



Research Article

A FINAL SALUTE AND TRIBUTE TO ROAD ACCIDENT CASUALTIES

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ARTICLE INFO

Article History:

Received 5th September, 2022

Received in revised form 15th September, 2022

Accepted 17th October, 2022

Published online 28th October, 2022

Key words:

Road safety, Road accidents, preventive measures, Road Traffic Accident

ABSTRACT

Road accidents are barbarous truth. Road traffic accidents are one of the surpassed causes of death in the world. Road traffic accidents claim over a million lives every year in the world. As per World Health Organization (WHO) it is one of the leading causes of death. India, being a rapidly developing country with an expanding economy has its own issues regarding road traffic accidents due to rapid propagation of motorization. Males face a higher level of casualties and injuries than their females. Road Traffic Accident is any vehicular accident occurring on the roadway i.e. originating on, terminating on, or involving a vehicle partially on the roadway. Causative factors of accidents may be human or environmental. More than 90% of road traffic deaths occur in low- and middle-income countries. Alcohol consumption, over-speeding, and not following traffic rules are the most common causes of road traffic accidents. Drinking slows down reflexes and can result in accidents. Rash driving and over-speeding, especially by young riders and drivers is another reason. Other than that, people not following traffic rules such as jumping signals or overtaking from the wrong side also results in accidents.”

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INTRODUCTION

The first recorded case of road traffic injury was on 30 May 1896 by a cyclist in New York City, USA. (1) Head injuries are a leading cause of death from motorcycle crashes. Motorcyclists constitute a large segment of population with head injury associated with other multiple organ injuries. (2) WHO defined the Accident as "An Unexpected, Unplanned Occurrence that may involve Injury"(3) Road Traffic Accident is defined as" An Accident which took place on the road between two or more objects, one of which must be any kind of moving vehicle" (4) Road Traffic Accidents are considered as the third deadly killer next to Heart Disease and Cancer (5)

A healthy man going out of his home and returns as a dead body. Worldwide the number of people killed in Road Traffic Crashes each year estimated to be around 1.2million (6). India accounts for about 10% of Road Accident Fatalities worldwide; Over 80,000 persons die in road traffic crashes annually and over 1.2million are injured seriously, and about 30,000 are disabled permanently (7) . Worldwide, every Day about 3400 people die due to Road Traffic Accidents and

predicted to result in the death of around 1.9 million people annually by 2020 (8). Road Traffic Accidents are the 6th leading cause of death in India, with over 1,30,000 deaths per year and are responsible for a huge share of emergency hospitalization, disabilities and deaths of young and middle-aged population (9). India is considered as a middle-income group country and has reported about 1, 37,572 deaths and 4, 94,893 injured persons in about 4, 86,476 registered Road Traffic Accidents; these numbers translate into one Road accident every minute and one Road accident death every four minutes (10). The highest burden of injuries and fatalities is borne disproportionately by poor people, as they are mostly pedestrians, cyclists, and passengers of buses and minibuses (11)

On an average, 35 persons die in road mishaps every day in Tamil Nadu, while it is about 2 persons per day in Chennai city. (12) Drunken driving has been responsible for 70% of road fatalities in Mumbai and Delhi (13) Accident-related fatalities and injuries have been recognized as a global problem, and traffic safety concerns have been a significant concern since the dawn of the vehicle age, over a century ago

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(14) The cost of fatalities and injuries from traffic accidents has a significant impact on society (15) The number of traffic accidents and their effects, especially casualties, justify the importance of analyzing the factors affecting their occurrence (17,18) According to the observation of Singh H and Dhatarwal SK[16], the frequent victims are pedestrians (28.7%), followed by vehicular occupants (25.8%) and motorcyclists (23%). (19)

Most common in the population as they are earning members of family commonly and often subjected to work-related stress, more exposed to the outside environment due to the tendency to violate the traffic rules and regulations and possession of fake driving licenses (20)

History

The world's first recorded road traffic death involving a motor vehicle occurred on 31 August 1869. Irish scientist Mary Ward died when she fell out of her cousins' steam car and was run over by it. (21) The British road engineer J. J. Leeming, compared the statistics for fatality rates in Great Britain, for transport-related incidents both before and after the introduction of the motor vehicle, and for journeys, including those once by water that now are undertaken by motor vehicle: History of the occurrence of Road traffic accidents goes before the invention of motorized vehicles; with the invention of automobiles, the number of road traffic accidents grew exponentially. The first recorded case of road traffic injury was on 30 May 1896 by a cyclist in New York City, USA.

