

Original Research Paper

A Study of Association of Trauma and Alcohol Consumption in Outpatient

*R. K. Punia

Abstract

Alcoholic beverages have been used in human societies since the beginning of recorded history. Alcohol related problems emerging as a major public-health concern in India. The study was conducted with the aim to highlight association of Trauma and Alcohol Consumption in Outpatient in Department of Forensic Medicine, SMS Medical College, Jaipur. A male predominance (100%) was observed with majority of the victims were of the most productive and active phases of life ranging from 21-50 years (84%). In the study, 27 cases were under influence and remaining 73 cases were not under influence but all the 100 cases had consumed alcohol or congener. Out of 100 cases, about 50% had associated injuries with alcohol consumption. The relation of alcohol consumption and health outcomes are complex and multidimensional, therefore, it is appropriate to implement policies with targeted harm reduction strategies. The crucial need, from a public health perspective, is for regular means of coordination whereby prevention of alcohol-related problems is taken fully into account in policy decisions about alcohol control and regulation in the market for alcoholic beverages.

Key Words: Alcohol consumption, Indian Penal Code, Alcoholic beverages, Intoxication

Introduction:

According to WHO estimates, there are about 2 billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol-use disorders. India is showing a phenomenal increase in alcohol consumption, with the initiation age on an alarming decrease. The recorded market and consumption levels are still very low vis-à-vis the global standard. The illicit market (spurious, seconds and thirds) consumption is far more than legal sales. India is generally regarded as a traditional 'dry' or 'abstaining' culture (Bennet et al, 1993).[1] Yet, it has one of the largest alcohol beverage industries in the world.

The UB Group, for example is the third largest spirits producer in the world after Diageo and Pernod Ricard (ICAP, 2006c).[2] India is the dominant producer of alcohol in the South-East Asia region (65 percent) and contributes to about 7% of the total alcohol beverage imports into the region. More than two thirds of the total beverage alcohol consumption within the region is in India.

Corresponding Author:

*Professor & HOD
Department of Forensic medicine & Toxicology
SMS Medical College, Jaipur
E-mail: rkpunia86@gmail.com
DOR: 06.08.2013 DOA: 20.11.13

There has been a steady increase in the production of alcohol in the country, with the production doubling from 887.2 million liters in 1992-93 to 1,654 million liters in 1999-2000 and was expected to almost treble to 2300 million liters (estimated) by 2006-07 (The Planning Commission of India, 2003). Since antiquity alcohol consumption has been described in various contexts.

Not only a social and a health problem, its consumption has legal issues related to it. Section 85 and section 86 of Indian penal code deals with the same. Provisions regarding creating a public menace after liquor intake have been described in section 510 of the Indian penal code.

Prevalence of Alcohol Use:

The prevalence of alcohol use is still low in India as per some studies done around the country. The per capita consumption is 2 liters per adult per year (calculated from official 2003 sales and population figures). After adjusting for undocumented consumption, which accounts for 45- 50% of total consumption, this is likely to be around 4 liters. A recent National Household Survey of Drug Use recorded alcohol use in the past year in only 21 percent of adult males.

Expectedly, this figure cannot mirror accurately the wide variation that obtains in a large and complex country such as India. The prevalence of current use of alcohol ranged from a low of 7% in the western state of Gujarat

(officially under Prohibition) to 75% in the North-eastern state of Arunachal Pradesh. There is also an extreme gender difference. Prevalence among women has consistently been estimated at less than 5% but is much higher in the northeastern states. Significantly higher use has been recorded among tribal, rural and lower socio-economic urban sections.

Materials and Methods:

The study was conducted at the Department of Forensic Medicine and Toxicology, SMS Medical College from January-December 2012 as a prospective study. The subjects were those who are brought for the medical examination with alleged history of alcohol consumption. On the basis of statistical demands of the study a total of 100 subjects were taken into consideration. The subjects were chosen on random basis in this duration.

The clinical assessment was conducted by the duty doctors and documented in the Performa available at the department. They were then tabulated and analysed by applying simple statistical methods to draw out conclusions and compare the same with the equivalent studies conducted in the past.

Observations:

Our study showed that the prevalence of liquor consumption was maximum in the age group of 21-30 years of age (45%) followed by the age group 31-40 years of age. (Table 1) Muscle coordination is often associated with the Cerebellar functions. In present study muscle coordination was found to be compromised in 8% of the subjects. (Table 2)

Most of the subjects (70%) had findings suggestive of normal mental state and normal higher mental faculties. About one-fifth (21%) of the subjects were of violent and aggressive behavior secondary to the consumption of liquor. (Table 3) This study showed that about one-fourth (27%) of the subjects had a staggering or a typical alcoholic gait. (Table 4)

In present study, 27 cases were under influence of alcohol and remaining 73 cases were not under influence of alcohol but all the 100 cases had consumed alcohol or congener. These findings were based on the clinical examination and observational bias could not be ruled out. (Table 5) Out of 100 cases, 51 cases had associated injuries with alcohol consumption. (Table 6) Most of these injuries were inflicted in alleged assaults as per the history given. (Table 7)

Discussion:

Alcohol ranks topmost amongst the drugs of abuse and dependence. It not only is a

menace to the social and cultural organization but also to the physical and mental health of the individual.[3, 4] Worldwide alcohol has been associated with a huge constellation of pathological processes like liver disease, coronary vascular disease and neoplastic pathologies. [5-7] In the theories of criminology, the triad of youth, alcohol and crime has always been a famous one. The higher incidence of association of alcohol consumption with vehicular accidents and falls has been reported by various authors from time to time.

