ROAD TRAFFIC ACCIDENTS (RTAs) DUE TO DRUNKEN DRIVING IN INDIA- CHALLENGES IN PREVENTION.

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Abstract: India had earned the dubious distinction of having more number of fatalities due to road accidents in the world. Road safety is emerging as a major social concern around the world especially in India. Drinking and driving is already a serious public health problem, which is likely to emerge as one of the most significant problems in the near future. The role of alcohol in traffic safety has produced more controversies than any other topic. Alcohol and driving don’t mix, but still, many people love to drink and drive resulting in numerous road mishaps A drunken driver is a potential murderer as he cannot perform his tasks without risks and endangers road safety. An intensive drive against drunken driving is the need of the hour to promote road safety. It is important to initiate necessary steps to achieve this by overcoming all the challenges.

Key Words: Road Safety; Drunken Driving; Blood Alcohol Concentration(BAC)

I. INTRODUCTION

World Health Organization’s, first ever Global Status Report on Road Safety reveals that 90% of deaths on the world's roads occur in low and middle-income countries (21.5 and 19.5 per lakh of population, respectively) though they have just 48% of all registered vehicles. India has the second largest road network in the world with over 3 million km of roads of which 60% are paved. These roads make a vital contribution to the India’s economy. According to a government report, road accidents in India killed 1,34,000 people in 2010 (an average of 336 a day).

Accidents due to drunken driving are a major problem in India. The problem is unrecognized and hidden due to lack of good quality research data. A study conducted by Alcohol & drug Information Centre (AIDC), India revealed that around 40% of the road accidents have occurred under the influence of alcohol. Young male drivers are at a high risk of such accidents.

Though some efforts are being taken to reduce the Road Accidents due to drunken driving, considering the gravity of the situation it is important to change strategies and mechanisms with foresight and effective implementation.

II. ALCOHOL-SOME FACTS

Alcohol is a depressant drug that

- Slows down the activity of the brain
- Contains absolutely no nutrients
- Does not help to relieve tension, induce sleep or solve problems.

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well established that the relative probability of causing accidents increases with the rising blood alcohol levels keeping road safety at stake.

Drinking driving increase both the risk of a crash and likelihood that death or a serious injury will result. The risk involvement of an accident increases significantly above a Blood Alcohol Concentration (BAC) of 0.04g/100ml.

A study done at University of Michigan clearly shows the effect of Alcohol on Highway Safety which is given in Table 1.

### TABLE 1

<table>
<thead>
<tr>
<th>BAC Level in g/100ml</th>
<th>Effect</th>
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<tbody>
<tr>
<td>0.02 to 0.04</td>
<td>Progressive Deterioration</td>
</tr>
<tr>
<td>0.04 to 0.05</td>
<td>Significant involvement in accident</td>
</tr>
<tr>
<td>0.02 to 0.04</td>
<td>Dominant factor in accident</td>
</tr>
<tr>
<td>0.02 to 0.04</td>
<td>Accident risk 7 times as at BAC 0.01g/100ml</td>
</tr>
<tr>
<td>0.02 to 0.04</td>
<td>Accident risk 25 times as at BAC 0.01g/100ml</td>
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III. ROAD TRAFFIC ACCIDENTS IN INDIA- PRESENT SCENARIO

- In 2010, India recorded 1,34,000 road accident deaths highest in the world. The World Bank trends put this figure at 2,00,000 annually.
- About 5,20,000 road accident injuries and 4,90,000 road accidents occurred in 2010.
- About 56 accidents per hour (one accident per minutes).
- If a person meets with a road accident in India, there is an over 30 per cent chance of death.
- Around 53 per cent of the people who die in India are males in the most productive age group of 20 to 50 years.
- The number of people killed has increased four times from 1970 to 2009.
- A major contributor to traffic deaths in India is drunk driving, which is responsible for 70 per cent of road fatalities.
- India accounts for about 10 percent of road accident fatalities worldwide.
- An estimated 12,75,000 persons are grievously injured on the road every year.
- Professionalism in driver training is absent, proportion of untrained drivers is continually on the rise and a positive driving culture is lacking.