What are the most common and the most fatal injuries?

Head injuries, especially in cases where the person is not wearing a helmet or seat belt, are one of the commonest as well as fatal injuries, according to experts. Other than that, injuries to the chest and abdomen, and fractures of the arms, legs and pelvis are common in road accident victims.

"There is a trimodal pattern of deaths – one, those who die on the spot; two, early deaths in patients who are either lying at the site of the accident or brought late to the hospitals; and three, a person who dies after a few days due to complications of injuries. A severe head injury, liver injury with uncontrolled bleeding, and pelvic injury with uncontrolled bleeding are likely to lead to immediate death. Another cause of death in accident victims is the ribs fracturing due to impact on chest and puncturing the lungs, this can still give the doctors some time to treat," said Dr Ray. (22)

A Common behavior of humans which results in accidents

Most road users are quite well aware of the general rules and safety measures while using roads, but it is only the laxity on the part of road users, which causes accidents and crashes. The main cause of accidents and crashes are due to human errors.

1. Over Speeding
2. Drunken Driving
3. Distractions to Driver
4. Red Light Jumping
5. Avoiding Safety Gears like Seat belts and Helmets
6. Non-adherence to lane driving and overtaking in a wrong manner Various national and international researchers have found these as the most common Behavior of Road

drivers, which leads to accidents. Factors responsible for road traffic accidents

They are classified into three factors

- a) Human
- b) Vehicle
- c) Environmental

Human factors

Include age, sex, Rider or Pillion rider, reaction time, risk acceptance, hazard perception, personal habits including alcohol consumption, medications etc., prescribed speed or excessive speed, usage of mobile cell phones while driving, wearing protective Helmets, co-morbid conditions like defective vision, hearing impairment etc.

Vehicle factors

Include vehicle type maximum speed, braking, handling, maintenance etc.

Environmental factors

Include Day or Night, Traffic density, quality of roads including surface road layouts, maintenance Defective visibility due to environmental factors.

Age

Road Traffic Accidents rank among the three leading causes of death in 5 to 44yrs age group. Young prefer to ride two wheelers than other vehicles. "Minor Driver Major accidents", a well said saying holds true in the current motorized vehicle Traffic world. The factors behind the elevated risk include mobility patterns, vehicle characteristics, psychological characteristics such as thrill seeking and over confidence, and excess or inappropriate speed, the most common error among young riders. Late night driving is also a predictive factor for serious crashes among young drivers. In elderly early fatigue plays a major role.

Gender

Most common in male population as they are earning members of family commonly and often subjected to work-related stress, more exposed to the outside environment due to the tendency to violate the traffic rules and regulations and possession of fake driving licenses (23))

Factors that predispose to fatigue include drivers above 50 yrs of age, associated medical conditions like narcolepsy, irregular shift work periods, extreme climatic conditions, long main arterial roads, monotonous roads etc.

Alcohol

Alcohol affects driving efficiency enormously, so safe driving is seriously affected due to a drop in the reaction time, and the drunken driver will take 15-20% more time to press the brake or change the gear when required. It impairs concentration and dulls the power of judgement, creates an increase in false and unjustified confidence, impaired reflexes etc. (24)

Rider/ Pillion rider

Young males prefer to ride motorcycles. The pillions are usually children, females and elderly persons. No difference in the severity of the distribution of injuries and fatality survival in riders and

Pillion riders

Rider error is a single precipitating risk factor in about 2/3rd of skids, and falls are due to excessive speed, sudden braking etc. Female pillions tend to have lower risk of fractures of lower limbs when compared to the male pillions since the females sit sideways commonly across the seat, but the male pillions sit facing forward (25)

Speed

Greater the speed at the moment of collision, the greater will be the injury severity. "Excess speed" defined as a vehicle exceeding the relevant speed limit. "Inappropriate speed" refers to a vehicle travelling at a speed not suitable for the prevailing road and traffic conditions. Accident risk increases as the speed increases, and while overtaking as road users underestimate the speed and overestimate the distance of an approaching vehicle.

Helmet

Safety Helmet use in those accidents that involved motorcycle riders was lowest for untrained, uneducated, young riders on hot days and short trips. Safety depends on type of Helmet used. Rarely at high speed impacts, a helmet may be penetrated or the Head and Brain may be damaged by transmission of Blunt force.

