined in recent decades, the data suggest that in most regions of the world, they are increasing as a result of increasing motorization.

Road traffic accidents affect all age groups and all genders; however, more than 83% of victims are males. The main victims of RTAs are between 15 and 34 years of age are main victims of RTA amounting to more than 53% of injured. More than 120 lakh people lose their lives every year globally, and the cost of traffic accidents stands at US$230,000 million annually. India has the poorest and worst record of road safety in the world. We have not been able to pay attention to increasing RTAs and the morbidity and mortality associated with it. Trauma victims who deserve immediate attention do not get the priority because of lack of funds, lack of official focus on the problem, lack of infrastructure, lack of drive, initiative and vision. The multiplicity of institutions and the absence of dedicated authority with responsible attitude add up to ongoing misery. Information on the injury patterns, nature, and outcome are extremely limited in India, as trauma registries and hospital-based research have not developed systematically.

DISCUSSION

The world is witnessing rapid changes in economic development with massive industrialization and increase in road communication. The Third World countries are already engaged in combating communicable diseases like malaria, tuberculosis, HIV, and AIDS. Road traffic accidents are taking massive toll of lives of accident victims besides causing tremendous damage to fragile economies. The RTAs are increasing by unprecedented scale which is not receiving attention, it needs urgently. No definite policy exists to control RTAs, prevent injuries, and manage them effectively in absence of trauma centers.
or their paucity in appropriate areas. There is definite void of firm administrative action and management coupled with inability to register and record the injuries and to create a database to implement a defined policy and follow-up plan. Accidents are considered as chance and misfortune. Hence, the word “accident” should be avoided in discussing injury control, and instead, the focus should be on exposures to hazards and resulting injuries, as well as their preventability.4

Various studies reveal male preponderance among road traffic injuries. A review article on RTAs in India has brought out that a majority of the victims are young adults, with a male-to-female ratio of 4:1 to 5:1.3 The main victims of RTAs are pedestrians, two-wheeler riders, pillion riders, and cyclists. The two-wheeler riders in India rarely use protective and secure helmets. At times, to escape the law the riders merely use unsafe thin headgear. This group is called vulnerable road users. These vulnerable road users, unlike travelers in cars, are more prone to injuries due to direct exposure and without protective devices. Use of crash helmets by two-wheeler riders and pillion riders definitely protects the head from injury. Decades ago, around World War II, Cairns et al5,6 conducted some of the first epidemiological studies, using defined populations with comparison groups, to compare head injury incidence between helmeted and nonhelmeted motorcycle riders.

More than 70% of accidents occur between 7 AM and 7 PM. Mortality in patients with head injury is high. Among those dead due to RTAs, more than 90% had sustained head injury. One of the factors responsible for mortality is due to delay in transportation of the patient to hospital due to nonexistent ambulance services and apathy of passersby. The golden period for survival after sustaining injury is the first 1 hour. Only 10% of injured make it up to hospital in the first golden hour, about 42% patients arrive in hospital between 1 and 6 hours, and 48% traumatized reach hospital after 6 hours. The objective is to save maximum lives by prompt evacuation of the traumatized to hospital. Accidents mainly occur on narrow roads, at the road junctions, and roads with ditch and pot holes. Fractures of bones occur in more than 70% cases, multiple injuries in 54%, and lower limb injuries in 39%.

Road traffic accidents may result in polytrauma, including fractures, head injuries, chest and abdominal injuries, and injuries to limbs. Road traffic injuries may result in blunt trauma. Speed is an important factor in causation of injury. Mass of the vehicle added to speed, ejection of occupants from the vehicle, and the contact of the vehicle with pedestrians result in severe injuries to all involved. Use of proper seat belts by front-seat occupants may reduce the deaths and serious injuries by 45%. Unbelted rear-seat occupants are at high risk of receiving severe injuries as a result of ejection from the vehicle or striking themselves forcefully against the back of front-seat occupants. If the rear-seat occupants bear the belts, the risk of death among the belted front-seat occupants reduces by 80%. Therefore, use of seat belts by occupants of cars not only reduces the impact of injury but also decreases the mortality due to collision. Use of seat belts has a definite protective effect, but a few specific injuries may be attributed to its use as well. Seat belts may leave a mark on trunk after the accident, and its use may result in internal injuries to specific organs. Such patients have been seen to receive fourfold increase in thoracic trauma and eightfold increase in intra-abdominal injuries as compared to those who do not use seat belts.

