



Association of Cannabis Abuse with Psychiatric Morbidity Among the HTV Drivers of AJK

Azhar Ali^{1*}, Usama Bin Zubair², Fahad Ali Kazmi³, Abrar Khan⁴, Khalil Azam Afridi⁵ and Rabia Asghar⁶

Abstract

Objective: To assess the prevalence of cannabis abuse and its association with psychiatric morbidity among the Heavy Traffic Vehicle (HTV) drivers of Azad Jammu Kashmir (AJK).

Study design: Cross sectional study design was used.

Subjects and Methods: One hundred and five HTV drivers working in different parts of the AJK were included in the analysis. Drug Abuse Screening Test (DAST-10) was used to assess the presence and severity of cannabis abuse whereas psychiatric morbidity was assessed by using the General Health Questionnaire-12 (GHQ-12). Association of age, persistent night shift driving, marital status, psychiatric morbidity, number of working hours per week, number of leaves availed in last one month, worry about future, education, level of family income, contact with sexual workers and tobacco smoking was studied with the use of cannabis.

Results: A total of 105 drivers were screened via DAST-10, 26.6% had no signs of cannabis abuse while 73.4% had clinically significant level of abuse. Tobacco smoking, not worrying about the future, contact with the sexual workers and presence of psychiatric morbidity had significant association with the cannabis abuse when binary logistic regression analysis was done.

Conclusion: Our study analysis revealed a high prevalence of cannabis abuse among the HTV drivers of AJK. Drivers with comorbid tobacco use and those in contact with the sexual workers should be screened on priority for the presence of substance use. Presence of psychiatric morbidity emerged as independent risk factor related to the cannabis use among the HTV drivers of AJK.

Keywords

HTV drivers; Cannabis abuse; DAST-10; Psychiatric morbidity

Introduction

Around 2.5% of the world population has been using cannabis and this trend is rising around the globe [1]. Situation in our part of the world is also the same. 4% of population in Pakistan and 3.2% in Azad Jammu Kashmir (AJK) have been found using the cannabis or related compounds [2]. Various mental health conditions have been found to be linked with the use of cannabis, such as anxiety, depression [3] and psychotic illnesses [4,5].

Being the professional driver of heavy traffic vehicles (HTV) is a common but challenging job which exposes one to the various risks including physical as well as mental [6,7]. Past studies on HTV drivers all over the world have shown an increased trends of illicit drug use among them [8,9].

In a recent study done in USA, 43.9% of the males and 8.7% of the females drove after using the cannabis [10]. Another similar study done in Pakistan showed that 30% of the commercial drivers used cannabis during their job [11]. Fallor concluded that drivers who drive after cannabis or alcohol use are at a greater risk of having psychiatric illness as compared to non-users. They also proposed that both these parameters increase the chance of road traffic accidents [12]. Cannabis abuse if continued for more time can lead to distress intolerance [13] and disturbed quality of life [14] which may not be suitable for a better occupational outcome [15].

Mental health issues are also commonly linked with cannabis abuse [3-5]. Cannabis abuse may be a cause or a consequence of underlying psychiatric illness [16] so screening these people may be useful in early detection and treatment of the co morbid psychiatric disorders.

Level of religiosity, younger age, marital status [17], and type of vehicles, ethnicity and stress while driving [11] have been associated with the use of cannabis among the HTV drivers in various past studies. These factors individually or combined may incline a driver towards cannabis use by physiological, psychological or social reasons.

A study has been done in the past in our local population regarding prevalence of cannabis and alcohol use among the HTV drivers [18] but HTV drivers of AJK have not been assessed so far for the cannabis abuse and its relationship with psychiatric morbidity and other socio demographic factors. Our study was designed with the objective to investigate the frequency of cannabis abuse among the heavy traffic vehicle drivers of this hostile terrain and identify its relationship with psychiatric well-being and social and demographic factors.

Subjects and Methods

Cross-sectional study design was adopted and the study was conducted among the professional HTV drivers of AJK between May-July 2017. Screening was performed on all the HTV drivers who gave consent to participate in the study. Exclusion criteria were drivers who did not consent to or those with a past or current history of any psychiatric or chronic physical illness (DM, IHD, HTN, RA or other diseases of chronic nature) or with a past or current history of alcohol or poly substance abuse. Drivers who could not read or understand the required psychometrics were also excluded.