Environment

Area, illumination, season, day or night, types of the road, presence of Traffic police, domestic animal or pedestrian intervention etc. influence the accidents.

Road factors

Include Road width, alignment, gradient, layout, surroundings, road surface condition, natural light etc. High incidence of accidents on highways and city roads might be because these roads are busiest, very narrow, there is too much traffic during peak hours, there are no traffic signals at junctions, no care to follow the rules or possess traffic sense, and no strict enforcement of road safety rules.

Time

The number of fatal accidents occurring late night are more due to unfavorable conditions prevailing for two wheeler riders. The next fatal time is morning Hours.

Season

In India, the highest number has been found to have occurred in summer, March to June as people spend their time mostly outdoors in these months; due to intense heat, the physical and mental state of the drivers of vehicles are not at their best resulting in an error of judgment which frequently causes fatal accidents. Also high in rainy seasons due to travelling activity of people, deterioration of roads, environmental factors etc.

The main contributing factors revealed by WHO are Over speeding, Drunken driving, low use of helmets and inefficient law enforcement. In 2021, over 1.5 lakh died in road accidents, most were young men speeding on two-wheelers

While the number of accidents was below pre-pandemic levels, the number of related deaths surpassed pre-pandemic levels. Over speeding was the reason for over half the road accidents in 2021. Uttar Pradesh recorded the highest number

of such deaths in 2021, followed by Tamil Nadu. A median road accident victim is a male aged between 18 and 45 who drives a two-wheeler and carelessly drives or overtakes other vehicles or is speeding. (26)

Over-speeding caused maximum accident-related deaths in 2020: Government reports Over-speeding constituted the main traffic rule violation associated with accident-related deaths (69.3%) and injuries (73.4%), followed by driving on the wrong side, drunken driving, use of mobile phones, and jumping red lights in 2020, the road transport ministry said in a report. According to the report titled 'Road accidents in India – 2020', more than 11% of deaths and injuries were caused due to non-usage of seat belts, while 30.1% of deaths and 26% of injuries were caused due to non-usage of helmets in 2020.

Fatal road crashes see a downward trend in Mumbai even as the number of casualties rises in Maharashtra

A look at the statistics of fatal crashes or road accidents in Mumbai over the last few years shows a declining trend, with casualties coming further down in the first six months of 2022 as compared to the corresponding period in the pre-pandemic year 2019. On the flip side, in Maharashtra, the fatalities continued to rise this year as well. Another trend witnessed this year was a sudden decrease, as compared to last year, in enforcement cases in which people had to pay up increased fines for violations. According to data from the Mumbai Traffic Police, while 447 people were killed in 420 crashes in 2019, 387 people succumbed to injuries caused in 376 crashes in 2021. 2020 saw 349 road mishap casualties, with the dip being attributed to a lockdown called during the first wave of the Covid-19 pandemic (27) Road accident situation in country 'much serious' than a pandemic, says Nitin Gadkari India accounts for the highest road accidents globally, with 1.5 lakh people killed and over 3.5 lakh crippled annually. Union Minister Nitin Gadkari on Tuesday said that the road accident scenario in the country was 'much serious than the Covid-19 pandemic' and 'an alarming situation'. One of the steps taken to decrease this was to bring 40,000 km of highways under safety audit to find and correct design and other deficiencies, he said.

"Seventy per cent of deaths are in the working age group of 18 to 45 years old. There are 415 deaths per day in road accidents in India. I would say this scenario is very much serious than the Covid-19 pandemic, and it is becoming an alarming situation for us year on year," Gadkari said while addressing a webinar by the International Road Federation. (28)

Delhi's most unsafe roads

According to data shared by the transport department in its report, 'Delhi road crash fatalities 2021', of the total fatal spots or black spots, there are 17 high-risk areas which have seen more than seven fatal crashes. The Delhi transport department has identified about 69 fatal crash spots across the city, which has seen more than five accidents per kilometer in the last two years. According to data shared by the department in its report, 'Delhi road crash fatalities 2021', of the total fatal spots or black spots, there are 17 high-risk areas which have seen more than seven fatal crashes. The top 10 include Mukarba Chowk, Peeragarhi Chowk, Punjabi Bagh Chowk, Seelampur Chowk, Intersection of Outer Ring Road and

Wazirabad Road near Signature Bridge, Nirankari Chowk, Azadpur Chowk-Outer Ring Road in front Rohini court near Madhubani Chowk among others. (29) Telangana logged 36 deaths per 100 accidents which is also the national average. The number of road accidents dropped by 11.1% in Telangana to 19,172 in the State, while 6,882 persons died in road mishaps in the State in 2020. In comparison, the State had recorded 6,964 fatalities from 21,570 accidents in 2019.

