

Legal, Social, and Occupational Problems in Persons with Alcohol Use Disorder: An Exploratory Study

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ABSTRACT

Background: Very few studies have examined the extent and nature of legal, social, and occupational problems among persons who have SUDs. This study was aimed at studying the prevalence and patterns of the aforementioned problems among individuals with alcohol use disorders (AUDs) and their relationship with the quantity of alcohol consumed and other variables.

Methods: We conducted a cross-sectional study of adult patients with a diagnosis of AUDs admitted to the deaddiction unit of a tertiary care facility in India, using a semistructured questionnaire prepared for this study.

Results: The mean age (SD) of the 91 subjects (95.6% males) was 40.3 years (8.5). Majority of them (92.3%) had started alcohol consumption before the age of 25 years. Common problems reported were work absenteeism (83.5%), a major altercation with spouse (69.3%), assaulting someone while intoxicated (53.8%), and driving under the influence of alcohol (59.3%). Significant association was found

between being unemployed and having a police complaint lodged against them (chi-square = 5.7, $P = 0.01$). Quantity of alcohol consumed per day was significantly more among those who had a history of work absenteeism ($Z = 2.27$, $P = 0.01$), major altercation with spouse ($Z = 2.25$, $P = 0.02$) and assaulted someone under intoxication ($Z = 2.33$, $P = 0.02$).

Conclusion: The quantity of alcohol consumed is significantly more in those who had several legal, social, and occupational problems when compared to those who did not have, highlighting the need for routine assessment of the aforementioned problems among patients of AUDs. Treatment of AUDs should be multidisciplinary, with targeted interventions tailored to the aforementioned problems. Doing so will go a long way in reducing the harm to patients and the community at large.

Keywords: Alcohol use disorder, legal psychiatry, forensic psychiatry

Key Messages: Legal, social, and occupational complications are common in

patients suffering from AUDs. We should include the systematic assessment of legal, social, occupational problems during the assessment of individuals with AUDs and devise targeted interventions, using a multidisciplinary team, which are tailor-made to address these problems.

Alcohol use has been associated with violent assaults, child abuse, and other incidents of domestic violence.¹ As per the WHO report on Global Status of Alcohol and Health (2018), the quantity of alcohol consumed per capita has been on the rise; it was 3.6 L in 2005, 4.3 L in 2010, and 5.7 L in 2016.² In India, legislations are in place to put a check on consumption of alcohol, including fixation of minimum age for purchasing alcohol between 18 and 25 years in different states,³ observing dry days on specific days,⁴ restricting an intoxicated person from using public transport like railways⁵ and punishment for those who drive a vehicle under the effect of alcohol (blood alcohol level 30 mg/dL).⁶

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Alcohol causes significant heightening in aggressive responses and impaired cognition, perception, attention, balance, and coordination, leading to road accidents and violence like homicide, sexual assault, and child abuse.⁷ According to the report of the National Crime Records Bureau (NCRB), many accidents due to drunk driving have resulted in fatalities, with 42% of the drunken-driving victims losing their life in 2015.^{8,9} Studies have shown that 10%–40% of those injured in traffic accidents were under the influence of alcohol.^{10–12} In the United States, around 300,000 violent assaults per year take place when the perpetrator is under alcohol intoxication.¹³ Studies from Australia and New Zealand have shown that around half of the offenders are intoxicated at the time of committing the crime.^{14,15}

Density of alcohol outlet in the locality has been shown to correlate with the rate of intimate partner violence.¹⁶ Multiple studies had shown that 30%–75% of perpetrators were intoxicated with alcohol when they inflicted intimate partner violence.^{17–20} American studies have shown that intimate partner violence leads to marital dissatisfaction and eventually to divorce.^{21–24}

Alcohol use increases suicide thoughts and behaviors by producing depression, decreased inhibition or impaired judgment.^{25–30} A hospital-based study among older people reported that as many as half of those with alcohol use disorder (AUDs) had a history of a suicide attempt.³¹

Alcohol use increases firearm misuse, both indirectly and directly, by possibly affecting educational attainment, employment, and income, thereby facilitating association with delinquent peer groups.³² Alcohol, combined with easy accessibility to firearms, also increases rates of suicides by gunshots.³³

Alcohol abuse/dependence causes decreased productivity at work and increases work absenteeism, thereby leading to unemployment.^{34–39} Alcohol misuse, especially alcohol dependence, is linked to sustained unemployment.⁴⁰

Most of the past research has assessed the prevalence of AUDs in people facing different legal, social, and occupational problems, but almost none have assessed the reverse. We undertook the current

exploratory study to assess the prevalence of different legal, social, and occupational problems in patients with AUDs and if the quantity of alcohol consumed per day predicted presence of absence of any of the above problems.

