PREVALENCE AND PATTERN OF SUBSTANCE ABUSE AMONG DRIVERS IN PUNJAB AND HIMACHAL PRADESH

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ABSTRACT

BACKGROUND

Substance abuse as an epidemic among people in India has assumed alarming dimensions. Substance abuse refers to the harmful or hazardous use of psychoactive substances including alcohol and illicit drugs. Driving Under the Influence (DUI) of drugs is an unspoken danger on the roads. The effects of specific drugs differ depending on how they act in the brain. There is one death every minute in India due to road accidents. Drunken driving is one of the leading causes of road fatalities.

Aim- To study the pattern and prevalence and pattern of substance abuse among drivers in Punjab and Himachal Pradesh.

MATERIALS AND METHODS

A community-based, cross-sectional study was conducted among native drivers of vehicles including goods carriers. One district of each state, i.e. Punjab and Himachal Pradesh were chosen out of convenience.

RESULTS

A total of 328 drivers were included in the study. Alcohol was the most commonly used substance abuse in both states. Prevalence of alcohol in Punjab and Himachal was 40% and 64%, respectively. Age and education was significantly associated with the use of illicit substance of abuse.

CONCLUSION

This study showed that quite a number of drivers do substance abuse and there were significant associations between various risk factors, social factors and substance abuse among the drivers.

KEYWORDS

Substance Abuse, Punjab, Himachal Pradesh, Drivers, Prevalence, Pattern, Risk Factors.

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BACKGROUND

Substance abuse as an epidemic among people in India has assumed alarming dimensions. Changing cultural values, increasing economic stress and dwindling supportive bonds are leading to initiation into substance use.¹ June 26th is celebrated as International Day against Drug Abuse and Illicit Trafficking every year.

Substance abuse refers to the harmful or hazardous use of psychoactive substances including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome- a cluster of behavioural, cognitive and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance and sometimes a physical withdrawal state.²

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According to a 2011 report on drug abuse and alcoholism in Punjab by the Ministry of Youth Affairs and Sports, "a 40 percent of Punjabi youth in the age group of 15 to 25 years have fallen prey to drugs."³ Golden Crescent- they call it. It is the route through which the drug cartels enter India, mainly Punjab. The clandestine land routes of Iran, Afghanistan and Pakistan collectively constitute the Golden Crescent, also called the silk route of drugs. Heroin, poppy husk, opium and synthetic drugs are the four kinds of drugs entering India.⁴ Household surveys have shown that 65 percent households in Majha and Doaba have at least one drug user, similarly 64 percent families in Malwa have at least one drug abuse case.⁵ In 2013, the BSF has recovered nearly 390 kgs of Heroin, almost four times the amount seized in 2008.⁶ In 2013 - 14, the Customs Department of Punjab has seized 74.672 kgs valued at Rs. 374.05 crores found concealed in the Samjhauta Express and Goods Train coming from Pakistan.⁷ As per a survey conducted by the Guru Nanak Dev University, some 73.5 percent of the state's youth between 16 - 35 years were drug addicts.⁸

On the other hand, Malana and Kasol (District Kullu) have been preferred destinations for many, who visit the place in huge numbers. Cannabis has always been grown in this area, but was meant for personal consumption and has great level of social acceptance. The local culture, which is guided to a great extent by belief in 'devta' (Almost every village in Himachal has their own local deities and all major decisions are taken with their permission), treats cannabis as 'shiv ji ki

buti' and does not see cannabis production as something wrong.⁹ Despite police efforts, illegal drug trade is rising in Himachal Pradesh; 1,914 cases were registered in the state since 2011 (up to April 30, 2014) under Narcotics Drugs and Psychotropic Substances Act (NDPS). Narcotics Control Bureau, North Zone, Chandigarh, estimated around 60 tonnes of charas is produced in the state annually. The report said that cannabis plantations exist in Parbati valley, Avgal Thach area, some 15 kms from Malana, Brona Nullah area towards Khirganga, Tosh and Barshaini.¹⁰

