

Sociodemographic and clinical profile of cannabis-induced psychosis: A comparative study

ABSTRACT

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Received: 28 January 2021

Revised: 19 April 2021

Accepted: 27 May 2021

Published: 22 October 2021

Background: Cannabis is the most widely used drug in the world. An association between cannabis use and mental illness, in particular psychotic illness, was recognized since long. Various cultures have traditionally used cannabis for different purposes, and continuous increasing use of cannabis is promoting psychosis also. **Aim:** The present study has tried to identify the differences in profile between the two groups and thus proposing possible variables underlying cannabis and psychosis. **Materials and Methods:** This cross-sectional descriptive hospital-based study included 50 consecutive cannabis-using patients with psychosis and equal number of age-matched patients with schizophrenia but no cannabis intake. Permission was taken from the institutional ethics committee. All subjects gave written informed consent. Detailed history regarding psychotic symptoms and different parameters of cannabis use were collected from the key informant as well as the patients in the ward. Both the groups' psychotic symptoms were assessed using scale for assessment of the positive symptoms. **Results:** There is no significant difference between both the groups with respect to age. Cannabis-using patients with psychosis showed high symptomatology in the areas of pressure of speech, distractible speech, and clanging. On the other hand, patients with schizophrenia but no cannabis intake showed high symptomatology in the areas of derailment, incoherence, illogicality, and global rating of positive formal thought disorder. **Conclusion:** Continuous heavy use of cannabis can induce a psychotic disorder distinct from acute schizophrenia. Cannabis-induced psychosis has distinct demographic, premorbid, and clinical features.

Keywords: Cannabis use, psychosis, schizophrenia

Cannabis has been used by humankind for medical and recreational purposes for centuries. Indian hemp or cannabis sativa is a native of silty river basins and has been grown in India for centuries. In India, because of its association with religious rituals, cannabis has got social acceptance. It is regarded as a stimulant of religious fervor and used to propitiate Lord Shiva, known in vernacular by names such as Ganja, Bhang, Ramarasa, and Thandai. The main route of consumption is smoking, but it may also be ingested as is prevalent in many parts of India.

The word psychosis is used to describe conditions that affect the mind, where there has been some loss of

contact with reality. When someone becomes ill in this way, it is called a psychotic episode. Psychosis can happen to anyone. An episode of psychosis is treatable, and it is possible to recover. Psychosis is traditionally viewed as a symptom of a mental disorder, but not necessarily as a disorder in and of itself.^[1] Common manifestations of psychosis include hallucinations, delusions, and paranoia. It is a key symptom of schizophrenia, but is also observed in bipolar disorder, depression, drug intoxication and withdrawal, and a variety of nonpsychiatric medical conditions (e.g. lupus; American Psychiatric Association, 2000). The Diagnostic and Statistical Manual of Mental

Access this article online

Quick Response Code:



Website: www.industrialpsychiatry.org

DOI: 10.4103/0972-6748.328804

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How to cite this article: Padhi D, Shukla P, Chaudhury S. Sociodemographic and clinical profile of cannabis-induced psychosis: A comparative study. *Ind Psychiatry J* 2021;30:S132-9.

Disorders, Fourth Edition, Text Revision recognizes a variety of drug-induced psychotic disorders, including delusional and hallucinatory types of cannabis-induced psychotic disorder.^[1]

The relationship between cannabis use and psychotic symptoms remains controversial. The most important problems in studying the relation between cannabis and psychosis are reverse causality^[2,3] and transitory intoxication effect. With increasing rates of cannabis use and the unequivocal relation to psychiatric disturbance, the study of cannabis-related conditions has become important. It was seen in very few studies that cannabis psychosis and schizophrenia may have distinct demographic, premorbid, and clinical features. No study on this topic is reported from the Punjab state. Therefore, the present study was conducted to identify differences in profile between the two groups and thereby propose possible variables underlying cannabis and psychosis.

MATERIALS AND METHODS

This cross-sectional descriptive hospital-based study was carried out in a tertiary care psychiatric teaching institute in Punjab. Permission to conduct the study was obtained from the institutional ethics committee. All subjects gave written informed consent.

Sample

Based on purposive sampling technique, total 50 consecutive cannabis-using patients with psychosis were included in the first (experimental) group. The second (control) group included 50 age-matched patients with schizophrenia but no cannabis intake.