Materials and Methods

Ethical clearance was obtained from the Institutional Ethics Committee. Participants were recruited from the Centre for Addiction Medicine of a tertiary care government hospital, using systematic sampling (every third patient from admission register) between October 2016 and March 2017. The hospital is situated in South India, and patients who get admitted to the hospital predominantly belong to low and middle socioeconomic classes, with very few from higher socioeconomic class. Patients from across India visit and get admitted to this center as it is a pioneer in mental health and neurosciences. Both male and female adult inpatients with a primary diagnosis of “alcohol use disorder” as per Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) criteria and ready to consent for the study were included after taking written informed consent. Patients diagnosed by the treating psychiatric team as an organic brain syndrome or dementia, or as having comorbid mood disorder/psychosis/personality disorders/any other substance use disorder (SUD) (apart from tobacco) were excluded. Patients were interviewed by the first author after their withdrawal symptoms were adequately controlled. Patients and their caregivers were interviewed separately and together, ensuring that patients are comfortable enough to discuss the legal, social, and occupational problems they have come across.

Patients were interviewed using a semistructured questionnaire specially prepared for this study (Appendix S1). The semistructured questionnaire was prepared by using three different standardized scales, viz. Addiction Severity Index (ASI),⁴¹ Alcohol Problem Questionnaire (APQ),⁴² and harm to others scale (HTO), with inputs from experts in the field of addiction psychiatry and forensic psychiatry. The questionnaire so prepared was approved by all investigators of the study.

The average milliliters of alcohol consumed per day in the previous month were enquired. It was then converted into standard units of alcohol (30 mL of rum/whiskey/vodka = 1 standard unit of alcohol, 90 mL wine = 1 standard unit of alcohol, and 330 mL of strong beer = 2 standard units of alcohol). There were very few subjects who were consuming country-made alcohol. Country-made alcohol was taken as equivalent to 42% alcohol for calculation purposes.

Data was entered on SPSS version 20. For statistical analysis, median scores were compared on the Mann–Whitney U test, and the chi-square test was used for comparison of categorical variables.

Results

Sample Characteristics

125 patients were screened, among whom 34 were excluded for various reasons (presence of comorbid cannabis use disorder, opioid use disorder, bipolar affective disorder, schizophrenia, organic psychosis, etc.) and 91 with AUDs were enrolled for the study. The sample included predominantly males (87, 95.6%). The age range was 25–64 years, with a mean (SD) age of 40.3(8.5) years. Two-thirds of the sample (66, 72.5%) were urban residents. At the time of evaluation, 48 (52.7%) were unemployed; one subject had taken premature retirement from service. Most of the subjects (84, 92.3%) had initiated alcohol consumption by 25 years of age. Mean (SD) daily alcohol consumption of alcohol in the last month was 20.9 (9.9) units (**Table 1**).

All the cases that were recruited had severe form of AUD as per DSM-5 criteria. First-degree relatives of 62 (68.1%) patients, and second-degree relatives of 51 (56.0%) patients had a history of AUD. On the whole, family history of AUD was present in 73 (80.2%) patients (**Table 1**).

The different legal, social, and occupational problems that were assessed are listed in **Tables 2** and **3**. At least one legal, one occupational, and one social problem was present in 74, 83, and 88 subjects, respectively. The most common legal, occupational, and social problems faced were drink and drive, being detained by police, work absenteeism, a serious altercation with the spouse, and