Driving Under the Influence (DUI) of drugs is an unspoken danger on the roads. There has been an alarming increase in the number of drivers causing road traffic accidents with many of them being under the influence of one or the other substances of abuse. The effects of specific drugs differ depending on how they act in the brain. For example, marijuana can slow reaction time, impair judgment of time and distance, and decrease coordination. Drivers who have used cocaine or methamphetamine can be aggressive and reckless when driving. Certain kinds of sedatives called benzodiazepines can cause dizziness and drowsiness. All of these impairments can lead to vehicle crashes.¹¹ It is important that car accidents caused by drugged driving due to not only illegal substances, but prescribed and non-prescribed over-the-counter medications - are stopped and that the dangers of this kind of DUI are taken seriously.¹² According to a report published by NDTV over 1,37,000 people were killed in road accidents in 2013 alone, that is more than the number of people killed in all our wars put together with 16 children dying on Indian roads daily. There is one death every minute in India due to road accidents. Drunken driving is one of the leading causes of road fatalities.^{13,14} According to another report published in The Hindu, a vast 70 percent of fatalities in road accidents were due to drunken driving, thus questions are being raised on the mushrooming growth of liquor vends along the highways.

This study therefore is aimed at determining the prevalence and pattern of substance use among drivers in Dist. Bathinda, Punjab and Dist. Kullu, Himachal Pradesh and the factors influencing the same.

Aim and Objective

Aim

To study the prevalence and pattern of substance abuse among drivers in Punjab and Himachal Pradesh.

Objectives

1. To study the prevalence and pattern of substance abuse among drivers.
2. Compare the prevalence and pattern of substance abuse between Dist. Bathinda, Punjab and Dist. Kullu, Himachal Pradesh.
3. To study association of various risk factors with substance abuse.
4. To assess knowledge, attitude and risk behaviours associated with substance abuse and driving.

MATERIALS AND METHODS

Study Design

A community-based, cross-sectional study was conducted among native drivers of all vehicles including goods carriers,

at halting places. One district of each state, i.e. Punjab and Himachal Pradesh were chosen out of convenience. The participants were included in the study in both the districts till the desired sample size was obtained.

Unit of Study

Drivers of various vehicles. Clearance from AIMSR Research Committee and Adesh University Ethics Committee was taken before the conduction of study. Ethical clearance from Civil Surgeon (Chief Medical Officer), Zonal Hospital, Dist. Kullu, Himachal Pradesh was also taken and predesigned questionnaire was introduced to the participants.

Sample Size

According to a study conducted by Makanjuola AB, Department of Behavioural Sciences, University of Ilorin Teaching Hospital, Ilorin, Nigeria use prevalence of psychoactive substances was alcohol (71.6%), tobacco (69.8%), caffeine (50.9%), amphetamine (2.4%) and sedatives (6.9%).¹⁵

To Calculate Sample Size following Formula was used-

$$N = [Z^2 P (1-P)] / [d^2]$$

Talking prevalence of alcohol usage, 71.6% according to the above study, our sample size came out to be a minimum of 325.25.

Verbal consent was taken from all the drivers and anonymity was maintained.

Participants

- Inclusion Criteria: Subjects who were willing to participate in the study.
- Exclusion Criteria: Subjects who were not willing to participate in the study.

Sampling Method

Convenient sampling was used in this study, in which two districts were chosen according to the working place. One day a week was randomly selected to conduct the study at various halting places in both the states. The study was conducted for two months in each in District Bathinda and District Kullu and all the subjects who gave consent to participate in the study on that particular day were included. The study was conducted from 9 am to 5 pm and was continued till the desired sample size was obtained. Thus, the place of study was chosen as per convenience and the days were chosen by randomly and all the subjects willing to participate were included in the study on these days.

Statistical Methods

Percentages, frequencies, mean, median, mode, standard deviation, Chi Square test, Univariate logistic regression and Multivariate logistic regression were used to analyse the results on this study. IBM SPSS Version 20 was used to analyse the study.

RESULTS

A total of 328 drivers were included in the study. This includes 164 participants from District Bathinda, Punjab and 164 from District Kullu, Himachal Pradesh. The demographic data of the participants of this study is given in Table 1;

70.7% of the participants from Punjab were in the age range of 18 to 28 years as compared to 44.5% of Himachal Pradesh; 54.9% from Punjab and 61.6% from Himachal Pradesh belonged to rural areas and the remaining from urban sector. The illiteracy was comparatively less in Himachal with 6.7% participants being illiterate. There were only 22.6% graduates or above in Himachal; 81.1% of the participants from Punjab and 69.5% from Himachal had 4 or more family members.