Participant's inclusion and exclusion criteria

Inclusion criteria for the experimental group

- Diagnosis of cannabis dependence syndrome according to the Diagnostic Criteria for Research (DCR) of International Classification of Diseases (ICD-10)^[4]
- Patients between the age range of 18–60 years
- Patients of either sex
- Both literate and illiterate patients
- Patients who gave informed consent to participate in the study
- Cooperative patients.

Inclusion criterion for the control group

- Patients with schizophrenia as per the DCR of ICD-10^[4]
- Other criteria were similar with experimental group.

Exclusion criteria for the experimental and control group

- Comorbidity with other psychoactive substance except tobacco and caffeine
- Mental retardation and any neurological illness
- Uncooperative patients.

Tools

Sociodemographic and clinical data sheet

It was a semistructured pro forma, especially designed for this study. It contains information about sociodemographic variables such as age, sex, religion, education, marital status, occupation, and source of referral as well as clinical data such as duration of cannabis use, age of onset, amount of cannabis use, last intake, past history of medical or psychiatric illness, treatment history, family history of medical or psychiatric illness, and premorbid personality. It also included details of mental status examination and diagnosis of the patient according to ICD-10 DCR.^[4]

Scale for the Assessment of Positive Symptoms

Scale for the Assessment of Positive Symptoms (SAPS) is a 34-item scale, developed by Andreasen,^[5] for the assessment of positive symptoms in individuals with schizophrenia. This scale is designed to assess positive symptoms, principally those that occur in schizophrenia. These positive symptoms include hallucinations, delusions, bizarre behavior, and positive formal thought disorder. SAPS is administered via a general clinical interview, plus a series of standardized questions. It is a six-point rating scale. The reliability is very good for the SAPS. Reliabilities ranged from 0.83 to 0.92 for the global summary and total scores. Internal consistency for the global summary scores was moderate, 0.58. Internal consistency for the total scores was 0.86.^[5]

Procedure

Information about sociodemographic variables and clinical details were collected using the sociodemographic and clinical data sheet from the drawn sample selected according to the inclusion and exclusion criteria. Detailed history regarding psychotic symptoms and different parameters of cannabis use were collected from the key informant as well as the patients in the ward. Both the groups' psychotic symptoms were assessed using SAPS.

Statistical analysis

The Statistical analysis was done with the help of Statistical Package for the Social Sciences-16 (IBM, Chicago, USA). To analyze group differences between control and experimental groups on certain sociodemographic variables (assessed as continuous variables) such as age and education, *t*-test was applied. For other sociodemographic variables and clinical variables (assessed as category variables), Chi-square test was applied. To analyze group differences between control

and experimental groups on clinical symptoms of both the groups, Mann–Whitney U-test was applied.

RESULTS

In the present study, the mean age of the participants from the experimental and control groups was 29.26 ± 7.29 and 31.18 ± 8.71 years, respectively. The mean education of the participants from the experimental and control groups was 7.96 ± 3.21 and 10.40 ± 2.36 years, respectively. While there is no significant difference between both the groups with respect to age, there were statistically significant differences at 0.01 level in the education levels. Table 1 shows comparison between experimental and control groups on other sociodemographic variables. In the clinical variables of mode of onset, course of illness, and progress of illness, no significant difference was noticed between both the groups. Majority of the patients of the control group having predisposing factor and precipitating factor were compared to the experimental group, and the difference was statistically significant [Table 2]. The behavioral pattern of the experimental and control groups revealed a significant difference at 0.01 level in all the areas of mixing with people, interest in work, self-confidence, optimism, and feeling pleasure [Table 3].

Treatment history of the experimental and control groups shows no significant difference [Table 4]. Whereas in the family history of mental illness, a significant difference was found at 0.05 level, control group was high in the family history of the mental illness compared to the experimental group. While in the area of the nature of the family history of mental illness, a significant difference was found at 0.01 level, it shows that experimental group were high in substance dependence of family history. On the other hand, control group were high in family history of schizophrenia.

Table 5 shows personal history or characteristics of the experimental and control groups. It shows that a significant difference was found in all the variables except the developmental milestone. Table 6 shows comparison on the area of hallucination on the SAPS between experimental and control groups. It shows a significant difference between both the groups. Overall hallucinations were rated higher in the control group compared to the experimental group, except in the area of visual hallucinations where experimental group were rated higher than the control group. Somatic and olfactory hallucinations were not seen in patients of both the groups.

