

## Assessment Of Psychiatric Comorbidities Associated in Cases with Cannabis Use

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### Abstract

**Introduction:** Cannabis is the frequent psychoactive illicit substance consumed after alcohol and tobacco across worldwide. Cannabis use was associated with robust increases in risk for psychiatric comorbidities. This study was aimed to evaluate psychiatric comorbidities among cases with cannabis use.

**Material and Methods:** Fifty-eight cases under cannabis use attending the outpatient department of psychiatry and fulfill criteria for cannabis dependence according to ICD-10 above 15 years of age was included. Participant details were collected using semi-structured patient proforma and details of cannabis dependence were collected by using marijuana problem scale, and the cannabis withdrawal scale.

**Results:** Onset of cannabis abuse was below 18 years in 34.48% cases and above 18 years in 65.52% cases. Psychotic disorders (55%) were the common psychiatric comorbidity associated followed by Nonalcoholic psychoactive substance use disorders (NAPSD) (19%), manic episode (14%), ASPD (7%) and Depression (5%). The comparison of mean difference between time period of cannabis abuse and time period of illness and symptoms of cannabis withdrawal was statistically significant ( $p < 0.05$ ).

**Discussion and conclusion:** Cannabis abuse is serious public health concern that requires active implementation of preventive and rehabilitation programs and educates adolescents on the risks associated with its use.

**Keywords:** Cannabis Use, Psychiatric Comorbidity, Psychosis, Sociodemographic Data

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### Introduction

Cannabis is the widely consumed psychoactive illicit substance across globally [1]. According to national survey on Extent, Pattern and Trend of Drug use in India, cannabis is regularly consumed psychoactive illicit substance in India [2]. In the year 2000, prevalence of cannabis used in in India was 3.2%. In 2019, All India Institute of Medical Sciences (AIIMS), New Delhi stated in its study that approximately 7.2 million Indians were under cannabis abuse.

According to “Magnitude of Substance use in India 2019” report by The Ministry of Social Justice and Empowerment’s, around 2.8% (31 million) of Indian population between 10-75 years of age group were actively consuming cannabis products. Among them, 10% of people were in a state of cannabis dependence [3-5].

The crescent in use of cannabis is linked to a series of complex issues including health related and appropriate social behaviour. Cannabis use is linked with a high

incidence of psychoactive disorders including schizophrenia [6].

High rates of cannabis use often linked with wide range of psychological complications to psychotic disorders [7]. Cannabis use during adolescence leads to intoxicating effects includes cognitive and psychomotor impairments [8]. With the limited availability of literature on cannabis use and its relation with psychiatric morbidity, this study was designed to evaluate psychiatric comorbidities among cases with cannabis use.

### Materials and Methods

This cross sectional single centric study was organized in the Department of Psychiatry at MNR Medical College and Hospital, Sangareddy from April 2021 to June 2022. A total of 58 cases under cannabis use attending the outpatient department of psychiatry and fulfill criteria for cannabis dependence as per ICD-10 were included. Cases with mental retardation and other neurological

disorders, hearing difficulties, past history of cannabis dependence were excluded. Written informed consent was collected from all the study participants. The study was commenced with the prior approval of institutional ethics committee.

The complete physical and clinical history of participants was collected. Participant details were collected by using semi structured patient proforma. The details of cannabis dependence were collected by using marijuana problem scale, and cannabis withdrawal scale. The accuracy in psychiatric diagnosis was conducted by mini plus structure clinical interview. The extracted data was analyzed by SPSS version 23.0. Categorical variables were represented as frequency and percentage and study variables were compared by using Chi-square test. The p value <0.05 was take into consideration as statistically significant result.