Telangana recorded 6,820 accidents on National Highways in 2020 (485 Black Spots till 2018) which are fewer than in 2019, but higher than in '16, '17, and '18. One of the reasons, the Ministry of Road Transport and Highways surmises, is that it might be due to the nationwide lockdown, which led to disruption in vehicle movement for a few months in the early part of the year. "Madhya Pradesh, Telangana, and Andhra Pradesh recorded a marked decline in the number of fatalities in 2020. One reason for this may be the impact of nationwide lockdown," says the document.(30)

Public discourse, and improving infrastructure can help Fifty-one passengers of an overcrowded bus died in an accident on the morning of February 16 when it fell into a canal near Sarada Patan village in Sidhi district, Madhya Pradesh. A griha pravesh (house-warming) ceremony for the beneficiaries of one lakh houses constructed under the Pradhan Mantri Awas Yojana in Bhopal, which was to be attended virtually by Union Home Minister Amit Shah, was cancelled due to the incident. Two days earlier, fourteen persons were killed when a minivan they were travelling in hit a divider on a National Highway (NH) near Madarpur village in Kurnool district, Andhra Pradesh. The van carrying 18 passengers was on its way to Ajmer in Rajasthan from Chittoor, when the driver lost control and hit the divider, tumbling to the other side of the road where a speeding truck crashed into it.

According to a study conducted by the Ministry of Road Transport and Highways, 1, 51,113 persons were killed and 4, 51,361 injured in road accidents (31)

36 people died every day in Maharashtra in road accidents

The statistics compiled by the Maharashtra Highway Safety Patrol revealed that 13,346 people died, and 15,922 people got injured in 29,292 accidents in 2021. The death toll is up by 1,777 as compared to 2020.

In the past 5 years, a total of 63,475 people have died in 1, 58,960 accidents in the state. Last year, Nashik and Pune regions recorded the highest number of road accident deaths, whereas Mumbai saw a decrease from 288 deaths in 2020 to 277 deaths last year. In 2021, 862 deaths were recorded in Nashik rural, 798 in Pune rural and 706 in Ahmednagar. According to the police, speeding remains the leading cause of death in crashes, especially on highways.

"Most of the fatalities in 2021 involved two-wheeler riders or pillioners. More people have died on straight roads across the state compared to curved roads, as per our observation. Moreover, in small cities, drivers do not follow traffic rules leading to head-on collisions," said an officer from State Highway Police.(32) Fatal ride: road accident deaths India witnesses 53 road crashes every hour, many of which result from the flagrant disregard commuters display towards road safety. It revealed that every death in India caused by a road accident leads to the depletion of nearly seven months 'income in the households of poor families and pushes the victims 'kin

into a vicious cycle of poverty and debt. Predictably, low-income rural households are hit the hardest. They reported twice the number of deaths as a result of an accident than high-income households did; the risk of a survivor having to deal with a disability was also twice as likely among poor families. Women, the report suggests, bear a disproportionate share of the burden as well, having to take on additional work alongside caregiving activities. While 50 per cent of women reported being severely affected by the decline in their household income, around 11 per cent said they had to take up more work to deal with the financial crisis.

A key take away from the study is that the long-term effects of road mishaps remain — deliberately? — an address in policy interventions. This is perhaps because road accidents are largely viewed through the lens of public safety and infrastructure, with interventions being designed accordingly. This is not to say that such aspects need to be ignored, given that India witnesses 53 road crashes every hour, many of which are a result of the flagrant disregard commuters display towards road safety.(33) Accidents will happen in the best-regulated families.

Cyrus Mistry

Cyrus Mistry, former chairman of Tata Group, has died in a road accident in Maharashtra. The incident occurred near Mumbai. Cyrus Mistry, along with two others, was travelling from Ahmedabad to Mumbai in a Mercedes car at the time of the accident.