Instruments

Drug Abuse Screening Test-10 (DAST-10): We used the Drug Abuse Screening Test-10 (DAST-10) which is a validated tool to study the cannabis abuse. A global sum of "3" or more indicates the likelihood of substance abuse or dependence.

General Health Questionnaire 12 (GHQ-12): It is a reliable and

*Corresponding author: Azhar Ali, Assistant Professor Psychiatry, Poonch Medical College Rawalakot, Pakistan, Tel: 03358299766; Email: dr.azhar81@gmail.com

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validated tool to assess the wellbeing of an individual. It consists of 12 simple items and like score greater than 4 indicates the presence of psychiatric morbidity.

Procedure

Consent of the participants was obtained after giving them a detailed overview of the objectives of the study in their own language. Ethical review board of Poonch Medical College Rawalakot was approached for the provision of ethical approval for this study. Subjects with confounding variables like presence of chronic physical or mental illness or poly substance use were identified by detailed history taking and then were excluded from the study. The DAST-10 and GHQ questionnaires were administered to the participants and were asked to answer the questions keeping in mind their condition during last 30 days. Social and demographic variables were also acquired in the structured proforma and included the age, persistent night shift driving, marital status, no. of working hours per week, no. of leaves availed in last one month, worry about future, education, level of family income, use of naswar, contact with sex workers and tobacco smoking. Cut off age was 45, above which subjects were labeled as high risk [18]. Family income was considered the sum of all the incomes which were gathered by all working family members at the end of each month [19]. History of tobacco smoking was asked in detail from the participants. Working hours more than 60 hours per week were taken as high-risk group according to the design of a recent study [20]. The socio demographic data of the full sample of subjects participating in the research was entered in a structured performa.

Statistical analysis

Descriptive statistics were used to describe the DAST-10 score in different categories according to the study design. Study participants were categorized into having significant abuse or no abuse. Between-group variances in categorical correlates was determined by using the chi-square. Factors related to cannabis abuse were assessed by using the binary logistic regression analysis. Differences between groups were considered significant if p-values were less than or equal to 0.05.

Results

One hundred and fifty HTV drivers were asked to join in this study. 25 people refused to be the participants and 15 were ineligible according to the exclusion criteria (3 were poly substance users, 2 had valvular heart disease, 2 had RA, 3 had HTN and 5 had DM). After joining the study, an additional 5 were excluded for not providing the complete data, leaving 105 participants who were included in the final analysis. Out of 105, 26.6% had no signs of cannabis abuse while 73.4% had significant abuse or dependence. As shown in Table 1 tobacco smoking, not worrying about the future, contact with the sex workers and presence of psychiatric morbidity were significantly related to cannabis abuse when chi-square was applied. Table 2 shows that not worrying about the future, contact with the sex workers and presence of psychiatric morbidity had significant association with cannabis abuse when regression analysis was done.

Table 1: Characteristics of the study group and their DAST-10 scores.

Socio demographic factors	Subjects with abuse or dependence (DAST-10<3)		Subjects with abuse or dependence (DAST-10>3)		χ ²	P-value
	N	%	N	%		
Total	28	26.6	77	73.4		
Age						
45 year or less	23	82.1	59	76.6	0.366	0.606
>45	05	17.9	18	23.4		
Persistent night shift driving						
No	15	53.5	53	68.8	2.095	0.17
Yes	13	46.5	24	31.2		
Family income						
Less than outgoings	03	10.7	21	27.3	3.193	0.113
More than or equal to outgoings	25	89.3	56	72.7		
Worry about future						
No	08	28.6	48	62.3	9.406	0.004
Yes	20	71.4	29	37.7		
Working hours per week						
<60	09	22.1	25	32.4	0.001	1
60 or more	19	67.9	52	67.6		
Marital Status						
Married	26	92.8	73	94.8	0.145	0.656
Unmarried	02	7.2	04	5.2		
Contact with sexual workers						
No	19	67.9	25	32.4	10.563	0.002
Yes	09	22.1	52	67.6		
Tobacco smoking						
Non Smoker	02	7.7	23	29.9	5.847	0.019
Smoker	26	92.3	54	70.1		
No. of leaves in last one month						
<5 days	20	71.4	50	64.9	0.39	0.642
5days or more	08	28.6	27	35.1		
Education						
Less than 10th grade	26	92.3	65	84.4	1.266	0.344
10th grade or more	02	7.7	12	15.6		
GHQ-12 score						
<4	18	64.3	25	32.4	8.597	0.006
4 or more	10	35.7	52	67.6		

Table 2: The correlated factors relating to cannabis abuse in the binary logistic regression analysis.