### Results

**Table 1: Demographic details of study participants**

Demographic data	Total cases (n=58)	
	Frequency	Percentage
<b>Age (In years)</b>		
18-25	18	31.03%
25-30	16	27.58%
Above 30	24	41.38%
<b>Marital status</b>		
Married	12	20.68%
Single	45	77.58%
Divorced	01	1.72%
<b>Educational status</b>		
Primary education	03	5.17%
High school	09	15.52%
Pre-university	16	27.58%
Graduate	28	48.28%
Un educated	02	3.44%
<b>Occupational status</b>		
Unemployed	37	63.80%
Employed	21	36.20%
<b>Religion</b>		
Hindu	49	84.48%

Muslim	05	8.62%
Christian	03	5.17%
Others	01	1.72%

**Table 2: Details of cannabis abuse among study participants**

Parameter	Total cases with cannabis abuse	
	Frequency	Percentage
<b>Onset of cannabis abuse</b>		
<18 years	20	34.48%
>18 years	38	65.52%
<b>Duration of cannabis abuse</b>		
<4 years	41	70.69%
>4 years	17	29.31%
<b>Family history with cannabis use</b>		
Present	47	81.03%
Absent	11	18.97%

**Tale 3: Comparison of onset of cannabis abuse with sociodemographic parameters**

Demographic data	Cannabis abuse		Chi-square value	p-value
	<18 years (n=20)	>18 years (n=38)		
<b>Occupational status</b>				
Unemployed	12 (60%)	25 (65.78%)	2.578	0.0194
Employed	08 (40%)	13 (34.22%)		
<b>Marital status</b>				
Married	05 (25%)	07 (18.42%)	5.364	0.0422
Single	15 (75%)	30 (78.94%)		
Divorced	-	01 (2.64%)		
<b>Religion</b>				
Hindu	17 (85%)	32 (84.21%)	2.498	0.219
Muslim	-	05 (13.16%)		
Christian	03 (15%)	-		
Others	-	01 (2.63%)		
<b>Educational status</b>				
Primary education	01 (5%)	02	2.854	0.001
High school	05 (25%)	04		
Pre-university	12 (60%)	04		
Graduate	-	28		
Un educated	02 (10%)	-		

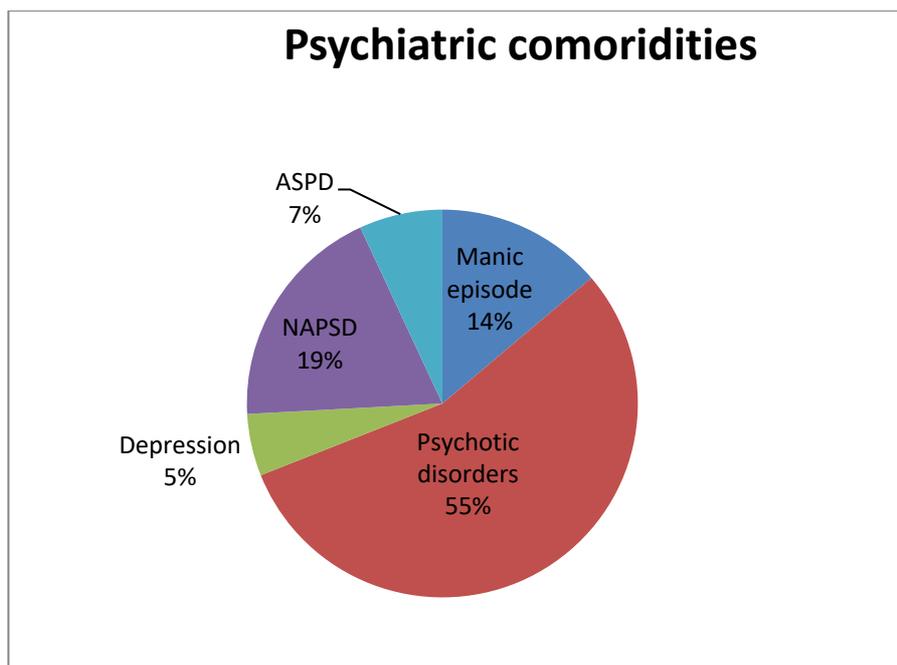


Figure 1: Psychiatric comorbidities among study participants

Table 4: Prevalence of alcohol abuse and alcohol dependence in cases psychiatric comorbidities

Psychiatric comorbidities	Alcohol abuse		Alcohol dependence
	Present	Absent	
Manic episode (n=8)	03 (37.5%)	05 (62.5%)	02 (25%)
Psychotic disorders (n=32)	21 (65.6%)	11 (34.3%)	17 (53.12%)
Depression (n=3)	02 (66.6%)	01 (33.3%)	02 (6.66%)
ASPD (n=4)	02 (50%)	02 (50%)	02 (50%)
NAPSD (n=11)	07 (63.6%)	04 (36.3%)	03 (27.2%)