**REASONS OF ROAD TRAFFIC ACCIDENTS**

About 80% of deaths and injuries occur due to errors and mistakes committed by drivers. Prominent errors are overspeeding, drunk driving, and avoidance of seat belts by car drivers. Road traffic accidents are also attributed to poor visibility of roads, long drives, fatigue, and giddiness associated with it.

**Overspeeding**

Excess speed means running vehicle more than the safe limit. Inappropriate speed means driving at a speed unsafe due to prevailing road condition and thicker traffic. Excess and inappropriate speed can result in crash, injuries to occupants and pedestrians, and damage to others as well. Increase in speed of more than 5 km an hour can make a difference between survival and death of a pedestrian who is hit by a car:

- Ninety percent pedestrians will lose their lives if hit by a car speeding at 60 km per hour.
- Fifty percent pedestrians will lose their lives if hit by a car speeding at 50 km per hour.
- Ten percent pedestrians will lose their lives if hit by a car speeding at 30 km per hour.
- Crash at speed of 100 km per hour is equivalent to fall from 12-storey height.
- Crash at speed of 50 km per hour is equivalent to fall from 3-storey height.

**Dense Fog**

Dense fog can result in accidents due to poor visibility, as the temperature drops to dew point – the temperature when air gets saturated and water droplets condense, creating fog. In such a situation, one should use low beam as high beam results in reflection back of the light.
In fog, the sound gets inaudible, and therefore, window glass should be lowered a bit to hear the sounds of horn of incoming vehicle. Driving in fog gives a false illusion of low speed, and therefore, one must keep a watch on speedometer. It is advisable to postpone the journey till the fog gets cleared.

**Drunk or Driving under Influence of Drugs**

Driving under the effect of alcohol or drugs is one of the causes of RTAs and mortality associated with it.

**Teenage Driving**

Teens as drivers are known for rash driving impulsively and also to get away reasons. They cause accidents due to inexperience and speed. Lack of parental control or out-of-control teen is a reason for trauma to people on road.

**Night Driving**

Night driving is a potential risk for travelers. Lack of street lights results in glare of the incoming vehicles especially on high beam. The speed must be under control. Night driving should be avoided on long routes as far as possible.

**Automobile Design Defects**

Defective vehicles, improvised country vehicles called jugaads, old vehicles with defective parts, and vehicles with defective designs too, can cause accidents. Wheels of old vehicles can suddenly come out, causing damage to the vehicle and occupants.

**Tailgating**

Vehicles at high speed can suddenly hit the vehicle in front when it suddenly stops. It is therefore, suggested that minimum of car length distance should be kept from the vehicle ahead.

**Overtaking and Wrong Driving**

It is common in our country to drive on the wrong lane or driving in wrong opposite direction, not keeping to left, which may result in head-on collision. Some drivers suddenly overtake the vehicle in front, not anticipating another speeding vehicle is coming from opposite direction, which results in collision. It is often seen that the vehicle may suddenly take turn to either to left or to right without using indicator. Yet, another cause of accident is when a vehicle from behind overtakes the car from left when the latter takes to turn left. Use of indicators and avoiding speed and wrong driving can prevent accidents.

**Poor Construction of Roads and Bad Planning**

About 400 people die on our roads daily. The roads we plan and make are substandard, constructed without due attention, and with disregard to mandatory supervision. The road construction and repair is outsourced to contractors who undertake poor-quality work and hand over repairs and construction in charge of illiterate mates who have poor understanding of design and inclinations, deliberately making a road with thin surface. These contractors are unable to anticipate increase in traffic flow in future. Road construction requires perfect geometric alignment particularly in hills and mountains where large number of people loses their lives due to bad roads and their poor upkeep and maintenance. One of the reasons of poor state of our roads is due to financial crunch, pilferage, and lack of honest conduct of contractors and officials. The poor-quality work is accepted blindly for consideration. Almost all roads in our country get washed off in first rains alone. Potholes and dangerous ditches are common site in our city roads, which rightly reflects our pathetic state of dishonest conduct, indiscipline, inertia, irresponsible behavior, and, above all, insensitivity to safety of our people.

