

Profile of Fatal Road Traffic Accidents Due to Drunken Driving

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Abstract

Road Traffic Accident is an event that occurs on a street resulting in one or more persons being injured or killed, where at least one moving vehicle is involved. According to a study conducted by Alcohol & drug Information Centre (AIDC), India showed that around 40% of the road accidents have occurred under the influence of alcohol. Young male drivers are at a greater risk of such accidents. The use of alcohol before driving was a significant contributing factor in fatal road traffic accidents, mainly in single vehicle accidents, and particularly among young male drivers. Alcohol was the most significant intoxicant, but multi-substance use was also significantly prevalent. The majority of the drivers with alcohol were strongly impaired judgmentally with decreased attention span leading to increased roadside casualties and mortalities particularly among the youth and middle-aged persons.

Keywords: Alcohol; Road Traffic Accidents; Death; Prevention.

Introduction

Road Traffic Accident is an event that occurs on a street resulting in one or more persons being injured or killed, where at least one moving vehicle is involved. Thus RTA is a collision between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and geographical or architectural obstacles. They involve high human injuries and socioeconomic costs in terms of early deaths, injuries, disability [1].

According to 'World Road Statistics 2015' released by International Road Federation, Geneva, India has the second highest number of road traffic accident resulting in high fatalities per 100,000 populations. Russian Federation was in the first list at 19 per 100,000. India is signatory to the 'Brasilia Declaration'

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and has committed to reduce road accidents by 50% by 2020 – just four years from now.²

Road traffic accidents due to drunken driving are a serious problem in India. According to a study conducted by Alcohol & drug Information Centre (AIDC), India showed that around 40% of the road accidents have occurred under the influence of alcohol. Young male drivers are at a greater risk of such accidents. Alcohol causes decrease in attention even at low levels and the chances of accidents increases with rising blood alcohol concentration levels. Alcohol needs no digestion and is absorbed rapidly into the blood and about 10%-15% of alcohol users develop alcohol dependence and become chronic alcoholics. After having alcohol, the judgment power of the driver gets impaired which increases threat to road safety. Due to its ill effects, driver tends to take more risks, becomes more aggressive and takes a longer reaction time. It has been well established that the relative probability of causing accidents increases with the rising blood alcohol concentration levels keeping road safety at stake [3].

The total number of road traffic accidents increased by 2.5 per cent from 4,89,400 in 2014 to 5,01,423 in 2015. The total number of death of persons in road traffic accidents increased by 4.6 per cent from 1,39,671 in 2014 to 1,46,133 in 2015. The injuries

due to accident have also increased by 1.4 percent from 4,93,474 in 2014 to 5,00,279 in 2015. The severity of road traffic accidents has increased from 28.5 deaths in 2014 to 29.1 in 2015. Accidents and deaths caused due to Intake of alcohol within the category of drivers fault accounted for 4.2 per cent (16,298 out of 3,86,481 accidents) and 6.4 per cent (6,755 out of 1,06,021 deaths) [4].

In 2015, one person dies every 4 minutes in roads accidents in India, according to NGO 'Indians for Road Safety'. India stands out miserably in the latest World Health Organisation's (WHO) "Global Road Safety Report-2015" with an estimated 207,551 deaths on roads [5].

The "GlobStatus Report on Road Safety" lished by the World Health Organization (WHO) identified the major causes of traffic collisions as driving over the speed limit, driving under the influence, and not using helmets and seat belts. Failure to maintain lane or yield to oncoming traffic when turning are prime causes of accidents on four lane, non-access controlled National Highways. The report noted users of motorcycles and motor-powered three-wheelers constitute the second largest group of traffic collision deaths [6,7].

Material and Methods

In this retrospective study, 60 fatal road traffic accident cases autopsied during the period January to December 2015 were analyzed at the Department of Forensic Medicine & Toxicology, AIMS, BG Nagar, and Karnataka. Since the medical college is besides the national highway, the admission of road traffic accident cases to medical college is high. Every case of RTA is subjected to routine postmortem to find out the cause of death along with dispatch of stomach and contents, liver and kidney, blood with preservatives to Forensic science laboratory for evaluation of the alcohol content.

