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Study on Road Traffic Accidents and Prevention in India – A Review

Avinashkaur Khalsa[1], Dr. P.Y. Pawade[2]
[1]*Research scholar Department of Transportation Engineering, G H Raisoni College of Engineering Nagpur, Maharashtra, India*
[2]*HOD at Department of Civil Engineering, G H Raisoni College of Engineering Nagpur, Maharashtra, India*

Abstract: India is a developing country, road Infrastructure is growing rapidly. Road accidents are human calamity. Traffic accidents are the major reasons of death and injuries worldwide. Road traffic accidents are a major as yet unconsidered public health problem in growing countries. This is due to the multifactorial that plays a role in human, vehicular and environmental factors during before & after Road Traffic Accidents (RTA) [5]. Road traffic accidents are one of the major reasons of death and illness which can be stopped. In India, the current study provides tremendous magnitude and different dimensions of road accidents. In this study the analysis of road accidents will help in creating awareness, making guidelines and help in making informed decision on road safety [4].
Keywords: Road Safety, Accident Prevention, Road traffic accidents.

I. INTRODUCTION

The problem of road traffic accidents in highway transport is very intense due to the complex flow pattern of vehicular traffic, the presence of mixed traffic with pedestrians. Accidents are random and multifactor. This Road traffic accidents leads to loss of life and property [1]. In this way it is necessary that traffic engineers take the great responsibility of providing secure traffic movements to the road users and ensuring their safety. Deaths and injuries resulting from road accidents are a major and growing population health problem in India. Every year approximately 1.4 million people die as a result of a road traffic crashes, more than 3000 deaths per day and more than half of them people are not travelling in a car. More than 20 to 50 million people sustain non-fatal injuries from a crashes, and these injuries are an essential reason of disability Worldwide [4].

Between the deaths of pedestrians, most people do not use pavement and walk on the road, pedestrians do not use zebra crossing, crossing the roads because they do not want to see the direction of the vehicle, do not use subways or walkers, use mobile phones or listen to music while crossing the road and viewing or watching advertisements boards [8]. Motorcyclist are using footpath in cities or busy streets as their way to avoid traffic jams and this is also one of the major reason for pedestrians to complete the road accidents. As per the government's report the percentage of road accidents is increasing year by year. According to the accident data, death or permanent disability due to most of the reasons is due to driver's mistake due to various causes and most primarily are over speeding, drunken driving, overtaking or entering wrong side and signals not displaying or signal jumping [8].

II. REASONS OF ROAD ACCIDENTS

Nearby 80% of deaths & injuries occurs due to faults and mistakes committed by drivers. Some mistakes are drunk driving, avoiding of seat belts by car drivers, over speeding & overtaking, Teenage driving, Night driving, wrong driving, and dense fog [9].

A. Over Speeding

Over speed is always insecure and over speed means driving more than a safe boundary. Improper speed means driving at unprotected speed due to the prevailing road conditions and dense traffic. Accidents may occur at higher and improper speed, passengers and pedestrians may be injured and others may also suffer.

B. Drunk & Driving

The main reason of road traffic accident that is the driving under the effect of drugs or alcohol and mortality associated with it.

C. Night Driving

Night driving is a major risk for passengers. On long distance routes night driving should be avoided as far as possible. The lack of street lights can affect the brightness of upcoming vehicles, especially on high beam. Speed should be in control.

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D. Overtaking & Wrong Driving

In our country it is common to drive on the wrong lane or drive in the wrong opposite direction, due to lack of permission, which can result in head on crashes. Some drivers immediately advance beyond the front vehicle, do not assume that another faster vehicle is upcoming from opposite direction, which results in crashes. Accidents can be prevented by using indicators and avoiding speed and wrong driving.

E. Dense Fog

Due to dense fog, accidents can occur due to poor visibility, because the temperature drops to dew point-temperature when the air becomes saturated and the water becomes condensate, causing fog. In such a situation, someone should use less beam because there is a high beam result in the reflection of light.