	B	p-value	OR (95% CI)
Age(ref. is >45 years)	-0.08	0.938	0.923(0.124-6.900)
Persistent night shift driving(ref. is no night shift driving)	-1.569	0.34	0.559 (0.169-1.848)
Working hours per week(ref. is <60 hours)	-0.082	0.905	0.922 (0.240-3.535)
Marital status(ref. is being married)	-0.035	0.978	0.965(0.078-11.916)
Family income(ref. is more than or equal to outgoings)	0.779	0.335	2.179(0.447-10.620)
Smoking (ref. is non smoker)	-1.569	0.097	0.208 (0.033-1.326)
Education (ref. is above matriculation)	-0.731	0.474	0.481 (0.065-3.564)
Worry about future(ref. is no worry)	-1.784	0.019	0.168 (0.38-0.742)
Contact with sexual workers(ref. is no contact)	1.27	0.025	3.563(1.172-10.830)
No. of leaves in last month(ref. is >5 days)	-0.71	0.279	0.492 (0.136-1.780)
GHQ-12 score (ref. is <4)	1.384	0.02	3.990(1.240-12.836)

Discussion

Psychiatric morbidity is found to be linked with cannabis abuse among HTV drivers in most of the previous studies [7,8,11]. By using DAST-10 we found that 73.4% of our subjects showed cannabis dependence which is similar when compared with the existing literature [8,9,11]. Some of the factors that may incline the drivers towards cannabis abuse have been found as stress during driving, long journeys, absence/lack of sexual partner and genetic factors.

Local as well as foreign data indicates the presence of psychiatric morbidity among the HTV drivers [6,7]. Cannabis abuse and psychiatric problems have a strong correlation [12,13]. Similar results have been generated in our study. Cannabis abuse is such a multidimensional phenomenon with genetic, social, psychological and physiological dimensions that it should be explored from all aspects. It is easier for the health professionals to look for the physical effects of cannabis abuse but hard for them to screen the psychological conditions and social problems which the individual is facing due to the chronic illness of substance dependence. Causal relationship is also ignored that psychiatric morbidity predisposed the individual towards the cannabis abuse or cannabis abuse lead to the psychiatric morbidity.

Tobacco smoking had an obvious association with the cannabis abuse in targeted population of our study which is similar with the findings of previous literature [21]. Though tobacco is considered more injurious than cannabis [22] but gateway hypothesis might be applied here that tobacco smoking acts as a gateway for cannabis abuse [23].

Risky sexual behavior and a desire to remain in contact with multiple sexual partners had been associated with cannabis use in many studies done in past [24,25]. Our results also revealed a very strong association between cannabis abuse and contact of HTV drivers with the sex workers. It can be due to disinhibited behavior due to substance abuse or may be the factor that sex workers and illicit substances are available at a common place which increases the chance of their collective use.

Limitations of this study include the use of screening tools of various psychiatric parameters. Due to non-prospective study design we cannot say that cannabis abuse was a consequence of driving the HTV. Methodological issues also include the use of self-administered tools. A specific group of drivers in a city was targeted instead of a randomized sample of all the drivers from all the cities of AJK so generalizability of this study is also questionable. Larger studies with more sophisticated study design meeting the above mention needs may prove to be more useful on this aspect of substance abuse among the people of a very sensitive profession.

Conclusion

This study showed a high prevalence of cannabis abuse among the HTV drivers in AJK. Special attention should be paid to the drivers with co-morbid tobacco use and contact the sex workers. Presence of psychiatric morbidity emerged as independent risk factor related to the cannabis use among the HTV drivers of AJK. The findings of our study also call for a greater degree of understanding of the physical and psychological state of HTV drivers.

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Author Affiliations

[Top](#)

¹Department of Psychiatry, Poonch Medical College Rawalakot, CPSP, Pakistan

²Department of Psychology, Poonch Medical College Rawalakot, CPSP, Pakistan

³Department of Ecology and Natural Resource Management (INA), Norwegian University of Life Sciences (NMBU), Norway

⁴Department of Psychiatry, Saidu teaching hospital swat, KPK, Pakistan

⁵Department of Psychology, Nowshera medical complex, KPK, Pakistan

⁶Department of Psychiatry, PAF hospital, Lahore, Pakistan

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