Selection Criteria

Death due to road traffic accident

Results

Table 1: Total number autopsied cases in 2015 were 167. Out of 60 RTA cases, FSL report of 9 cases came positive for alcohol.

Total number AUTOSPIED cases	167
Total number of RTA cases	60
Alcohol positive cases	9

Table 2: The alcohol concentration in the report ranges from 20 mg/dl to 148mg/dl

Post Mortem Number	No. of Cases
12/15	88 mg/dl
27/15	61 mg/dl
33/15	101 mg/dl
40/15	20 mg/dl
61/15	56 mg/dl
63/15	148 mg/dl
77/15	140 mg/dl
104/15	111 mg/dl
112/15	56 mg/dl
TOTAL	9

Table 3: The prevalence of alcohol alone was highest among drivers under the age of 30. The highest prevalence of alcohol was found among drivers killed in single-vehicle accidents on weeknights (70%) and on weekend nights (80%)

Age (Years)	No. of Cases
<20 Years	1
21 -30 Years	4
31-40 Years	2
41-50 Years	1
> 50 Years	1
Total	9

Table 4: The proportions of male to female drivers with Blood alcohol concentration above the permissible limit were 89% vs 11%

Male	8
Female	1
Total	9

Discussion

According to Community Against Drunken Driving (CADD), nearly 70% of all deaths are due to drunken driving, with the number ranging between 44% to 67% in cities. Even after rising penalty for drunken drive about seven times in Delhi and 16 times in Mumbai since 2001, there has been no decrease in accidents and deaths. Prince Singhal of CADD noted that "24 hour availability of alcohol along National and State highways results in more buying of alcohol and about 72 per cent of road traffic accidents on National Highways". Stating that "the World Day for Remembrance of Road Accident Victims needs to be observed as a significant day especially in the Indian context as we record the highest road fatalities at 134,000 annually", he said it should not be forgotten that "road deaths and injuries are sudden, violent, traumatic events, and their impact is long-lasting, often permanent" [8].

According to Times of India, Indian roads which account for the highest deaths in the world became more dangerous in 2015 with the number of fatalities rising nearly 5% to 1.46 lakh. This translates to 400

deaths a day or one life snuffed out every 3.6 minutes, in what an expert described as a “daily massacre on our roads”. According to police data given by states, Uttar Pradesh recorded the maximum number of road deaths (17,666), then Tamil Nadu (15,642), Maharashtra (13,212), Karnataka (10,856) and Rajasthan (10,510). While the number of road fatalities increased in most of big states, 10 smaller cities including Delhi and Chandigarh, reported a decrease in death. Assam registered the highest decrease of 115 deaths in 2015 in comparison to the previous year, while death decreased by 49 in Delhi [9].

India's have the world's most unsafe roads and the situation seems to be getting worse by the year. Over 400 people were killed in road accidents every day in 2015, government data reveals. Fresh data submitted by the Ministry of Road Transport and Highways in the Rajya Sabha this week indicates just how alarming the situation is 1,46,133 people were killed in road accidents in India in 2015, a 4.6% rise over 2014 when 1,39,671 people were killed. In the past one decade, over 1.3 million people have been killed in road accidents but there is still no comprehensive road safety legislation in the country. According to the 234th report of the Standing Committee on Transport, Tourism and Culture which has recently been tabled in Parliament, there are several stumbling blocks for replacing the existing Motor Vehicles Act with a proposed Road Transport and Safety Bill, 2015.

Conclusion

The use of alcohol before driving was a significant contributing factor in fatal road traffic accidents, mainly in single vehicle accidents, and particularly among young male drivers. Alcohol was the most significant intoxicant, but multi-substance use was also significantly prevalent. The majority of the drivers with alcohol were strongly impaired judgmentally with decreased attention span leading to increased roadside casualties and mortalities particularly among the youth and middle-aged persons. Most of the times alcohol related accidents will result in collateral damage including death to

nearby pedestrians or vehicles for no fault of their's. To curb alcohol related RTA's, the government should evolve a policy for stringent checks of drunken driving at all Toll-plazas along national highways along with hefty fines and cancellation of driving licenses of the caught drunken driver.

Consent: obtained from institutional ethical committee

Conflict of Interest: Nil

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