Former Rajya Sabha MP and Telugu actor Nandamuri Harikrishna died in a road accident

The accident occurred near Anneparthi in the Nalgonda district of Telangana on Wednesday. The 61-year-old was driving an SUV and was accompanied by two other people.(34)

Paul Walker

Paul Walker died in a road accident at the age of 40 on November 30, 2013. The Fast and Furious franchise Actor was sitting as a passenger in a Porsche sports car when his friend, who was driving, careened into trees and a utility pole in Santa Clarita, north of Los Angeles.

Princess Diana

Princess Diana died in a car accident when she was 30-years old on August 31, 1997, while being chased by photographers. The dark blue Mercedes-Benz she was riding in slammed into a tunnel near the Place de l'Alma in the heart of the City of Light. Her companion Dodi Al Fayed, aged 42, was also killed in the car crash.

Morusupalli Udipi Krishna Rao

Morusupalli Udipi Krishna Rao, was a central Government employee, and field officer in Tobaccoboard. He was supposed to return from a field trip, but he got delayed. There were no street lights and pretty massive potholes, which his eldest son Mr Morusupalli Subramanian Pradeep actually went and inspected later. The accident was on 27/July/2010, evening after dusk, between Jilugimilli and Jangareddy Gudem, west Godavaridistrict, AP, India.

Ruthless Verity

I know that no one is here to setup a permanent camp. And life has to move on. My dad used to tell me that from gravest of pains come the greatest strengths said Mr Morusupalli Sandeep, son of Morusupalli Krishna Rao. A life lived well, says his wife Ms.Sesha Swarna and daughter Ms.Parimala and pays tribute to Mr.Krishna Rao Every fallen leaf is our tribute

Salman Khan's car met with an accident

On September 28, 2002, Salman Khan's Toyota Land Cruiser had crashed into men sleeping on a pavement outside a bakery in Mumbai's Bandra, killing one and injuring four. The Actor was charged with culpable homicide not amounting to murder and was acquitted of all charges by the Bombay High Court in December, 2015.

Hema Malini's car met with an accident

Actor and Politician Hema Malini's car met with an accident on July 3, 2015, when her Mercedes rammed into a Maruti Alto in Rajasthan. The BJP leader's car was allegedly speeding. While the actor wasn't seriously hurt, a four-year-old girl travelling with relatives in the Alto was killed. The girl's 6-year-old brother suffered fractures in both arms and legs and was admitted in the ICU of a hospital in Jaipur.

Traumatic injuries from road traffic accidents

Traumatic injuries from road traffic accidents account for the most common injuries ranging from minor isolated wounds to complex injuries involving multiple organs. Any patient with a wound or ulceration should undergo a complete history and physical examination, including a review of systems.

Abrasions are superficial and minor injuries of the skin with minimal blood loss. There is a break in the continuity of the skin involving only the epidermis thereby paving the way for healing without scar formation.

Amongst different types of abrasions, linear abrasions are the simplest of injuries and tend to heal by primary intention, without scarring. Grazed abrasions happen most commonly in road traffic accidents and sports. They usually result from friction generated from dragging the body against a rough surface. They are usually multiple with varying depths. The depths of the injuries depend on the speed of the body and the irregularity of the surface. Grazed abrasions which are multiple and extensive are the brush burns. Patterned abrasions as the name implies abrasions creating an impression of the offending agent. Patterned abrasions can be pressure abrasion and impact abrasion. Pressure abrasions require minimal force and result from prolonged compression of the epidermis. Impact abrasions on the other hand require considerable force.

Treatment of minor abrasions include irrigate the area with water or saline and using polyurethane and hydrocolloid plaster .They help in faster healing of the wound. These abrasions usually heal by first intention and do not leave any scarring. If secondary infection is suspected, tissue culture is sent and appropriate antibiotics along with regular dressings are the mainstay of treatment. Facial abrasions are considered have a higher risk of cicatrization and should be cleaned, debrided, and dressed daily. Lacerations are defined to be a pattern of injury caused by blunt force trauma in which skin and the underlying tissues are cut or torn. The goals of laceration repair are to achieve hemostasis and optimal cosmetic results without increasing the risk of infection in the

golden hour. Treatment involves examination, cleaning, and closing the wound. Different solutions including tap water, sterile saline solution, or antiseptic solution Can be used for cleaning the wound. Once it is cleaned, its covered with a wet gauze and topped by a bandage.