IV. ROAD TRAFFIC ACCIDENTS AND DRUNKEN DRIVING-SOME STUDIES AND RESEARCH

Drunken driving has been recognized as a world menace, based on the stats which reveal that road accidents cause 12 lakh deaths and 500 lakh injuries around the world each year. Some 4,80,000 of these deaths and 200 lakh of people get injured by drunken driving.

In a report for WHO, a multi-centre collaborative study – ‘Injury and Alcohol’ at National Institute of Mental Health and Neuro Sciences (NIMHANS) Bangalore it was found that the proportion of injuries “linked” to alcohol use was 58.9% of all injuries with 24% due to own drinking and 35% due to others drinking. It was found that on the types of injuries amongst alcohol users, 46% was due to road accidents.

A study from Kerala State conducted by the Alcohol & Drug Information centre revealed around 40% of the road accidents have occurred because the driver was under the influence of alcohol. In the case of accidents on National Highways, more than 72% were related drinks driving. In a survey done at Delhi by the Directorate of Prohibition, it was found that 45% of vehicles are driven by drivers who had consumed alcoholic drinks. Car owners who attend dinners / parties tend to get drunk, indulge in rash driving and are unable to control the vehicle and meet with accidents. About 60% and 65% of accidents are being caused by drunken drivers of cars and two wheelers during the night and early hours of the morning.

Another study reveals that drunken driving is prevalent among drivers after sunset. There are at least 5 to 6 truck accidents on Sher Shah Suri Marg (National
Highway) between Ambala Cantt and New Delhi (A stretch of 200km) at different locations daily. 50% of these accidents are said to be due to drunken driving.

Drivers aged 16 to 21 years have highest rate of alcohol involved fatal accidents in United States even though lower average Blood Alcohol Concentration (BAC) were found than in older drivers. But in India (where significant research in this field is lacking) this age group can be identified between 20 to 25 years.

Recent analyses by Lowenfels and Wynn with data from 19 countries reveal that a 1% reduction in per capita alcohol consumption is associated with a 1% reduction in vehicular deaths.

In most high income countries about 20% of fatally injured drivers have excess alcohol in their blood, i.e., blood alcohol concentration (BAC) in excess of the legal limit. In contrast, studies in low and middle income countries have shown that between 33% and 69% of fatally injured drivers and between 8% to 29% of non fatally injured drivers had consumed alcohol before the accident.

Drivers who have been drinking have a much higher risk of involving in accidents than those with no alcohol in their blood, and the risk grows rapidly with increasing blood alcohol concentration. For motorcyclists, having a BAC over 0.05g/100ml has been estimated to increase crash risk by up to 40 times compared to having a zero BAC.

The case controlled study carried out in Michigan in the United States known as the Grand rapids Study reveals that the relative risk of crash involvements starts to increase significantly at a blood alcohol concentration level of 0.04 g/100ml and that at 0.10g /100ml the crash risk relative to a zero BAC is approximately 5, while at a BAC of 0.24g/100ml the crash risk is more than 140 times the risk relative to zero BAC. The Estimated Relative Crash risk for drinking drivers by BAC level is shown in Figure 1.

Fig.1 Estimated Relative Crash risk for drinking drivers by BAC Level vs Relative Crash Risk

V.PREVENTING DRUNKEN DRIVING

(A) Prevention Policies

With the recognition of road safety needs to focus on reducing drinking and driving, many high income countries have formulated and implemented a number of coordinated, integrated and sustainable programme based on scientific research. The first law banning drinking and driving was introduced in Norway in 1936 set a legal limit of 50mg/100ml; many countries have since then followed suit and introduced similar legislation, however many are only considered to be moderately successful.

The motor vehicle Act,1939,amended up to 1989 contains a clause 117 which reads as:

" Driving by a drunken person or by a person under the influence of drugs - whoever while driving or attempting to drive a motor vehicle or riding or attempting to ride, a motor cycle - (a) has in his blood, alcohol in any quantity, howsoever small the quantity may be or (b) is under the influence of a drug to such an extent as to be incapable of exercising proper control over the vehicle shall be punishable for the first offence with imprisonment for a term which may extend to six months or with fine which may extend to two thousand rupees or with both; and for a second or subsequent offence, if committed within three years of the commission of the previous similar offence, with imprisonment for a term which may extend to three thousand rupees, or with both". The above law is very much effective if imposed. But the psychology of drunken drivers is such that they do away by paying some money to the catcher.