Table 7 shows comparison on the area of delusions of the SAPS between experimental and control groups. It shows a significant difference in the symptomatology of

Table 1: Sociodemographic characteristics of the experimental group and control group

Variables	Experimental group (%)	Control group (%)	Chi value (df)
Sex			
Male	50 (100)	33 (66)	20.48** (1)
Female	0	17 (34)	
Marital status			
Married	17 (34)	21 (42)	3.02 (NS) (2)
Unmarried	33 (66)	27 (54)	
Other	0	2 (4)	
Religion			
Hindu	45 (90)	33 (66)	13.69* (2)
Sikh	3 (6)	17 (34)	
Others	2 (4)	0	
Occupation			
Employed	24 (48)	16 (32)	11.59* (2)
Unemployed	17 (34)	9 (18)	
Other	9 (18)	25 (50)	
Habitat			
Rural	46 (92)	18 (36)	34.12** (2)
Semi urban	2 (4)	12 (24)	
Urban	2 (4)	20 (40)	
Family type			
Nuclear	48 (96)	34 (68)	13.27** (1)
Joint	2 (4)	16 (32)	
SES			
Lower	48 (96)	11 (22)	34.12** (2)
Middle	2 (4)	30 (60)	
Upper	0	9 (18)	

*Significant at 0.05 level; **Significant at 0.01 level. NS – Not significant

Table 2: Clinical characteristics of the experimental group and control group

Variables	Experimental group (%)	Control group (%)	Chi value (df)
Precipitating factor			
Present	2 (4)	11 (22)	7.16* (1)
Absent	48 (96)	39 (78)	
Predisposing factor			
Present	9 (18)	31 (62)	20.16** (1)
Absent	11 (82)	19 (38)	
Mode of onset			
Abrupt	6 (12)	1 (2)	8.09 (NS) (2)
Acute	13 (26)	6 (12)	
Insidious	31 (62)	43 (86)	
Course of illness			
Continuous	45 (90)	49 (98)	4.17 (NS) (2)
Episodic	1 (2)	1 (2)	
Fluctuating	4 (8)	0	
Progress of illness			
Improving	0	1 (2)	2.04 (NS) (2)
Deteriorating	50 (100)	48 (96)	
Static	0	1 (2)	

*Significant at 0.05 level; **Significant at 0.01 level. NS – Not significant

both the groups. Symptoms of delusion were seen high in the control group compared to the experimental group.

Few symptoms were seen slightly high in the experimental group such as grandiose and religious delusions although it was not at the significant level.

Table 8 shows comparison on the area of bizarre behavior of the SAPS between experimental and control groups. It shows a significant difference between both the groups. Control group showed high symptomatology in comparison of the experimental group. In the areas of clothing and appearance, social and sexual behavior, aggressive and agitated behavior, and global rating of bizarre behavior, a significant difference was found at 0.01 level, while in the area of repetitive and stereotyped

behavior, a significant difference was noticed at 0.05 level.

Table 9 shows comparison on the area of positive formal thought disorders of the SAPS between experimental and control groups. It shows a significant difference of 0.01 level in the areas of the derailment, incoherence, illogicality, pressure of speech, and distractible speech, while in the areas of clanging and global rating of positive formal thought disorder, a significant difference noticed at 0.05 level. Control group showed high symptomatology in the areas of derailment, incoherence, illogicality, and global rating of positive formal thought disorder. On the other hand, experimental group showed high symptomatology in the areas of pressure of speech, distractible speech, and clanging. However, in the areas of tangentiality and circumstantiality, no significant difference was noticed.

Table 10 shows that there is a positive correlation (.05 level) between the mode of cannabis use and religion; it reveals that smoking cannabis is more prominent in the Hindu religion compared to Sikhism. On the basis of sociodemographic characteristics, it further reveals that overall cannabis intake is high in the Hindus compared to the Sikh religion. It further reveals that mode and duration of cannabis use is positively correlated (at 0.05 level) with lower socioeconomic status. It further reveals here that mode and duration of cannabis use is positively correlated (at 0.05 level) with lower socioeconomic status.