Wounds are not closed if there is evidence of secondary infection .Fresh wounds less than 24 hr old can be closed with sutures or staples. Wounds older than 24 hrs are not completely closed owing to the risk of secondary infection.

- L - Look at the wound to assess repair options
- A - Anesthetize the wound
- C - Clean the wound
- E - Equipment setup
- R - Repair the wound
- A - Assess the results, anticipate complications
- T - Tetanus Immunization
- E - Educate patient about wound care

Glimpses of road accident brain

The brain has the power to repair, but damaged brain cells cannot regenerate .Blood clots and hemorrhages can be observed in a series of CT scan images.MRI is helpful in observing brain tissue swelling and contusions. Concussion is one of the most common types of brain injuries from car accidents. Concussions are usually accompanied by loss of consciousness. Sometimes they may appear in less severe symptoms such as dizziness and confusion. Failure to seek medical attention can lead to severe or permanent damages. Contusions can also occur in the form of pain and swellings. Risks are blood clots in the brain, difficulty in speaking, memory changes. Severe rotation of brain causes axonal tearing and results in seizures, severe headaches, memory loss. In severe cases, the brain injuries from car accidents can result in coma or death. Any blood oozing from the head indicates a penetration; it can either be to the skull or sometimes too deep to reach the brain. It includes heavy blood loss, and difficulty breathing.

Good care prevents accidents

Things don't just happen by accident. Cell phones, texting, changing songs, and talking on the phone, eating food, assisting kids in the backseat, and picking up items that fell on the floor causes distracted driving attention. The faster you drive, the slower your reaction time will be 3. Intoxicated Driving and accidents may happen to anyone. 4. Rash drivers are restless in traffic 5.Rain is one of the most common causes of accidents 6.Driving Under the Influence of Drugs 7. Running Red Lights and Stop Signs 8. "Minor Driver Major Accidents" 9. New drivers aren't always careful drivers. 10. Unsafe Lane Changes 11. Improper Turns 12. Smog can be very dangerous.13. Most of the car accidents caused by drowsy driving occur at night. 14. Deadly Curves 15. Animal Crossings

Police operation ROPE to improve traffic flow

The city police have come up with an action plan to improve the flow of traffic in the city which would improve the quality of life of commuters. City police chief C.V. An and briefed the media on the road map to achieve improved traffic flow,

and the measures to be for enforcement, education and Operation ROPE (Removal of obstructive parking and encroachments). During peak hours all senior officers will focus on regulation. Stop line discipline will be strictly enforced. Stringent measures will be initiated against commuters resorting to wrong side driving, triple riding, improper number plates, black films, An and said, He said the police would hold regular meetings with establishments, hawkers, schools, colleges, auto rickshaw drivers, RTC drivers and all stake-holders to sensitise them on road rules, parking norms. After carrying out education campaigns, special enforcement drives will be started to keep a tab on errant violators, the commissioner said. Junction development, erecting signage boards at free lefts, providing safe turning radius at U-turns and adopting reversible lanes as per the traffic flow will be studied and implemented. The police commissioner introduced the fourth 'E' (Enablement) into traffic management with enhanced focus to cater the welfare needs of the traffic personnel through regular holding health camps, providing kit bags and capacity building at traffic training institutes.(35)

CONCLUSION

Today accidents are among the leading causes of death. Deaths due to Road Traffic Accidents (RTA) are increasing at an alarming rate throughout the world Road traffic accidents claim thousands of lives every year in the world. As per World Health Organization (WHO) it is one of the supreme causes of death. India. It takes a heavy financial toll on the economy over and above the mortality and morbidity associated with road traffic accidents. Road traffic accidents are foreseeable and avoidable. Strict execution of traffic rules and rigorous penalty alone will not solve the problem. Change in the mindset of riders and drivers and road users realizing their responsibilities alone will bring about a change. It requires strong political commitment and multi pronged strategies to address the current demands and needs of six E's of road safety such as education, engineering (roads), engineering (vehicles), enforcement, emergency care and enactment. (36)

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How to cite this article:

Raghavendra Rao et al., 2022. A Final Salute and Tribute to Road Accident Casualties ‘, International Journal of Current Advanced Research, 11(10), pp.1590-1590. DOI: <http://dx.doi.org/10.24327/ijcar.2022.1596.0355>