1994 – AMENDMENT

Till mid November, 1994, as quoted above, drinking and driving was not allowed to be mixed up. Any alcohol in the blood, howsoever small the quantity has been an offence till November 1994 but now after November 1994 the law has been amended. Now up to 30 milligrams of intake per 100ml of blood has been permitted to driver before getting behind the wheel. A research agency conducted a survey in the capital to know the public reaction to the 1994-Amendment. 86% feel that this will increase the number of road accidents and 88% feel that this would render roads unsafe. The survey was conducted on telephone. A total of 297 respondents were interviewed between January 24 and January 26, 1995. The amendment may encourage people to mix drinking and driving.

Though the laws to check the drunken driving do exist in India but there is a need to effectively impose the same on the alcohol impaired drivers.

1) Limitations of Prevention polices in India

The law requires you to take the drunken driver to the hospital, get his medical examination conducted and then have a doctor support it. In developed countries this is done with discipline because the administration is quick and every officer has his own car. In India, unfortunately, this is not put to practice because the system depends on Police Crime Report availability.
What is one of the most difficult factors to determine is whether an accident was because of drinking and driving. The drivers invariably abscond, only to be found later when the effect of alcohol would have safely worn off. The people at the accident spot concentrate on getting the injured to hospital rather than nabbing the driver responsible and if they do find the driver, he would be badly beaten. And the police do normally have very poor equipments for testing blood alcohol levels, and often car – drivers have left the scene of the accident when the police arrive. When car-drivers are traced, it is often too late to test blood alcohol levels.

In India the scale of problem is not well understood, there is a little public awareness of the problem and legislation and enforcement are often inadequate. It is needless to say, a majority of accidents which occur are due to drunken driving and as such there is no effective mechanism to prevent this.

**(B) Initiatives required**

Strategies for prevention require being inter-sect oral and multidisciplinary action plan-based. The various strategies for preventive action are seen as a “cascade of strategies”, starting with implementation, through development of consensus, amendments to enactment of new laws.

Detailed accident data with cause of accident and all other relevant details should be available. An effective law is a precondition for the effective implementation by the police. An intensive drive against drunk driving is needed to promote road safety.

Strong enforcement of drink-driving laws: Undertaking sufficient enforcement measures such as sobriety check points and random breath testing to influence drivers’ views on the likelihood of apprehension is a key element. Disregarding enforcement of laws by the police, it is critical to reinforce public education aimed at preventing drinking and driving in the first place and the following things should be done to achieve this effectively.

- To undertake experimental studies on drinking and driving for correct assessment of traffic safety situation on Indian roads;
- Blood alcohol screening should be routinely performed;
- Major publicity campaigns will need to be mounted to inform drivers on drinking and driving, the harm that results from drinking and driving and the penalties;
- A monitoring system, with common and agreed measurement and reporting procedures across India should be put in place with BAC to be zero if possible otherwise not more than 0.02g/100m1;
- A targeted progressive achievement with a vision is necessary to implement new measures of controlling drunken driving like halving drink driving related death and disabilities in 2 years.
- Road side liquor shops, bars and ‘ahatas’ should be shifted minimizing their use by drivers;
- Strict enforcement of Motor Vehicle Act on drink driving;
- Strict and swift punishment to those who break drink and driving laws;
- Developing the high taxation policies for alcohol beverages which reduces the buying power of drivers;
- Time of Sales to be restricted to 8pm. National Holidays, and pay day closure of outlets.
- Making it legal level of blood alcohol lower or zero tolerance for specific groups – such as passenger cargo (Bus, School Van, Office Bus/Van, Taxi) drivers and high risk group such as young drivers.
- Laws prohibiting alcohol sales at certain locations and times- Intended to make access difficult to alcohol more difficult for drivers.
- Adopt responsible standards of alcohol serving and host responsibility programmes, especially for young adults.
- Assist patrons in monitoring alcohol consumption, for example, through the use of coin-operated breath testers and better labelling of alcoholic content of beverages.
- Promote the consumption of low-alcohol beverages in preference to higher proof drinks.
- Above all, legislations should be made more clear and stringent. Unambiguous laws and penalties are needed and public needs to be educated about it legal consequences.
- Driver education courses should be made more approachable and taught seriously.
- The action taken against drunken driving in the state of Tamil Nadu, India over the past 4 years is listed in Table 2.
- The table clearly illustrates that though the number of accidents increases over the period, the action taken against Drunken Driving had decreased. This shows that the law against drunken driving may not be implemented that effectively due to some constraints.