Table 3: Behavioral pattern of the experimental group and control group

Variables	Experimental group (%)	Control group (%)	Chi value (df=2)
Mixing with people			
No changes	12 (24)	0	96.07**
Reduced	1 (2)	50 (100)	
Enhanced	37 (74)	0	
Interest in work			
No changes	44 (88)	2 (4)	84.66**
Reduced	3 (4)	48 (96)	
Enhanced	4 (8)	0	
Self-confidence			
No changes	14 (28)	6 (12)	83.20**
Reduced	0	44 (88)	
Enhanced	36 (72)	0	
Optimism			
No changes	12 (24)	2 (4)	93.14**
Reduced	0	48 (96)	
Enhanced	38 (76)	0	
Feeling pleasure			
No changes	12 (24)	2 (4)	93.44**
Reduced	0	48 (96)	
Enhanced	38 (76)	0	

**Significant at 0.01 level

DISCUSSION

Our study was carried out to identify distinct sociodemographic and clinical features of cannabis-induced psychosis and schizophrenia. In the present study, it was seen that cannabis intake was high in the male; in our study, no female cannabis user could be taken due to the

Table 4: Treatment history of the experimental group and control group

Variables	Experimental group (%)	Control group (%)	Chi value (df)
Treated by			
Physician	7 (14)	3 (6)	5.69 (NS) (3)
Psychiatrist	5 (10)	13 (26)	
Faith healers	10 (20)	11 (22)	
Nil	28 (56)	23 (46)	
Family history of mental illness			
Present	20 (40)	32 (64)	5.76* (1)
Absent	30 (60)	18 (36)	
Nature of family history of mental illness			
Schizophrenia	5 (10)	28 (56)	26.29** (3)
Bipolar disorder	4 (8)	0	
Substance dependence	11 (22)	4 (8)	
Nil	30 (60)	18 (36)	

*Significant at 0.05 level; **Significant at 0.01 level. NS – Not significant

Table 5: Personal history of the experimental group and control group

Variables	Experimental group (%)	Control group (%)	Chi value (df)
Birth			
Normal	50 (100)	34 (68)	19.04* (1)
Abnormal	0	16 (32)	
Milestone			
Normal	46 (92)	43 (86)	0.919 (NS) (1)
Delayed	4 (8)	7 (14)	
Birth order			
Only child	3 (6)	2 (4)	17.05** (3)
First child	8 (16)	23 (46)	
Middle child	15 (30)	18 (36)	
Last child	24 (48)	7 (14)	
Childhood disorder			
Present	20 (40)	9 (18)	5.87* (1)
Absent	30 (60)	41 (82)	
Home-situation			
Congenial	17 (34)	27 (54)	4.05* (1)
Broken	33 (66)	23 (46)	
Parental lack (before the age of 18)			
Yes	30 (60)	15 (30)	9.09** (1)
No	20 (40)	35 (70)	
Academic performance			
Good	2 (4)	8 (16)	12.89** (2)
Average	18 (36)	29 (58)	
Poor	30 (60)	13 (26)	
Peer relation			
Good	26 (52)	2 (4)	30.15** (2)
Average	15 (30)	22 (44)	
Poor	9 (18)	26 (52)	
Disciplinary problem			
Present	34 (66)	0 (0)	51.51** (1)
Absent	16 (34)	50 (100)	
Premorbid personality			
Well adjusted	10 (20)	29 (58)	70.25** (3)
Antisocial	40 (80)	0	
Schizoid	0	19 (38)	
Other	0	2 (4)	

*Significant at 0.05 level; **Significant at 0.01 level. NS – Not significant

Table 6: Clinical symptoms of the experimental and control groups on Scale for the Assessment of Positive Symptom's dimension of hallucination

Areas of Assessment	Mean±SD		Mann-Whitney U test			
	Experimental group	Control group	Mean rank		U	Z-score
			Experimental group	Control group		
Auditory hallucination	3.54±0.73	4.30±0.54	37.10	63.90	580	5.13**
Voices commenting	2.60±1.60	4.20±0.49	34.14	66.86	432	6.27**
Voices conversing	2.34±1.66	4.12±0.77	33.24	67.76	387	6.45**
Somatic hallucination	0.00±0.00	0.00±0.00	50.50	50.50	1250	0.000
Olfactory hallucination	0.00±0.00	0.00±0.00	50.50	50.50	1250	0.000
Visual hallucination	1.86±1.48	0.54±1.29	61.57	39.43	699	4.34**
Global rating of hallucination	3.36±0.69	3.40±1.82	43.14	57.86	882	2.76**