III. LITERATURE REVIEW

1) Sanjay Kumar Singh (2017) paper publish on "Road Traffic Accidents in India: Issues and Challenges '' he has found that the 30-59 years, the economically age group is the weakest population group. There are many several factors for accidents, but drivers fault is the most important factor, driver's mistake 78% of total accidents, 76.5% of Total injuries and 73.7% of the total fatalities. Further road accidents are comparatively high in May to June and December to January which suggests that extreme weather affect the occurrence of road accidents.

2) Dinesh Mohan (2009) paper publish on the "Road Accident in India" In this paper the author shows the data of traffic death rates in cities with population and motor vehicle registration in India. Official road traffic accident data does not include death road user category in India.

3) M. Bhagyaiah and B. Shrinagesh (2014) paper publish on "Traffic Analysis And Road Accidents" the author has reported that the most of the male died in road accident were men , 70% of people killed between 16 to 19 years of age. 86.4% of all accidents and 60% of the victims of collision with a vehicle were killed before reaching the hospital. They further says that the limits of the police data base, which is the legal source of information about the death of road traffic accidents, indicates the need of strengthen the road traffic accident monitoring systems so that reliable accurate and consequent fatal outcome more injuries can be collected.

4) Jha Deepak et.al (2017) paper publish on "Traffic Rule Violation: A Weak Link in Prevention of Road Traffic Accidents" After conducting a survey and reporting on 52 individuals, most respondents felt that people do not traffic rules and do no not give to non-motorized vehicles and pedestrians. Most of them thought that people should follow the traffic rules. However, 17% of them accepted that they would break the traffic rules in one or the other travel conditions.

5) Manisha Madhukar Ruikar (2013) paper publish on "National Statistics of Road Traffic Accidents in India" She explain that even though every health service institute incites patients to take care of road traffic injuries, the details of road traffic injuries are not clearly available, due to poor health system. Therefore, the actual problem is likely to be much higher than the reported data.

6) S. Gopalkrishnan (2012) paper publish on "A Public Health Perspective of Road Traffic Accidents" author explain that human factors make significant contributions to the increasing number of road accidents. In most drivers, tickling mania continues to work like a hysteria, and error in decision making often causes big accidents. Due to careless driving, fast walking, adhering to traffic rules and drunk n driving is the main reason for road accidents. Statistics show that the most of the road accidents in highways are due to drunken driving only. At globally, some 480,000 deaths and 20 million people are injured by addictive driving every year. In most high – income countries, approximately 20% of the fatty drivers have extra alcohol in their blood. On the contrary, studies in lower and middle income countries such as India have shown that 33% and 69% of fatal injured drivers and 29% of non-fatal injured drivers had consumed alcohol before their accident.

7) P. Puvanchandra, C.Hoe, H.F.El-Sayed (2012) paper publish on "Road Traffic Injuries and Data Systems in Egypt: Addressing the Challenge" In this paper the author has recommended a professional for health and transportation, who work together to prevent road traffic injuries in the vulnerable population. The author suggested standardizing the data collection systems, educating young drivers and improving road designs as well as offering continuous medical screening.

8) Amit Ghosh and Suman Paul (2013) paper publish on "Road Accident Scenario in Kolkata: A Spatio-temporal Study" In this paper the author presents various aspects of traffic accidents in the city of Kolkata in West Bengal, India. It was found that a total of 7217 accidents occurred during this period. About 25% of the victims were between 18 and 30years of age. Pedestrians are victims of road accidents, and 17.9 % were lost and 82.1% were injured. Bus & truck accidents include 21% city road accidents.

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9) P.Bhat et al. (2013) paper publish on "Accident Prediction Modelling for an Urban Road of Bangalore City" In this paper he developed an accident model for the city of Bangalore, which includes factors like road characteristics (viz. carriageway width, road conditions, causes of accidents, shoulder type, number of minor crossings etc)