Table 2 shows the professional details of all the drivers from both the states. There were a few participants who were not holding any driving license, both in Punjab and Himachal (4.9% and 2.4%, respectively). There were more number of challans of the vehicles in Himachal as compared to Punjab (28.7% and 11.6%, respectively). On the contrary, more number of driving license were revoked in Punjab (5.5%) as compared to 1.8% (3 participants) in Himachal.

Alcohol was the most commonly used substance abuse in both states. Prevalence of alcohol in Punjab and Himachal was 40% and 64%, respectively. Tobacco smoking was more prevalent in Himachal with prevalence of 43.3% as compared to 9.1% in Punjab. Tobacco chewing was also more common in Himachal than Punjab, prevalence being 14% and 6.7% respectively. Marijuana users were more in the Himachal with 19 of the participants as the users and with a prevalence of 11.6%. Bhukki/Afeem/Opium was more prevalent in Himachal. Prevalence of opium in Himachal and Punjab being 10.4% and 6.7%, respectively. Heroin users were equitably distributed in both the states with 4 users in each. Figure 1 shows the prevalence of various substance abuses.

Table 3 shows associations of various variable with substance abuse. The study found out that the drivers in the age group of 28 - 48 years were significantly (p value < 0.001) more into substance abuse as compared to other age groups. The drivers with income < 10,000 Rs. were more into substance abuse, while drivers who were educated only up to high school were more likely associated with substance abuse as compared to those who were more educated. Higher number of family members and drivers of heavy vehicles were also significantly associated with substance abuse; 66 drivers got themselves challan'd in the past one year, out of which 53 were some kind of substance abusers, i.e. about 80% of the drivers who got challan'd quoted yes to substance abuse.

Table 4 shows the pattern and behaviour of drivers in two states and many variables were found to have significant differences in their behaviour and pattern of substance abuse. Table 5 shows regression analysis of various variables with substance abuse as dependent variable. As the age increased, the proneness into substance abuse increased. Drivers aged 48 to 68 years were 48.22 times more prone to substance abuse as compared to 18 to 28 years drivers when analysed using multivariate logistic regression, (p value < 0.001) and 10.855 times more susceptible when using univariate logistic regression (p value < 0.001). Drivers with primary and middle school education were also 93.595 (p value < 0.001) and 15.550 (p value = 0.010) times more prone to substance abuse as compared to illiterate drivers using multivariate logistic regression. Bus and truck drivers were 15.39 times more into use of these substances of abuse as compared to

three wheel/auto-rickshaw drivers, who were taken as reference (p value= 0.013). Drivers with no driving license were 100.407 times more into abuse as compared to two-wheeled license holders (p value= 0.003). Driver who were challan'd in the past one year were 16.294 times more into abuse (p value < 0.001) using multivariate regression analysis and 3.608 times more using univariate logistic regression (p value < 0.001). Univariate logistic regression of multiple sex partners as independent variable showed that the ones indulging into the same were 4.078 times more into substance abuse.

Age in Years	Punjab (n=164)	% (Punjab)	H.P. (n=164)	% (HP)
18 - 28	116	70.7	73	44.5
28 - 48	40	24.4	61	37.2
48 - 68	6	3.7	27	16.5
> 68	2	1.2	3	1.8
Sex				
Male	143	87.2	154	93.9
Female	21	12.8	10	6.1
Area				
Rural	90	54.9	101	61.6
Urban	74	45.1	63	38.4
Religion				
Sikh	92	56.1	6	3.7
Hindu	62	37.8	131	79.9
Muslim	4	2.4	14	8.5
Christian	2	1.2	7	4.3
Buddhist	0	0	3	1.8
Others	4	2.4	3	1.8
Income Per Month in Rupees				
> 30,000	57	34.8	32	19.5
20,000 to 29,999	56	34.1	13	7.9
10,000 to 19,999	35	21.3	26	15.9
0 to 9999	16	9.8	93	56.7
Education				
Illiterate	14	8.5	11	6.7
Can read only	7	4.3	4	2.4
Can read and write	13	7.9	9	5.5
Primary School	12	7.3	26	15.9
Middle School	25	15.2	11	6.7
High School	29	17.7	66	40.2
Graduate and above	64	39	37	22.6
Family Members				
Stay alone	2	1.2	7	4.3
2 Members	7	4.3	3	1.8
3 Members	22	13.4	40	24.4
4 or More	133	81.1	114	69.5