TABLE 1.
Sample Characteristics of Patients with AUDs (n = 91)

	n	Percentage	Quantity of Alcohol Consumed per Day [Units (SD)]	Age in Years at First Use of Alcohol (Mean and SD)
Gender				
Male	87	95.6	21.5(9.7)	19.4 (4.0)
Female	4	4.4	7.5(3.0)	30.8 (6.5)
Religion				
Hindu	78	85.7	20.6(9.9)	19.9 (4.9)
Muslim	3	3.3	18.3(6.5)	22.6 (6.4)
Christian	10	11	23.9(11.1)	19.5 (8.1)
Employment status				
Employed	42	46.2	18.9(8.6)	19.5 (4.0)
Unemployed	48	52.7	22.7(10.9)	20.4 (5.3)
Retired	1	1.1	18.0(-)	20.0 (-)
Educational attainment				
Illiterate	10	11.0	15.3(6.8)	20.6 (8.3)
Primary	24	26.4	23.4(8.1)	17.8 (4.1)
Secondary	26	28.6	19.2(8.9)	20.8 (3.9)
College	9	9.9	30.0(15.3)	19.8 (3.7)
Graduate	22	24.1	19.0(9.2)	21.0 (4.2)
Family history of alcohol abuse				
Present	73	80.2	21.0(9.4)	19.7 (4.6)
Absent	18	19.8	20.5(12.1)	20.8 (5.4)
Residence				
Urban	66	72.5	21.8(10.8)	20.1 (4.9)
Rural	25	27.5	18.5(6.8)	19.6 (4.4)

AUDs: Alcohol Use Disorders.

TABLE 2.
Legal Problems Reported by Patients with AUDs (n = 91)

Legal Problem	n (%)
Detained by police	36 (39.6)
Formal complaint lodged at a police station	21 (23.1)*
Detained in judicial custody	8 (8.8)
Past suicidal attempt	43 (47.3)
Using firearm under intoxication	3 (3.3)
Drink and drive	54 (59.3)
Case filed for drink and drive	11 (12.1)
Met with an accident while driving/riding under intoxication	20 (22)
Involvement in illegal gangs	11 (12.1)
Any legal problems	74 (81.3%)

AUDs: Alcohol Use Disorders.

* The reasons for formal police complaint were assaulting others (14), attempt to murder (3), dowry case (2), cheating (1), and creating public nuisance (1).

absenteeism ($Z = 2.27, P = 0.01$) as compared to those who were employed and were regular at work, respectively (**Table 5**).

There was no significant association between employment status and being detained by police, but the unemployed group was significantly more likely to

using public transport under intoxication (**Tables 2 and 3**). Overall, social problems were more than occupational and legal problems.

Quantity of alcohol consumed per day was significantly more among those who had a history of work absenteeism ($Z = 2.27, P = 0.01$); altercation with spouse ($Z = 2.25, P = 0.02$), another family member ($Z = 1.93, P = 0.05$), or outside family ($Z = 3.40, P < 0.001$); assaulted someone under intoxication ($Z = 2.33, P = 0.02$); travelled in public transport under intoxication ($Z = 2.06, P = 0.03$); financial debts ($Z = 2.87, P < 0.001$); attempted self-harm ($Z = 2.07, P = 0.04$) or sold off their belongings to procure alcohol ($Z = 2.06, P = 0.03$) as compared to those without such adverse consequences (**Tables 4 and 5**).

Quantity of daily alcohol consumption was significantly more among those who were unemployed ($Z = 2.01, P = 0.04$), and those who had a history of work

TABLE 3.
Occupational and Social Problems Reported by Patients with Alcohol Use Disorders (n = 91)

		n (%)	%
Occupational Problem	Work absenteeism	76 (83.5)	
	Unemployment	48 (52.8)	
	Any occupational problems	83 (91.2)	
		n (%)	Police case registered
Social problems	Serious altercation with spouse under intoxication	52 (59.3)	14 (15.4)
	Serious altercation with other family member under intoxication	50 (54.9)	15 (16.5)
	Serious altercation outside family under intoxication	41 (45.1)	15 (16.5)
	Assaulting someone under intoxication	49 (53.8)	16 (17.6)
	Using public transport under intoxication	68 (74.7)	1 (1.1)
	Selling personal belongings for procuring alcohol	23 (25.3)	0
	Financial debt for procuring alcohol	45 (49.5)	1 (1.1)
Any social problem		88 (96.7%)	

have a formal police complaint filed against them (chi-square = 5.7, P value = 0.01). Significant association was also found between being unemployed and having had serious altercation with someone within the family (chi-square = 5.1, P value = 0.02) or outside it (chi-square = 6.8, P value < 0.001) (Table 6).

There was no significant difference in the quantity of alcohol consumed per day between those who had been detained by police, and those who had not been, but the same was significantly more among those who had a formal police complaint registered against them ($Z = 2.02$, $P = 0.04$) (Table 4).