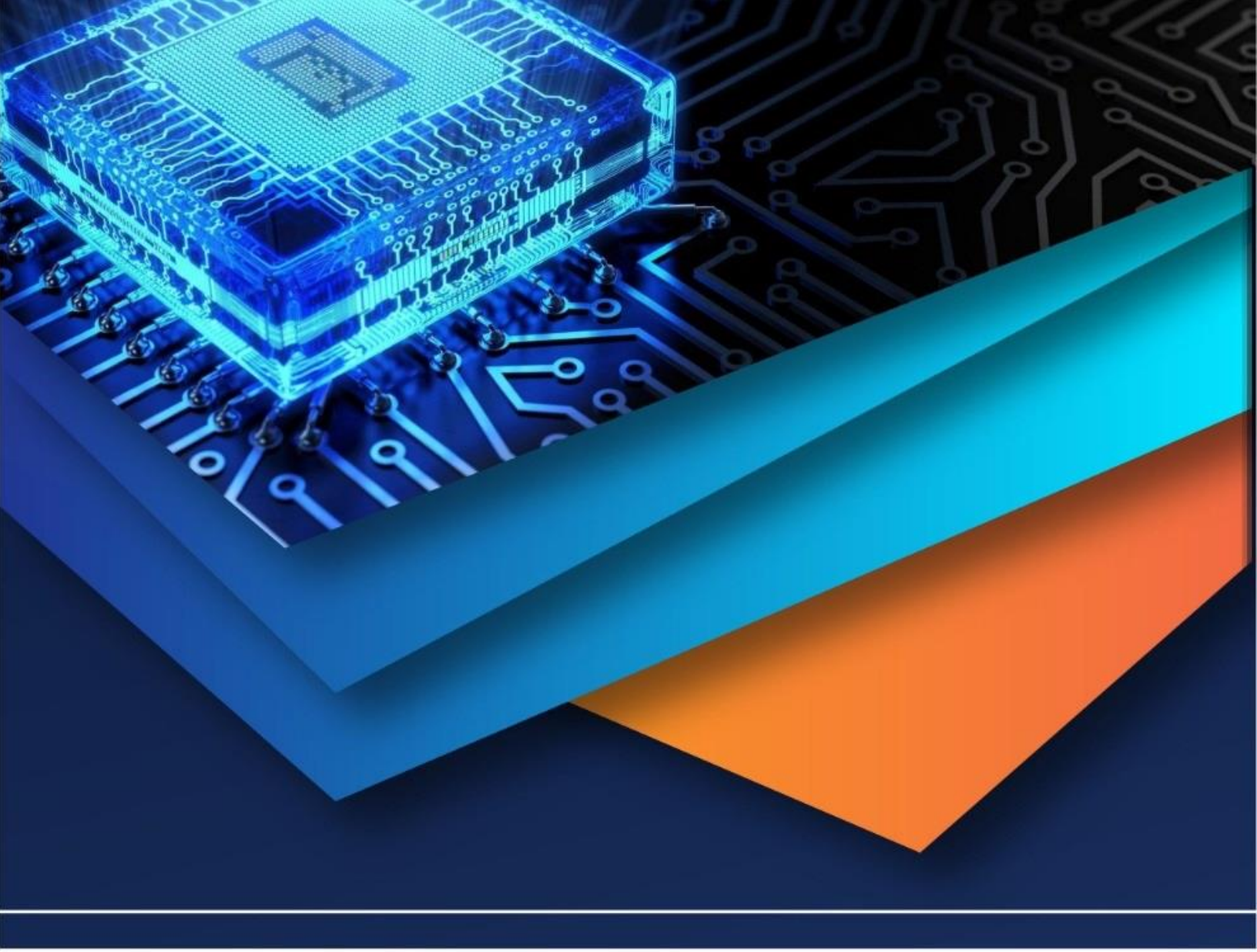
IV. CONCLUSION

A. The main goal is to decrease the number of accidents and fatalities.
B. The measures to reduce the accident rates are usually divided into four groups engineering, education, Emergency care and enforcement.
C. Analysis shows that the distribution of deaths and injuries in the road accident in India is varies according to age, sex month and time. It is found that economically active age group is very insecure population group.
D. In common, male face more fatality and accident risk than their female counterparts.
E. The largest number of road traffic accident victims discussed in the summer season.
F. Road traffic fatalities have been increasing at around 8% annually for the past ten years and show no signs of being low.
G. Road traffic rules enforced.
H. Effective enforcement by both Police and Transport officials for drunken Driving will decrease the number of accidents.

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