**Significant at 0.01 level. NS – Not significant; SD – Standard deviation

unavailability. These findings are also supported by the previous studies.^[3,6] It was seen that gender has no role in

schizophrenia; it is equally prevalent in men and women. In a comparative study it was found that total number of

Table 7: Clinical symptoms of the experimental and control groups on Scale for the Assessment of Positive Symptom's dimension of delusion

Areas of Assessment	Mean±SD		Mann-Whitney U test			
	Experimental group	Control group	Mean rank		U	Z-score
			Experimental group	Control group		
Persecutory delusions	2.88±1.37	4.16±1.16	33.66	67.34	408	6.19**
Delusions of jealousy	0.56±1.40	2.48±2.16	38.94	62.06	672	4.69**
Delusions of guilt or sin	0.00±0.00	0.00±0.00	50.50	50.50	1250	000 (NS)
Grandiose delusions	1.04±1.88	0.50±1.09	53.08	47.92	1121	1.25 (NS)
Religious delusions	0.36±1.00	0.16±0.79	52.40	48.60	1155	1.39 (NS)
Somatic delusions	0.08±0.39	0.00±0.00	51.50	49.50	1200	1.42 (NS)
Delusions of reference	2.10±1.65	3.88±1.64	34.25	66.75	437	5.80**
Delusions of being controlled	0.00±0.00	2.62±2.12	35.00	66.60	475	6.55**
Delusions of mind reading	0.00±0.00	1.02±1.84	44.50	56.50	950	3.66**
Thought broadcasting	0.36±1.78	2.30±2.18	38.50	62.46	652	5.16**
Thought insertion	0.00±0.00	2.10±2.33	38.50	62.50	650	5.54**
Thought withdrawal	0.00±0.00	2.18±2.19	37.50	63.50	600	5.82**
Global rating of delusions	3.00±1.10	3.54±1.85	39.46	61.54	698	3.96**

**Significant at 0.01 level. NS – Not significant; SD – Standard deviation

Table 8: Clinical symptoms of the experimental and control groups on Scale for the Assessment of Positive Symptom's dimension of bizarre behavior

Areas of assessment	Mean±SD		Mann-Whitney U test			
	Experimental group	Control group	Mean rank		U	Z-score
			Experimental group	Control group		
Clothing and appearance	2.90±1.28	3.88±0.93	38.44	62.56	647	4.33**
Social and sexual behavior	1.76±1.50	3.74±1.27	32.44	68.56	347	6.42**
Aggressive and agitated behavior	1.96±1.52	3.02±1.91	34.99	61.06	722	3.76**
Repetitive and stereotyped behavior	0.12±0.47	0.64±1.48	47.76	53.29	1113	1.74*
Global rating of bizarre behavior	1.64±1.46	2.92±1.99	38.89	62.11	669	4.15**

*Significant at 0.05 level; **Significant at 0.01 level

acute schizophrenia were 35 in which 54.3% were male and rest were female.^[3] It is also seen in our study, where in the schizophrenia patients the distribution of male and female patients was 66% and 34% respectively.

In India, the use of cannabis was widely disseminated, both as a medicine and as a recreational drug. Such a broad use may be due to the fact that cannabis maintained a straight association with religion, which sighed sacred virtues to the plant. The Atharva Veda mentions cannabis as one of five sacred plants, referring to it as a source of happiness, donator of joy, and bringer of freedom. Hence, cannabis use became part of numerous religious rituals in that religion.^[7] Our study comprised 90% of Hindu males as it is supported in the study by Basu *et al.*^[8] In India, because of its association with religious rituals, cannabis has got social acceptance. It is regarded as a stimulant of religious fervor and used to propitiate Lord by Hindu people.^[8,9] Whereas in the control group, 66% were Hindu and 34% were Sikh. It showed that in schizophrenia religion has no effect.