While the average alcohol consumption per day was more among those who had driven a vehicle under intoxication, met with an accident when driving under intoxication, or had a history of a suicidal attempt when compared to those who did not have such adverse consequences, however these differences did not reach statistical significance.

No gender comparison was undertaken, as there were very few female respondents in this sample. All the four were irregular at work and have had an altercation with a family member. Only one female had taken debts for consumption of alcohol, another one had sold off her personal belongings, and another one had attempted suicide under intoxication.

Discussion

There are no standard definitions for work absenteeism and unemployment. So, for the purpose of this study, we considered three months of not having any meaningful job as unemployment, and work absenteeism as being absent from work beyond what would be considered as reasonable (when the patient had a meaningful job in the past).

The majority of our subjects had not studied beyond 12th grade (75.8%), had a history of work absenteeism (83.5%), and were unemployed (52.7%) at the time of the study. AUD, poor academic achievement, and unemployment are interlinked. Youngsters who have academic difficulties are more vulnerable to turn to alcohol use, and persons who begin to consume alcohol early may have serious disruption to their academic performances. Disrupted academic performance will

TABLE 4.

Comparison of Mean Daily Alcohol Consumption Between Those Who Had Legal Problems and Those Who Did Not Have

Legal Problem	Present	Absent	Z	P
	Mean (SD) Daily Alcohol Consumption (in Units)			
Detained by police	23.3 (11.7)	19.3 (8.4)	1.38	0.17
Formal complaint lodged at police station	24.8 (10.8)	19.7 (9.5)	2.02	0.04
Detained in judicial custody	29.1 (10.9)	20.1 (9.5)	2.54	0.01
Past suicidal attempt	23.6 (11.2)	19.4 (10.3)	2.00	0.04
Drink and drive	22.2 (10.2)	19.0 (9.2)	1.52	0.13
Involvement in illegal gangs	23.2 (7.1)	20.6 (10.3)	1.27	0.20

TABLE 5.

Comparison of Mean Daily Alcohol Consumption Between Those Who Had Occupational and Social Problems and Those Who Did Not

Occupational and Social Problems	Present	Absent	Z	P
	Mean Daily Alcohol Consumption (in Units)			
Unemployment	22.7 (10.9)	18.9 (8.6)	2.01	0.04
Work absenteeism	22.1 (10.2)	14.9 (5.9)	2.27	0.01
Serious altercation with spouse under intoxication	22.3 (9.8)	16.9 (7.0)	2.25	0.02
Serious altercation with other family member under intoxication	23.1 (11.3)	18.2 (7.3)	1.93	0.05
Serious altercation outside family under intoxication	24.8 (10.6)	17.8 (8.2)	3.40	<0.001
Assaulting someone under intoxication	23.6 (11.3)	17.8 (7.1)	2.33	0.02
Having financial debts	23.9 (10.3)	18.0 (8.8)	2.87	<0.001
Sold off belongings to procure alcohol	24.5 (10.6)	19.7 (9.5)	2.06	0.03
Using public transport under intoxication	22.4 (9.5)	16.4 (9.9)	2.07	0.04

TABLE 6.

Association Between Employment Status and Legal/Social Problems Faced

		Employed (%)	Unemployed (%)	Chi-Square	P Value
Detained by police	Yes	15 (16.7)	21 (23.3)	0.6	0.44
	No	27 (30.0)	27 (30.0)		
Formal complaint lodged at police station	Yes	5 (5.5)	16 (17.8)	5.7	0.01
	No	37 (41.1)	32 (35.6)		
Serious altercation within the family	Yes	18 (20.0)	32 (35.5)	5.1	0.02
	No	24 (26.7)	16 (17.8)		
Serious altercation outside the family	Yes	13 (14.5)	28 (31.1)	6.8	<0.001
	No	29 (32.2)	20 (22.2)		

mean fewer chances of getting meaningful employment, and unemployment might lead to depression and worsening of alcohol use behavior.^{38-40,43-46} In addition to unemployment, AUD also increases the financial burden on the individual and the family independently. To procure alcohol, almost half the subjects (49.5%) had got into financial debts, and a quarter (25.3%) had sold off their belongings.