Number of Children				
1 Child	32	19.5	44	26.8
2 Children	70	42.7	79	48.2
3 Children	19	11.6	15	9.1
4 or More	6	3.7	20	12.2
None	37	22.6	6	3.7
Keep away from Family				
Meet Family Daily	64	39	37	22.6
For Days	66	40.2	86	52.4
For Weeks	8	4.9	28	17.1
For Months	26	15.9	13	7.9
Table 1. Demographic Profile of Participants				

	Punjab (n=164)	% (Punjab)	HP (n=164)	% (HP)
Type of Driving License				
Two-Wheeler	5	3	4	2.4
LMV	116	70.7	77	47
HMV	35	21.3	79	48.2
No License	8	4.9	4	2.4
Type of Vehicle				
Three-Wheeler	5	3	8	4.9
Private Car	108	65.9	57	34.8
Taxi	11	6.7	40	24.4
Bus	8	4.9	7	4.3
Truck	30	18.3	11	6.7
Heavy Vehicle (> 6 Wheels)	2	1.2	41	25
Duration of Driving				
< 1 Year	3	1.8	6	3.7
1 to 5 Years	83	50.6	25	15.2
5 to 10 Years	54	32.9	27	16.5
> 10 Years	24	14.6	106	64.6
Challan History				
Yes	19	11.6	47	28.7
No	145	88.4	117	71.3
License Revoked				
Yes	9	5.5	3	1.8
No	155	94.5	161	98.2
Expenditure per Month on Substance Abuse				
Do not do substance abuse	84	51.2	52	31.7
2000 to 3999	45	27.5	80	48.7
2000 to 3999	19	11.6	17	10.4
4000 to 5999	14	8.5	7	4.3
More than 6000	2	1.2	8	4.9
Table 2. Professional Profile of Drivers				

Figure 1. Prevalence of Various Substance Abuse in Himachal and Punjab

Variables		Substance Abuse			P Value
		Yes %	No %	Total %	
Age	18 to 28 Years	83 (25.3%)	106 (32.3%)	189 (57.6%)	p<0.001
	28 to 48 Years	75 (22.9%)	26 (7.9%)	101 (30.8%)	
	48 to 68 Years	29 (8.8%)	4 (1.2%)	33 (10.1%)	
	> 68 Years	5 (1.5%)	0 (0%)	5 (1.5%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Area	Rural	109 (33.2%)	82 (25.0%)	191 (58.2%)	p>0.05 (0.524)
	Urban	83 (25.3%)	54 (16.5%)	137 (41.8%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Income per month in Rupees	> 30,000	49 (14.9%)	40 (12.2%)	89 (27.1%)	p<0.05 (0.026)
	20,000 to 29,999	40 (12.2%)	29 (8.8%)	69 (21.0%)	
	10,000 to 19,999	28 (8.5%)	33 (10.1%)	61 (18.6%)	
	0 to 9999	75 (22.9%)	34 (10.4%)	109 (33.2%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Education	Illiterate	15 (4.6%)	10 (3.0%)	25 (7.6%)	p<0.001
	Can Read Only	7 (2.1%)	4 (1.2%)	11 (3.4%)	
	Can Read and Write	10 (3.0%)	12 (3.7%)	22 (6.7%)	
	Primary School	35 (10.7%)	3 (0.9%)	38 (11.6%)	
	Middle School	24 (7.3%)	12 (3.7%)	36 (11.0%)	
	High School	55 (16.8%)	40 (12.2%)	95 (29.0%)	
	Graduate and Above	46 (14.0%)	55 (16.8%)	101 (30.8%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Number of Family Members	Stay Alone	4 (1.2%)	5 (1.5%)	9 (2.7%)	p<0.01 (0.002)
	2	8 (2.4%)	2 (0.6%)	10 (3.0%)	
	3	48 (14.6%)	14 (4.3%)	62 (18.9%)	