Volume of traffic on roads has increased many folds; however, the number of roads and alternatives to manage the increased volume of running vehicles on the roads has not been evolved. Heavy congestion on narrow roads without alternative routes too is responsible for accidents.

**Road Design**

**Environmental Impact and Assessment**

In Britain, despite increase in road traffic, the number of deaths has come down from 5,500 in the 1980s to 2,000 in 2011. The injuries due to RTAs have come down from 240,000 to 200,000 over the same period. The RTAs can be reduced significantly with the help and active participation of civil engineers in designing roads which would help reduce the financial load of our scarce resources, reduce burden on health services, and increase productivity. Engineers must be involved in accident investigation and prevention they may suggest. This involves changes in road engineering for the benefit of pedestrians, cyclists, and motor vehicle drivers by proper signposting; audit of accidents; and review and frequent examination of roads for its quality and road-worthiness. The problem in mountains and hills is further compounded by poor engineering, steep gradients, snow and slush on the slippery roads, avalanches, sudden cloud burst, and flash floods, which take heavy toll of lives which is preventable. The roads are constructed in mountains, which have to pass through regions devastated by deforestation,
hydroelectric construction, dams, and other multiple activities desirable to boost the economy and energy requirement of nation. During heavy rains and snowfall, the mountain sides bring down several thousand tons of mud and debris, resulting in loss of lives and vehicles because the long stretches of roads are washed out. The problem can be solved by protecting these vulnerable roads, prone to loss of segments of road, by covering them with slanted hard, durable, and strong sheets laid over the roads in such a way that the slush, mud, and even vegetation would slide over the sheets and flow down to below the roads. This is possible with the help of skills and focused mind of our engineers only, if they are involved and serious enough in a society marred with so many impediments and financial crunch and dishonest behavior. Many countries in Northern Hemisphere have solved this perpetual problem of mud and slush by simple technique of covering the roads with heavy sheets, which would not collapse under the weight of heavy-sliding earth. By this simple technique, even large tracts of rail lines have been protected and the roads and train services made functional even in adverse climatic conditions, which used to be disrupted as a result of rains, snow fall, slush, and avalanches.

Also the roads in mountains and hills can be widened, strong parapets can be erected on the sides to prevent the vehicles from falling down the steep hills, and culverts can be made to direct the flow of water from heights to run underneath the roads to avoid flooding of roads. The road should be surfaced with adequate thickness of good-quality material by motivating the contractors and all concerned to restrain them from using usual and conventional substandard works. The roads in cities must have separate lanes and pavement for cyclists and pedestrians. A separate lane can be earmarked for two wheelers on highways and cities. As far as possible, there should be minimum distraction, in the form of billboards and advertisement, to drivers in cities with thick traffic.

Indiscipline on Roads and Violation of Traffic Rules

Disciplined and safe driving practices are generally neither followed nor enforced on Indian roads and highways. Directionless driving, inexperienced driving, teen driving, animals on the roads, rash driving, use of diversionary cell phones, talking while driving, violation of red lights, violation of rules at road crossings, crossing underneath the barriers with two wheelers at railway crossings, blocking both sides of roads, and overloaded trucks and cars are open invitation to death, misery, grief, and injury. It is a common sight to see many overloaded trucks turned turtle with goods spilling over the roads. It is common not to use helmets by cyclists and two-wheeler drivers in almost all over India, and nobody is ever concerned either to advise them to use helmets or to take action against them for defiance. It does not require a person to advise two-wheeler drivers to use helmet and be disciplined, but disregard and disrespect to law is a special attribute of our countrymen realizing least that life is endangered by their reckless state of turbulent mind and feeling of invincibility.

It is not altogether uncommon to see youngsters indulging in racing on the roads and exhibiting their adventurous maneuvers and stunts on city roads and losing their lives in hits and collisions besides compromising the lives of others. These youth dangerously drive vehicles taking turns and swings through the running vehicles. This continues because of lax laws and virtual absence of exemplary punishment. Children playing on the roads and being hit by speeding vehicles are a common occurrence. There is no concept of traffic regulation and monitoring by highway patrol on Indian roads. Another mayhem created on the roads is extreme rash driving by state-of-the-art buses whose drivers mindlessly flaunt their rash driving. They recklessly drive the unseen or rarely seen modern buses, imported from European countries, for which they are truly unfit to drive due to their clumsy and foolish exhibitionist attitude.