Similar to findings of Morin et al., half the respondents in our study reported having attempted self-harm under intoxication. This can be due to preexisting subsyndromal depressive symptoms, financial instability, social stressors, increased impulsivity, or risk-taking behavior.³¹ Since self-harm attempts are in response to severe stress or psychological disturbances, there was a need to decriminalize this behavior, which was rightly done on June 2018 by removing section 309 of the Indian Penal Code (IPC). When this study was conducted in 2017, IPC 309 was in place.

Increased impulsivity and impaired decision-making capacity under alcohol intoxication predispose the individual not only to self-harm but also to be aggressive and violent on others. Like findings of Richardson et al., more than 50% of our sample had assaulted someone while under intoxication and mean daily alcohol consumption was significantly higher among those who had such history when compared to others.⁴⁷

Impaired decision-making under alcohol intoxication, along with multiple other factors like low education and impulsive personality traits, lead to escalated chances of violence in the family setting. This is shown by the fact that almost two in three subjects had frequent altercations with their spouse, with two having legally divorced their spouses. Our finding is comparable to those by Madhivanan et al., where 62.7% of husbands who consumed alcohol inflicted intimate partner violence.¹⁷ In addition, we also found that 50 (54.9%) subjects have had a serious altercation with family members other than the spouse, while intoxicated. Among 78 subjects who were married at least once in their lifetime, only two were divorced. This translates to a mere 2.6%, which is far lower

than the 15.5% that National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) study reported. This might be because of cultural differences where, in India, the spouses tend to remain in a violent marital relationship on account of economic and social reasons.²⁴

All the earlier described situations have the potential to end up in police involvement, either informally or formally (i.e., through a police complaint), which was present in almost 40% and 24% of the sample, respectively. It is difficult to conclude an etiological relationship between alcohol intoxication and police complaint, as patients of AUDs generally have multiple predisposing factors like impulsive traits, financial troubles, anger dysregulation, etc., which can lead to the involvement of police, either formally or informally.

Even though driving under intoxication was very common (59.3%) in our sample, very few had been prosecuted (12.1%) for the same. Similar challenges in the implementation of drink and drive legislation have been mentioned in news reports. One important reason attributed to this is the predictable location of police checkpoints, which drivers who have consumed alcohol can easily avoid.⁴⁸ Although drink and drive laws are strict in the state of Karnataka (where this study was conducted), this finding reflects the inconsistent implementation of the Motor Vehicles (MV) Act. The latest amendment in the MV act has increased the penalty amount by ten times, with a hope to curb violation of traffic rules.

An intoxicated person traveling in public transport can be a nuisance to the co-passengers. In our study, almost three fourth (74.7%) had traveled in public transport under intoxication. There is no specific legislation in India with regard to this except for the Indian Railway Act, which prohibits intoxicated persons from traveling in a railway carriage. We opine that similar legislation be implemented for all the public transport modes.⁵

In our study, only 3 (3.3%) had used firearms under intoxication, easily explained by the relative unavailability of firearms when compared to western countries and the location of our study (South India).

The study had its own limitations. Since we were enquiring about legal and potential legal problems, there are chances that the patients did not disclose everything. Although we excluded subjects with diagnosed personality disorders, subsyndromal personality traits too have an important role to play in the causation of the aforementioned problems. Another important limitation is that we had very few female patients of AUD, the assessment of whom might reveal a different pattern of legal, social, and occupational problems. The study included only inpatients who had a severe form of AUD. A similar study on outpatients might reveal a different pattern. So, the findings of our study cannot be generalized.

It would be worthwhile carrying out further research on different specific sets of samples like women and those with cannabis, opioid, and other SUDs, to derive comparative data on the aforementioned problems across different sets of populations.

Conclusions

To conclude, patients with AUDs face a plethora of legal, social, and occupational problems. A higher quantity of alcohol consumed per day is associated with higher chances of having the aforementioned problems. The relationship between AUD and the aforementioned problems is a vicious cycle, where AUDs worsen the aforementioned problems, and they in turn, further worsen the AUD. There is need to routinely screen patients with AUD for adverse legal, social, and occupational problems. Along with treatments aimed at reducing alcohol use, we should also have targeted interventions to address the aforementioned problems, with the help of a multidisciplinary team, which otherwise will be incomplete management of patients with AUD, and there will be higher chances of relapse and failed rehabilitation of patients. If the assessment and management strategies for the aforementioned problems become a mandatory part of the management of AUD, it will go a long way in reducing the harm to patients and the community at large.