	4 or More	132 (40.2%)	115 (35.1%)	247 (75.3%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Type of Vehicle Driven	Three-Wheeler	7 (2.1%)	6 (1.8%)	13 (4.0%)	p<0.001
	Private Car	89 (27.1%)	76 (23.2%)	165 (50.3%)	
	Taxi	26 (7.9%)	25 (7.6%)	51 (15.5%)	
	Bus	15 (4.6%)	0 (0.0%)	15 (4.6%)	
	Truck	19 (5.8%)	22 (6.7%)	41 (12.5%)	
	Heavy Vehicle (> 6 Wheels)	36 (11.0%)	7 (2.1%)	43 (13.1%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Challan History	Yes	53 (16.2%)	13 (4.0%)	66 (20.1%)	p<0.001
	No	139 (42.4%)	123 (37.5%)	262 (79.9%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	
Duration One Keeps Away from Family	Meet Family Daily	55 (16.8%)	46 (14.0%)	101 (30.8%)	p>0.05 (0.059)
	For Days	89 (27.1%)	63 (19.2%)	152 (46.3%)	
	For Weeks	28 (8.5%)	8 (2.4%)	36 (11.0%)	
	For Months	20 (6.1%)	19 (5.8%)	39 (11.9%)	
	Total	192 (58.5%)	136 (41.5%)	328 (100.0%)	

Table 3. Associations with Various Variables

Variable		Punjab	HP	Total	P value
Had Alcohol in the Past 1 Year	Yes	80 (24.4%)	112 (34.1%)	192 (58.5%)	P < 0.001
	No	84 (25.6%)	52 (15.9%)	136 (41.5%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Frequency of Alcohol	Daily	7 (2.1%)	30 (9.1%)	37 (11.3%)	P<0.001
	2 - 4 Times a Week	43 (13.1%)	57 (17.4%)	100 (30.5%)	
	Once Weekly	9 (2.7%)	16 (4.9%)	25 (7.6%)	
	Monthly or Less	21 (6.4%)	9 (2.7%)	30 (9.1%)	
	Never	84 (25.6%)	52 (15.9%)	136 (41.5%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Use Pharmaceutical Drug Abuse	Yes	3 (0.9%)	4 (1.2%)	7 (2.1%)	p>0.05 (=0.702)
	No	161 (49.1%)	160 (48.8%)	321 (97.9%)	
	Total	164 (50%)	164 (50%)	328 (100%)	

Used I/V Drugs	Yes	157 (47.9%)	24 (7.3%)	181 (55.2%)	p<0.001
	No	7 (2.1%)	140 (42.7%)	147 (44.8%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Sighted for Impaired Driving	Yes	3 (0.9%)	3 (0.9%)	6 (1.8%)	p>0.05
	No	161 (49.1%)	161 (49.1%)	322 (98.2%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
You/Some one Injured because of Substance Abuse in last 1 Year	Yes	15 (4.6%)	11 (3.4%)	26 (7.9%)	p>0.05 (=0.414)
	No	149 (45.4%)	153 (46.6%)	302 (92.1%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Road Accident under Substance Abuse in last 1 Year	Yes	8 (2.4%)	22 (6.7%)	30 (9.1%)	p<0.01 (=0.007)
	No	156 (47.6%)	142 (43.3%)	298 (90.9%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Committed any Crime under Substance Abuse in last 1 Year	Yes	5 (1.5%)	31 (9.5%)	36 (11%)	p< 0.001
	No	159 (48.5%)	133 (40.5%)	292 (89%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Multiple Sex Partners	Yes	6 (1.8%)	41 (12.5%)	47 (14.3%)	p<0.001
	No	158 (48.2%)	123 (37.5%)	281 (85.7%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Gambling	Yes	35 (10.7%)	18 (5.5%)	53 (16.2%)	p<0.05 (=0.011)
	No	129 (39.3%)	146 (44.5%)	275 (83.5%)	
	Total	164 (50%)	164 (50%)	328 (100%)	
Had H/O TB	Yes	4 (1.2%)	7 (2.1%)	11 (3.4%)	p>0.05 (0.358)
	No	160 (48.8%)	157 (47.9%)	317 (96.6%)	
	Total	164 (50%)	164 (50%)	328 (100%)	