Alcohol has been consistently associated with violent crime, although the association might not always be causal. Not just criminal intent has been reported to increase under influence of alcohol, but also incidents resulting from outburst of emotions, heightened confidence and increased reaction time have also been reported [8]

In this study about half of the cases of alcohol consumption were associated with traumatic episodes resulting in injury. About three-quarters of them were not under the influence of alcohol at the time of traumatic episode as was evident clinically.

Most examinations had been carried out within a reasonable time of traumatic occurrence. Most of these episodes (58.82%) were attributable to the assaults as per the history given by the subjects.

Conclusion:

The study depicts the preponderance of male population as regards to alcohol consumption. Alcohol consumption is either minimal or under reported among the female population. This study reports a higher incidence of injuries in episodes of assault as compared to those resulting from vehicular accidents and falls, which have been reported more commonly.

This study also showed that alcohol consumption and also associated trauma was most commonly prevalent in the active and productive age groups the incidence of alcohol consumption and trauma is more common during the evening and night hours, the government policies should be made more stringent in this respect. Stricter rules should be imposed on those who voluntarily consume alcohol and resort to driving.

Primary and secondary preventive measures regarding the modern safety devices should be taken into account. Alcohol is not only a legal challenge but an age old socio-cultural problem and for this a multi-faceted approach should be followed by combined effort of various governmental agencies.

References:

1. **Bennet LA, Campillo C, Chandrashekhar CR, Gureje O.** Alcoholic Beverage Consumption in India, Mexico, and Nigeria: A Cross-Cultural Comparison. *Alc. Hlth Res. World.* 1998; 22(4): 243-52.
2. *The Structure of the Alcohol Beverage Industry.* International Center for Alcohol Policies. Report Number: 17. 2006c.
3. **Das SK, Balakrishnan V, Vasudevan DM.** Alcohol: Its Health and Social Impact In India. *Medicine and Society* 2006; Volume 19(2).
4. **Mohan D, Chopra A, Ray R, Sethi H.** Alcohol consumption in India: A cross sectional study. In: Demers A, Room R, Bourgault C (eds). *Surveys of drinking patterns and problems in seven developing countries.* Geneva: World Health Organization; 2001:103-14.
5. **Greenfield TK.** Individual risk of alcohol-related disease and problems. In: Heather N, Peters TJ, Stockwell T (eds). *International handbook of alcohol dependence and problems.* New York: Wiley; 2001:413-17.
6. **Room R, Rossow I.** The share of violence attributable to drinking. *J Substance Use* 2001; 6:218-28.
7. **McKee M, Britton A.** The positive relationship between alcohol and heart disease in Eastern Europe: Potential physiological mechanisms. *J R Soc Med* 1998; 91:402-7.
8. **Room R, Makela K.** Typologies of the cultural position of drinking. *J Stud Alcohol* 2000; 61:475-83.

Table 1: Age wise Distribution (n = 100)

Age Groups(Yrs.)	Cases	Percentage
1-10	0	0
11-20	09	9
21-30	45	45
31-40	21	21
41-50	18	18
51-60	04	4
>60	03	3
Total	100	100

Table 2: According to Muscle Coordination (n = 100)

Muscle Coordination	Cases	Percentage
Present	92	92
Absent	08	8
Total	100	100

Table 3: According to Mental Status (n = 100)

Mental Status	Cases	Percentage
Normal	70	70
Polite	09	9
Violent	21	21
Unconscious	0	0
Total	100	100

Table 4: According to Gait (n = 100)

Gait	Cases	Percentage
Normal	73	73
Staggering gait	27	27
Ataxic	0	0
Unable to walk	0	0
Total	100	100

Table 5: According to Opinion (n = 100)

Opinion	Cases	Percentage
Not under influence	73	73
Under influence	27	27
Intoxicated	0	0
Total	100	100

Table 6: According to Injury (n = 100)

Injury	Cases	Percentage
Present	51	51
Absent	49	49
Total	100	100%

Table 7: Trauma associated With Alcohol Intake & Mode of Injury (N=51)

Mode of injury	Cases	Percentage
Road traffic accidents	9	17.14
Assaults	30	58.82
Falls	12	23.52
Total	51	100