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References

- Pernanen K. Alcohol and crimes of violence. In: Kissin B (Ed.) *Social aspects of alcoholism*. New York: Plenum Press, 1976, 351–444.
- WHO. *Global status report on alcohol and health 2018*. Geneva: WHO, 2018, <https://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf?ua=1> (cited December 15, 2019).
- Anantha Eashwar VM, Umadevi R, and Gopalakrishnan S. Alcohol consumption in India—an epidemiological review. *J Family Med Prim Care* 2020; 9(1): 49–55. delhi.gov.in. [Online], <http://excise.delhi.gov.in/content/frequently-asked-questions-o> (2017, cited May 15, 2017).
- Railways Act 1989. Advocate Khoj. [Online], <http://www.advocatekhoj.com/library/bareacts/railways/145.php?Title=Railways%20Act,%201989&STitle=Drunkenness%20or%20nuisance> (cited May 15, 2017).
- Motor Vehicles Act 1988. Advocate Khoj. [Online]. <https://www.advocatekhoj.com/library/bareacts/motor/index.php?Title=Motor%20Vehicles%20Act,%201988> (cited June 10, 2019).
- Iranpour A and Nakhaee N. A review of alcohol-related harms: a recent update. *Addict Health* 2019; 11: 129–137.
- Drunk driving causes just 1.5% of all accidents: NCRB data. [Online], <http://indianexpress.com/article/india/drunk-driving-causes-just-1-5-of-all-accidents-ncrb-data-4599849/> (2017, cited May 15, 2017).
- NCRB. *Accidental deaths and suicides in India*. New Delhi: Government of India, National Crime Records Bureau, Ministry of Home Affairs, 2015.
- Das A, Gjerde H, Gopalan SS, et al. Alcohol, drugs, and road traffic crashes in India: a systematic review. *Traffic Inj Prev* 2012; 13: 544–553.
- Esser MB, Wadhvaniya S, Gupta S, et al. Characteristics associated with alcohol consumption among emergency department patients presenting with road traffic injuries in Hyderabad, India. *Injury* 2016; 47: 160–165.
- Kumar S, Bansal YS, Singh D, et al. Alcohol and drug use in injured drivers—an emergency room study in a regional tertiary care centre of North West India. *J Clin Diagn Res* 2015; 9: HC01–04.
- Department of Justice. *Alcohol and Crime*. Washington, DC: U.S. Department of Justice, 1998.
- Darke S. The toxicology of homicide offenders and victims: a review. *Drug Alcohol Rev* 2010; 29: 202–215.
- Connor J, You R, and Casswell S. Alcohol-related harm to others: A survey of physical and sexual assault in New Zealand. *N Z Med J* 2009; 122: 10–20.
- McKinney CM, Caetano R, Harris TR, et al. Alcohol availability and intimate partner violence among US couples. *Alcohol Clin Exp Res* 2009; 33: 169–176.
- Madhivanan P, Krupp K, and Reingold A. Correlates of intimate partner physical violence among young reproductive age women in Mysore, India. *Asia Pac J Public Health* 2014; 26: 169–181.
- Brisibe S, Ordinioha B, and Dienye PO. Intersection between alcohol abuse and intimate partner's violence in a rural Ijaw community in Bayelsa State, South-South Nigeria. *J Interpers Violence* 2012; 27: 513–522.
- McKinney CM, Caetano R, Rodriguez LA, et al. Does alcohol involvement increase the severity of intimate partner violence? *Alcohol Clin Exp Res* 2012; 34: 655–658.
- Ernst AA, Weiss SJ, Enright-Smith S, et al. Perpetrators of intimate partner violence use significantly more methamphetamine, cocaine, and alcohol than victims: a report by victims. *Am J Emerg Med* 2008; 26: 592–596.
- Leonard KE and Eiden RD. Marital and family processes in the context of alcohol use and alcohol disorders. *Annu Rev Clin Psychol* 2009; 3: 285–310.
- Marshal MP. For better or for worse? The effects of alcohol use on marital functioning. *Clin Psychol Rev* 2003; 23: 959–997.