Table 4. Comparison of Pattern and Behaviour of Drivers between the Two States

Covariates	Substance Abuse		Univariate Logistic Regression		Multivariate Logistic Regression	
	Yes	No	P value	OR (95% Confidence Interval)	P value	OR (95% Confidence Interval)
Age			< 0.001		< 0.001	
18 to 28 years	83 (25.3%)	106 (32.3%)		1		1
28 to 48 years	75 (22.9%)	26 (7.9%)	< 0.001	3.684 (2.167-6.262)	0.175	1.879 (0.756-4.672)
48 to 68 years	34 (10.4%)	4 (1.2%)	< 0.001	10.855 (3.705-31.810)	< 0.001	48.222 (7.053-329.717)
Area						
Urban	83 (25.3%)	54 (16.5%)		1		1
Rural	109 (33.2%)	82 (25.0%)	0.524	1.156 (0.740-1.807)	0.021	3.247 (1.198-8.804)
Income			0.029		0.141	
> 30,000	49 (14.9%)	40 (12.2%)		1		1
20,000 - 29,999	40 (12.2%)	29 (8.8%)	0.714	1.126 (0.597-2.124)	0.331	1.783 (0.556-5.713)
10,000 - 19,999	28 (8.5%)	33 (10.1%)	0.271	0.693 (0.360-1.332)	0.113	0.373 (0.110-1.265)
< 10,000	75 (22.9%)	34 (10.4%)	0.048	1.801 (1.006-3.222)	0.912	1.070 (0.322-3.557)
Education			0.002		<0.001	
Illiterate	15 (4.6%)	10 (3.0%)		1		1
Can Read Only	7 (2.1%)	4 (1.2%)	0.837	1.167 (0.269-5.054)	0.016	21.857 (1.772-269.589)
Can Read and Write	10 (3.0%)	12 (3.7%)	0.320	0.556 (0.174-1.771)	0.412	0.397 (0.044-3.614)
Primary School	35 (10.7%)	3 (0.9%)	0.005	7.778 (1.871-32.337)	<0.001	93.595 (7.819-1120.346)
Middle School	24 (7.3%)	12 (3.7%)	0.594	1.333 (0.463-3.843)	0.010	15.550 (1.909-126.637)
High School	55 (16.8%)	40 (12.2%)	0.849	0.917 (0.373-2.250)	0.195	3.360 (0.537-21.030)
Graduate and Above	46 (14.0%)	55 (16.8%)	0.199	0.558 (0.229-1.359)	0.472	2.113 (0.276-16.200)
Number of Family Members			0.004		0.211	
Stay Alone	4 (1.2%)	5 (1.5%)		1		1
2 Members	8 (2.4%)	2 (0.6%)	0.121	5.000 (0.655-38.152)	0.852	1.364 (0.052-35.857)
3 Members	48 (14.6%)	14 (4.3%)	0.048	4.286 (1.012-18.148)	0.961	1.067 (0.078-14.527)
4 or More	132 (40.2%)	115 (35.1%)	0.597	1.435 (0.376-5.470)	0.400	0.357 (0.032-3.932)
Vehicle Type			0.14		<0.001	
3-Wheeler	7 (2.1%)	6 (1.8%)		1		1
Car/Taxi	115 (35.1%)	101 (30.8%)	0.966	0.976 (0.318-2.999)	0.834	1.241 (0.165-9.349)
Bus/Truck	70 (21.3%)	29 (8.8%)	0.225	2.069 (0.640-6.687)	0.013	15.139 (1.769-129.535)
License Type			0.132		<0.001	
Two-Wheeler	7 (2.1%)	2 (0.6%)		1		1
LMV	103 (31.4%)	90 (27.4%)	0.170	0.327 (0.066-1.614)	0.341	3.348 (0.279-40.243)
HMV	74 (22.6%)	40 (12.2%)	0.440	0.529 (0.105-2.665)	0.512	0.438 (0.037-5.151)
No License	8 (2.4%)	4 (1.2%)	0.579	0.571 (0.079-4.128)	0.003	100.407 (4.663-2161.942)
Challan'd in the last 1 Year						
No	139 (42.4%)	123 (37.5%)		1		1
Yes	53 (16.2%)	13 (4.0%)	<0.001	3.608 (1.877-6.934)	<0.001	16.294 (4.704-56.442)
How Long Drivers are Away from Home			0.084		0.180	
Meet Family Daily	55 (16.8%)	46 (14.0%)		1		1
For Days	89 (27.1%)	63 (19.2%)	0.519	1.182 (0.711-1.963)	0.411	1.571 (0.535-4.613)
For Weeks	28 (8.5%)	8 (2.4%)	0.16	2.927 (1.217-7.043)	0.704	1.353 (0.284-6.438)
For Months	20 (6.1%)	19 (5.8%)	0.880	(0.420-1.845)	0.136	0.333 (0.078-1.415)
Multiple Sex Partners						
No	153 (46.6%)	128 (39.0%)		1		1
Yes	39 (11.9%)	8 (2.4%)	0.001	4.078 (1.840-9.042)	0.542	1.589 (0.359-7.038)
Friends or Family do Substance Abuse						
No	84 (25.6%)	117 (35.7%)		1		1
Yes	108 (32.9%)	19 (5.8%)	<0.001	7.917 (4.512-13.894)	<0.001	32.213 (11.489-90.317)