**TABLE 2**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of accidents</th>
<th>Driving License Suspended</th>
<th>Driving License cancelled</th>
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<tr>
<td>2008-2009</td>
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<td>64996</td>
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<td>2011-2012</td>
<td>65873</td>
<td>3211</td>
<td>275</td>
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**FATAL ACCIDENTS**

<table>
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<tr>
<td>2011-2012</td>
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road safety still remains a matter of more research. It has been since centuries a major contributor to the traffic situation on Indian roads. We may get successful in curbing the menace which has caused millions of lives to be lost every year, but there is no sign of any possible intervention. To despair, there is no available record of precisely how much developmental money is lost due to road related accidents, and how much compensation is paid to road accident victims.

National Information centre should be strengthened with appropriate knowledge, skill techniques and resources to include information on driving under the influence of alcohol as an important element in road safety information systems within police and health sectors.

No proper laws have been devised and those devised are not meant and dealt properly. India has laws but its effective implementation is still to be worked upon. To make the matter worse the gamble of destiny is that Indian traffic officials are not well equipped with the necessary equipments required to introduce checks on driving in India. Little or no recorded data are available on drunken driving in India. Drunken driving an illegal act should be governed by stern laws which entail not only levying hefty fines or revocation of license, but also prosecution, same as a criminal offense. Usually, driver escape from the scene as the public gets involved in getting the injured hospitalized rather than snitch the drunken driver and teaching him a lesson.

Highways lack some sort of preliminary road safety measures including first aid emergency services etc. It is really ironical to note that, we have numerous liquor shops, motels, fun parks, and petrol pumps spread all over the highways, but scarce, or to be more precise, negligible trauma centres on highways.

But, contrary to the practice, if we make a commitment to report the incidence to the officials concerned and take a stand against drunk driving, then we may get successful in curbing the menace which has been since centuries a major contributor to the traffic deaths in every, but, the co-relation between alcohol and road safety still remains a matter of more research.

V. CONCLUSION

Though some database & research evidence in India is available already, which along with the international evidence may not be adequate for “preventive action”, while the research & documentation is encouraged, specifically action research. There is dire need to undertake experimental studies on drugs and driving for correct assessment of traffic safety situation on Indian roads.

Strict enforcement supplemented with education is one of the most powerful tools to tackle the problem and need to be seriously considered. Current enforcement mechanism could be reinforced by strict laws, availability of trained police and dedicated teams, the use of breath analyzer in a scientific manner, the introduction of random checks increase in current penalty levels: and the strict enforcement of laws in a visible, uniform and regular manner.

Many other measures like increasing the legal drinking age, restricting the availability of alcohol by limited timings and controlling the unabated promotion of alcohol seems promising.

Rest room and retiring rooms along the Highways with good facilities may reduce the drunken driver driving under the influence of the alcohol.

Professionalism in driver training and advanced licensing systems both interlinked along with strict enforcement of law will yield good results.

Coordination problems between legal and enforcement teams should be mostly avoided.

Even innovative technology solutions such as alcohol ignition interlocks though expensive may be encouraged. Vehicles GPS and GIS facilities with unique user id will help in identification of vehicles involved in accidents.

These things will improve the current situation and certainly discourage drunken driving and hence reduce the quantum of accidents and fatalities in future.

(C ) Problems and limitations

Road related accidents cost India millions every year, but there is no sign of any possible intervention. To despair, there is no available record of precisely how much developmental money is lost due to road related accidents, and how much compensation is paid to road accident victims.

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