- Caces MF, Harford TC, Williams GD, et al. Alcohol consumption and divorce rates in the United States. *J Stud Alcohol* 1999; 60: 647–652.
- Cranford JA. DSM-IV alcohol dependence and marital dissolution: evidence from the National Epidemiologic Survey on Alcohol and Related Conditions. *J Stud Alcohol Drugs* 2014; 75: 520–529.
- Conner KR, MPH, Gunzler D, et al. Test of a clinical model of drinking and suicidal risk. *Alcohol Clin Exp Res* 2011; 35: 60–68.
- Wintemute GJ. Alcohol misuse, firearm violence perpetration, and public policy in the United States. *Prev Med* 2015; 79: 15–21.
- Branas CC, Han S, and Wiebe DJ. Alcohol use and firearm violence. *Epidemiol Rev* 2016 Jan; 38(1): 32–45.
- Schilling EA, Asetline RH Jr, Glanovsky JL, et al. Adolescent alcohol use, suicidal ideation, and suicide attempts. *J Adolesc Health* 2009 Apr; 44(4): 335–341.
- Salvo G L and Castro S A. Association of loneliness, impulsivity and alcohol use with suicidal behavior in adolescents. *Rev Med Chil* 2013 Apr; 41(4): 428–434.
- Schaffer M, Jeglic EL, and Stanley B. The relationship between suicidal behavior, ideation, and binge drinking among college students. *Arch Suicide Res* 2008 Mar; 12(2): 124–132.
- Morin J, Wiktorsson S, Marlow T, et al. Alcohol use disorder in elderly suicide attempters: a comparison study. *Am J Geriatr Psychiatry* 2013 Feb; 21(2): 196–203.
- McGinty EE and Webste DW. The roles of alcohol and drugs in firearm violence. *JAMA Intern Med* 2017 March; 177(3): 324–325.
- Hlady WG and Middaugh JP. Suicides in Alaska: firearms and alcohol. *Am J Public Health* 1988 Feb; 78(2): 179–180.
- Henkel D. Unemployment and substance use: a review of the literature (1990–2010). *Curr Drug Abuse Rev* 2011 Mar; 4(1): 4–27.
- McFarlin SK and Fals-Stewart W. Workplace absenteeism and alcohol use: a sequential analysis. *Psychol Addict Behav* 2002 Mar; 16(1): 17–21.
- Blum TC, Roman PM, and Martin JK. Alcohol consumption and work performance. *J Stud Alcohol* 1993 Jan; 54(1): 61–70.
- Mullahy J and Sindelar J. Employment, unemployment, and problem drinking. *J Health Econ* 1996 Aug; 15(4): 409–434.
- Roche A, Pidd K, and Kostadinov V. Alcohol- and drug-related absenteeism: a costly problem. *Aust N Z J Public Health* 2016 Jun; 40(3): 236–238.
- Jones S, Casswell S, and Zhang JF. The economic costs of alcohol-related absenteeism and reduced productivity among the working population of New Zealand. *Addiction* 1995 Nov; 90(11): 1455–1461.
- French MT, Maclean JC, Sindelar JL, et al. The morning after: alcohol misuse and employment problems. *Appl Econ* 2011; 43(21): 2705–2720.
- University of Kentucky Center on Drug and Alcohol Research. [Online], <http://cdar.uky.edu/Downloads/ASI%20Questionnaire.pdf> (cited November 15, 2016).
- Williams BT and Drummond DC. The Alcohol Problems Questionnaire: reliability and validity. *Drug Alcohol Depend* 1994; 35: 239–243.
- Crosnoe R. The connection between academic failure and adolescent drinking

- in secondary school. *Sociol Educ* 2006; 76: 44–60.
44. Elliott M and Lowman J. Education, income and alcohol misuse: a stress process model. *Soc Psychiatry Psychiatr Epidemiol* 2015; 50: 19–26.
45. Roche AM, Pidd K, Berry JG, et al. Workers' drinking patterns: the impact on absenteeism in the Australian work-place. *Addiction* 2008; 103: 738–748.
46. Mullahy J and Sindelar J. Employment, unemployment, and problem drinking. *J Health Econ* 1996; 15: 409–434.
47. Richardson A and Budd T. Young adults, alcohol, crime and disorder. *Crim Behav Ment Health* 2003; 13: 5–16.
48. Saha D. IndiaSpend. [Online], <http://www.indiaspend.com/cover-story/19-indians-die-daily-in-drink-driving-mishaps-heres-how-that-can-change-25945> (2017, cited August 28, 2018).