Drivers in our country are neither tuned nor aware enough of the importance of safe driving. Driving on Indian roads is virtually driving on death traps. Driving on roads has become much more risky to life than undertaking on to adventurous activities.

Road Rage

Our drivers seem to be much steeped in ego and one upmanship and driving without tolerance and safety of others. Violent mindset and rustic driving frequently results in abusive behavior and damage. Road rage, at times, results in loss of lives and injuries due to physical fights over minor issues without actual collisions and accidents. Law enforcing agencies are a reluctant lot and invisible on the spot. Road rage brings out the real state of mind of people and is a true reflection of the management and sincerity of our law enforcing agencies. Our high officials are rarely and almost never seen or involved in road safety measures because of the culture of chair-bound syndrome, and thus roads and traffic are left totally to errand people and chance. There is virtual void of smooth and safe driving enforcement of laws.

Prehospital Trauma Care

Prehospital care of injured is nonexistent in India. Many accidents go unreported and remain unknown.
for a long time, especially in the remote regions where the vehicle might have rolled down without leaving a trace. The victims of accidents keep on lying on the road side in critical state with multiple injuries, unable to rise, and none coming to their rescue. Quite often, seriously injured patients expire on the roads for want of early evacuation and urgent care. There are no highway ambulance services to quickly provide expert life-saving help to the traumatized patients. People around the injured patients too seem to be hesitant to evacuate the patients to appropriate hospitals dealing with trauma. Our towns and cities do not have trauma centers which can deal exclusively with traumatized patients. The care of injured patients does not get focused attention in hospitals which remain busy dealing with nontraumatized patients.

**Road Encroachment and Poor Street Lighting**

Narrow roads and highways in our country are frequently encroached by vested interests of all sorts. Road encroachment is not only infringement and violation of rule of law but also results in accidents, especially during nights with poor street lighting.

**What can be done to prevent Road Accidents**

*Education and Mass Media Action*

Keeping in view the loss of lives and damage to health and economy of the country, training and education regarding road safety measures and safe driving must begin from schools. Teachers and personnel trained on the subject should deliver lectures to students and demonstrate ideal driving skills and discipline on roads. Children must be motivated to impress their parents to drive safely on roads. Print and electronic media should focus on and target the audience, through films, cartoons, and lectures, the importance of safe driving and to impress the viewers to realize the damage caused to lives by ignorant and reckless driving and to propagate values of safe driving on roads to save lives.

**Role of Law Enforcement Agencies and Role of Public**

Road traffic accidents can be prevented by strict punishments and disciplining of road users. There should be instant punishment to violators who endanger the lives of others on roads by hefty fines, seizures of vehicles, cancellation of driving licenses, and jail terms for inflicting mortal injuries to others. It is not uncommon to see the offenders remaining scot-free after killing people on the roads, on the pavements, and even in shops. Unless exemplary punishment and deterrence is given to offenders and violators on the road, erring drivers would never take a lesson. Among common offenders are the drivers of heavy vehicles, drunk car drivers, cab and bus drivers who must be taken to task immediately with jail terms and seizures of vehicles. Unless strong administrative measures are taken against such lawless and reckless drivers, the Indian roads will remain to continue at the top of biggest killers of innocent people in world. Many of the killers on roads walk out without reprimand because of considerations and influence they exert on authorities. Western tourists in India have openly reported the high possibility of succumbing to injuries on Indian roads. Indian roads are a virtual free for all to do whatever you may want to do, including using both sides of narrow roads in any direction one wishes to drive, and without anybody raising the eyebrows.

Personnel responsible for constructing substandard roads which could endanger lives of passengers must be asked to explain the lapses and punished accordingly.