Table 5. Regression Analysis (Combined for Punjab and Himachal Pradesh)

Figure 2. Reasons for Substance Abuse (In Percentage)

DISCUSSION

Historically, roadside surveys have been conducted as a means to obtain an objective, scientifically valid estimate of the extent of driving after drinking within specified geographic and temporal parameters. Drink or use drugs and drive, and the results can be deadly. In addition to thousands of injuries, several hundred people die every year because of the same. This study gave a snapshot of pattern and prevalence of substance abuse among drivers in Punjab and Himachal, and it also provided inputs on the factors associated with substance abuse.

This study found out that alcohol was the most common substance abuse used both in Punjab (40%) as well as Himachal Pradesh (60%). Tobacco smoking was more prevalent in Himachal (43.3%). Tobacco chewing, Marijuana and Opium was also more prevalent in Himachal Pradesh as seen in Figure II. Age and income of drivers was significantly associated with substance abuse. Drivers who attended school were also into substance abuse. There was a significant association between the drivers who got challan'd and those who used substance abuse. A similar study was conducted by Nigeriaky Makanjuola et al, which showed that most psychoactive substances among Long Distance Vehicle (LDV) drivers were mild stimulants (31.9%), cigarette (30.4%), anabolic steroid (27.5%) and alcohol (15.9%).¹⁶

Another study conducted by L Morrison et al on personal and situational influences on drink driving showed that drivers with lower socioeconomic status or with no school qualification or those who were dependent on alcohol or marijuana at age 21 were significantly more likely to report drunken driving incidence at age 26.¹⁷

In our study, the prevalence of substance abuse increased as the age group advances. Drivers from both rural and urban sectors took part in the study; however, the substance abuse was higher in the rural background. It was observed that most of the drivers had family size of 4 or more members with many of them having 2 children. Most of the drivers from both states kept away from their families for days. The participating drivers were mostly holding Light Motor Vehicle (LMV) driving license. Ashish Das et al in his review of studies concluded that as many as 23 studies reported use of alcohol by drivers during driving. The study analysed that 2% - 33% of injured and 6% - 48% of killed Road Traffic Crash victims had consumed alcohol or were under the influence of drugs.¹⁸ Another study Nilambar Jha et al stated that 14.9% of Road Traffic Accident (RTA) victims coming to hospitals had consumed alcohol.¹⁹

The problem of substance abuse remains a grave issue in both the states. The study found out that there was more prevalence of substance abuse in Himachal Pradesh than in Punjab. Our study also found out significant association between various associated risk behaviours and substance abuse among drivers. Drivers with no license, heavy vehicle drivers (Bus/truck) and those drivers who had family history of substance abuse were significantly more prone to substance abuse. More such studies are needed to be conducted to get clearer picture of this menace, not only amongst drivers but also among others in the community.

CONCLUSION

This study showed that quite a number of drivers do substance abuse and there were significant associations between various risk factors, social factors and substance abuse among the drivers. Blood alcohol levels should be regularly monitored by the traffic police and strict enforcement of Motor Vehicle Act on drunk driving should be done. Those found under influence of any substance abuse should be given strict and swift punishment. Driver education courses should be made more approachable and taught seriously, as they are not only responsible for their own lives but also of their co-passengers and the pedestrians. For safety of the drivers under influence of any substance abuse must be regularly identified, removed from the road, provide effective treatment and bring in them the behaviour change before permitting them to drive. The need of the hour is- "Drive Slow- Reach Safely" and not the race with devil to reach the tomb prematurely.

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