\*NAPSD-Nonalcoholic psychoactive substance use disorders

Table 5: Comparison of cannabis abuse with symptoms of cannabis withdrawal and illness in study participants

	Mean±SD	95% Confidence interval	
		Upper	Lower
<b>Duration of cannabis abuse with symptoms of cannabis withdrawal</b>			
<4 years	10.51±3.08	12.424	8.610
>4 years	19.02±4.51	22.710	15.348
<b>Duration of cannabis abuse with illness</b>			
<4 years	12.90±5.32	15.258	10.549
>4 years	22.77±8.86	29.347	16.208

**Discussion**

Among the study participants, 31.03% cases belonged to 18-25 years age group, 27.58% belonged to 25-30 years and 41.38% belonged to above 30 years age group. Singles (77.58%) were most predominant than married (20.68%) and divorced participants (1.72%). Participants

with graduate (48.28%) educational qualification were predominant followed by pre-university (27.58%) and high school qualification (15.52%). Unemployed Cases (63.80%) were more under cannabis abuse than employed participants (36.20%) (Table 1).

In current study, onset of cannabis abuse was below 18 years in 34.48% cases and above 18 years in 65.52% cases. Adolescents and early adults are likely to develop multiple psychiatric complications in later adult life due to cannabis use [9]. Several studies described that the risk of psychiatric comorbidities and psychosis was high in users who started cannabis use at early age. 70.69% of cases were under cannabis abuse less than 4 years and 29.31% cases were consuming cannabis above 4 years (Table 2). The positive family history of cannabis use was observed in 81.03% of participants. The comparison between onset of cannabis abuse with sociodemographic variables was recorded statistical significance ( $p < 0.05$ ), but with religion it was not significant ( $p = 0.219$ ).

Brook JS et al., stated that individuals with anxiety and depression are more vulnerable for cannabis use disorders [9]. Khantzian EJ opined that cannabis abuse may be used to associate with anxiety and depression [10]. In current study, psychotic disorders (55%) were the common psychiatric comorbidity associated with cannabis abuse followed by Nonalcoholic psychoactive substance use disorders (NAPSD) (19%), manic episode (14%), ASPD (7%) and Depression (5%) (Graph 1). Majority cases with psychotic disorders were under alcohol abuse (65.6%) and alcohol dependence (53.12%). The comparison of mean difference between time period of cannabis abuse and time period of illness and symptoms of cannabis withdrawal was statistically significant ( $p < 0.05$ ).

The chronic addiction to marijuana encounters acute adverse mental effects, derealization, depersonalization, cannabis withdrawal syndrome including anxiety and weight loss, psychotic disorders and paranoia [11-14]. Few studies reported a strong association between marijuana abuse with subtle cognitive impairments and brain regions like frontal lobe,

dorsolateral prefrontal cortex and hippocampus that linked to working memory and executive function [15-18]. Contradictory findings stating no linkage association between working memory in cannabis users have been reported by Jager et al. [19]. National Alcohol Survey (NAS) reported that integrative use of cannabis alcohol was linked to high alcohol intake, increased risk of psychosocial disturbances and self-harming [20]. A systemic review and meta-analysis stated that increased frequency of cannabis use is directly related with high risk of psychosis [21]. The incidence of psychosis was significantly more in high potency cannabis users than low potency users [22]. A systemic review stated that higher rates of cannabis use can escalate two or threefold risk of developing lifetime psychosis and schizophrenia [23, 24]. A study by Hayatbakhsh et al., stated that the cannabis abuse before 15 years of age can experience anxiety and depression in early adult life [25]. The study was limited to cases attending tertiary care hospital with minimal sample size and study did not estimate the burden at community level.

## Conclusion

Cannabis abuse is a serious public health concerns requires active implementation of preventive and rehabilitation programs and educate the adolescents on the risks associated with its use. In this study, psychotic disorders were commonly encountered psychiatric comorbidity. Participants with positive family history are more vulnerable to cannabis use.

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