**Road Designing and Safe Roads**

Roads must be inspected for traffic-worthiness frequently and also to ascertain the reasons for substandard work, lack of involvement, and absence of monitoring during construction and repairs. The names and addresses of contractors and engineers associated with road construction and repairs must be displayed on road sides, and corrupt and guilty must be punished without restrain. The drivers must be forced to control the speed of their vehicles to permissible limits. The roads must be displayed with various regulatory signs, signals, boards on crossings and highways, stop and give way signs, and traffic lights. The bad and slippery roads must be repaired. The narrow roads should be widened. The speed of the vehicles must be monitored by highway speed monitors, and offenders should be brought to task. Road safety of public should be brought under a strong administrative control of a unified central and state authority. Highway and city traffic should be administered by experienced staff and policing. Highway traffic offenders should be brought before the highway and road safety judicial authorities, or highway or road safety judges, for quick action on the spot.

Cattle nuisance on the roads must be controlled, and the owners of cattle fined for letting their cattle stray into busy roads. Encroachments of the roads must be cleared. Many highways in India are encroached by influential people and religious shrines which cannot be removed for political reasons. Administrative and police authorities are at times forced by politicians to set free the criminals involved in violation of traffic rules. Therefore, to meet and counter such impediments to road safety,
highway judges must be appointed and authorized to take summary decisions to seize the vehicles and punish the offenders without fear from political interference. Any politician interfering on the behalf of road traffic violators too must be brought to book and punished accordingly.

India needs more roads to accommodate huge number of vehicles being added daily. Our cities need more flyovers, parallel roads, alternative routes, and control of number of vehicles on roads without compromising the public inconvenience.

**Improvement of Design of Vehicles**

All vehicles on the roads must be inspected for its road-worthiness. Old and bad vehicles are responsible for accidents especially in the hills. Such vehicles must be withdrawn from roads. All cars must be provided with seat belts and its use should be made mandatory. All cars must have air bags to prevent injuries to chest. All vehicles must be checked for normal wheel pressure to avoid accidents.

**Driver Factors**

The main reason for road accidents involving vehicles is lack of adequate skill and tolerant temperament of the driver. Many car accidents occur because the drivers have to cover long distances every day, particularly the cab drivers. These drivers rarely take adequate rest and often fall asleep or take drugs or tobacco to keep themselves alert. The owners of taxis, who do not give adequate night rest to their drivers, too must be brought under scrutiny of law. No driver should be permitted to drive more than 7 hours in a day. Many accidents occur because the tired drivers fall asleep during long drives. The vehicle and the driver must be stopped for rest every 3-hour drive and should break off for 10 minutes. Many drivers get diverted due to frequent calls they get on their mobiles. Many drivers resort to racing for the sake of getting the first share of waiting passengers at next halt. One can see many buses and cars overloaded with passengers driving at breakneck speeds.

Drivers must be exposed to refresher courses in driving and should be checked for alcohol consumption while driving, and immediately grounded and punished for the offence. Drivers must be checked for their driving skills frequently and certified accordingly.

Similarly, use of helmets should be made compulsory for two-wheeler users and pillion riders. Users of cell phones while driving must be punished the moment they are caught. Overloaded trucks and vehicles must be checked and the consignment must be off loaded at once to avoid accidents.

**Ban Teen Driving**

Teens should not be permitted to drive on the roads because of their immaturity and lack of skill and ignorance of traffic rules. Parents of such offenders must be fined and the vehicle be seized. Offenders must be fined, and vigilant authorities engaged in enforcing law and traffic rules be rewarded. Similarly, the expenses of trauma victims should be met by the owners of vehicles causing damage to the injured.

Children must not be permitted to play on the roads. At times, children come to roads running to chase the balls only to be injured by speeding vehicles. This must be stopped.

**Improve Environmental Factors**

Trees should be planted on both sides of the roads to prevent escape of the speeding vehicles from roads. In hills the construction activity should be timed in such a way which should not coincide during the heavy traffic movement. Roads in hills must be widened in a phased manner, and the open sides of roads must be lined by strong and high parapets or trees which would prevent rolling down of vehicles into khuds. Roads, perpetually affected by slush and water in hills, must be protected by overhead slanting shelters over which mud and earth falling from hills would be passed down below the roads without blocking it. Such techniques have been used in Canada where the roads and rail tracks in hills have been made operational throughout the year.

**Car and Vehicle Parks**

Sadly our cities and towns are flooded with congested roads with only narrow space left for the moving vehicles to maneuver through. There are more vehicles on the roads than the roads can accommodate these. There are not enough parking places for the cars and heavy vehicles in cities and roads. It is, therefore, a matter of utmost importance to create high-rise parking places in which the cars can be parked in a revolving lift system. This system can house large number of vehicles in a short space.

**Improving the Public Transport System**

Unlike the developed nations of the world, our country lacks effective and good road public transport system. Roads are haphazardly clogged with two wheelers, cyclists, cars, buses, three-wheeler autos, bullock carts, overloaded trucks, buses, tractors, temps, stray cattle, and pedestrians. Improving the road transport system
by permitting large number of state-of-the-art modern buses on European pattern would discourage use of two wheelers and private cars on the roads, thus easing congestion and reducing accidents. Road congestion and accidents can also be brought down by improving metros and diverting passengers from roads to metros. Similarly, river transport in India too can ease the congestion on roads.

Disruption of Traffic on Roads

At times and frequently, the roads and highways in our cities and towns are blocked and traffic disrupted and diverted to narrow lanes and by-lanes resulting in poor visibility at night. Frequent road blocks and disruptions result in delay of management of the traumatized. Such man-made road disruption is created by religious processions, public and political rallies, melas, mass prayers, strikes, violent behavior, fires, and arson. Such road blocks and disruptions must be controlled and should not be permitted.

Creation of Trauma Centers and Highway Trauma Ambulances

There are more patients who lose their lives and get injured on roads than those who lose their lives due to communicable diseases. Management of injured patients due to RTAs has never received a priority as it is thought of as chance occurrence, and hence not preventable. The accidents can be prevented and lives can be protected and saved after the accidents, in case the injured could be transported to the trauma centers or to appropriate hospitals within the golden period during which the resuscitation could salvage the patients. Early evacuation of the traumatized to safe hands will certainly help reduce mortality and morbidity. Unfortunately, our country does not have requisite number of trauma centers even in metro cities. Our hospitals are neither equipped nor styled to manage large number of casualties. Establishment of trauma centers would result in dedicated and focused attention to injured. The nation also requires training of educated people, living on both sides of highways, in basic steps of first aid and resuscitation of patients like teaching the correct posture in which to transport the patient to hospital, immobilizing the fractured limbs, stopping external bleeding by compression dressings, clearing the airway, and knowing to perform cardiopulmonary resuscitation. Law must provide for rewards and encouragement to those who help in evacuation of the injured to hospitals.

CONCLUSION

Road traffic accidents are on increase due to increase in number of vehicles. Rapid urbanization and industrialization has resulted in continuous flow of vehicles on to the roads. Tourism industry too has contributed toward road traffic injuries as more and more people are taking to sightseeing and travel because of affluence. Because of increase in purchasing power, more and more people have the capacity to buy all kinds of vehicles. Construction of alternative routes has not kept pace with volume of traffic we see. High speed, indiscipline, lack of regulatory control, lax laws, drunk driving, bad roads, old vehicles, overloaded vehicles, inexperienced driving, teen driving, lack of proper training for driving, ignorance of traffic rules, lack of perseverance and haste in pushing the vehicles ahead, lack of prehospital trauma care, and virtual absence of trauma centers are the principal causes of mortality due injuries on roads (Figs 1A to D).

Figs 1A to D: Road traffic injuries occur mostly due to irresponsible behavior on roads, defiance of traffic regulations, overloading, not putting on helmets by two-wheeler drivers
India has the highest incidence of traffic accidents and mortality in the world which calls for better roads, better law enforcement measures, education and training of our youth in driving, and following the rules of traffic. Drunk and high-speed driving has to be checked. Road and vehicle design has to improve. The road visibility and regulatory signals must improve. Road traffic flow and discipline has to be coordinated between different agencies. Active surveillance and watch by traffic-regulating authorities and control of offenders by associating judiciary for instant punishment is the need of the hour to save lives. Without enforcing rule of discipline and law on chaotic roads, reckless drivers and offenders will continue to kill and maim the precious innocent lives. Exemplary punishment to offenders and excluding inexperienced drivers from the roads would bring down RTAs.

REFERENCES