Literature suggests^[3] that family history of psychosis was higher in acute schizophrenia group than in cannabis psychosis and differences between the groups reached statistical significant level. The few studies that have examined family history in cannabis-related psychosis have reported that subjects gave a family history of substance dependence disorders, mental illness, and personality difficulties.^[2,10-13] In all these studies, it was noted that family history of substance abuse was most frequently reported. Family history of drug disorders is regarded as one of the risk factors for developing a drug dependence disorder, including cannabis dependence;^[14] whether it also results in increased vulnerability to cannabis psychosis is not clear. In the present study, experimental group had 40% family history of mental illness, while it was 64% in the control group. In the control group, 56% of patients had a family history of schizophrenia; whereas, in the experimental group, only 10% had a family history of schizophrenia while majority of the patients had a family history of substance dependence (22%). The finding of our study is similar with the findings of the previous studies.^[3,13]

Table 9: Clinical symptoms of the experimental and control groups on Scale for the Assessment of Positive Symptom's dimension of positive formal thought disorders

Areas of assessment	Mean±SD		Mann-Whitney U test			
	Experimental group	Control group	Mean rank		U	Z-score
			Experimental group	Control group		
Derailment	0.14±0.57	1.26±1.72	42.55	58.45	852	3.85**
Tangentiality	0.16±0.54	0.34±1.04	49.80	51.20	1215	0.486 (NS)
Incoherence	0.00±0.00	1.08±1.61	42.50	58.50	850	4.32**
Illogicality	0.12±0.47	1.26±1.72	42.46	58.54	848	3.89**
Circumstantiality	0.12±0.47	0.42±1.16	48.82	52.18	1166	1.16 (NS)
Pressure of speech	1.08±1.22	0.00±0.00	63.00	38.00	625	5.71**
Distractible speech	1.18±1.24	0.00±0.00	63.00	38.00	625	5.69**
Clanging	0.24±0.71	0.00±0.00	53.50	47.50	1100	2.51*
Global rating of positive formal thought disorder	1.20±1.16	1.56±1.80	47.66	53.34	1108	1.06*

*Significant at 0.05 level; **Significant at 0.01 level. NS – Not significant

Table 10: Correlation between cannabis use and sociodemographic variables of religion and socioeconomic status (n=50)

	Religion		Socioeconomic status	
	Spearman's rho	P	Spearman's rho	P
Mode of cannabis use	0.243*	0.045	0.264*	0.032
Duration of cannabis use	-		0.261*	0.034

*Significant at 0.05 level

In a study,^[3] it was found that premorbid schizoid personality traits were significantly more frequent among acute schizophrenia patients ($P = 0.0010$, Fisher's two-tailed exact test); these subjects were rated as having premorbid antisocial personality traits less frequently than the members of the cannabis psychosis group ($P = 0.0300$, Fisher's two-tailed exact test). In the present study, it was found that 80% of patients of the experimental group have antisocial premorbid personality, whereas the patients of the control group have 38% schizoid premorbid personality. Thus, the results of our study are similar with the previous study.

In India, the number of drug addicts are increasing day by day. Every year, about 55,000 children take up to smoking generally hailing from low socioeconomic strata with poor social support, broken homes, and victims of deprivation and discrimination. This risky behavior is often initiated during childhood and adolescence, as more than 70% of adult smokers report that they started smoking on a daily basis prior to the age of 18 years.^[15] Similarly, in the present study it was seen that smoking (40%) was high in the patients of cannabis psychosis and 96% of patients of the experimental group belonged to the lower socioeconomic status. 96% of patients belonged to the nuclear families, 66% of patients of the experimental group have broken home, and 60% have parental lack before the age of 18 years. 40% of patients have childhood disorder and

66% have disciplinary problems. 40% of patients started taking cannabis before the age of 18 years, while 60% of patients started taking cannabis after the age of 18 years.

Peer smoking also predicts continued smoking among young people who have already begun to smoke.^[16] Cannabis abuse in school-going population has been associated with poor scholastic performance, school dropout, and reinforcement of conduct symptoms. In the present study, majority of the patients described that they started taking cannabis due to the enhanced peer relationship. In the present study, 52% of patients of the experimental group have good peer relationship.

In earlier studies it was seen that heavy cannabis smokers reported significantly lower educational attainment and lower income than did control. When asked to the subjective effects of cannabis on career, social life, physical and mental health, and various quality of life measures, a large majority of heavy cannabis smokers reported negative effects of their drug use.^[17,18] Similar findings are reported by our study, where 60% of patients had poor academic record.

Mental and behavioral effects of marijuana include a state of well-being (euphoria), a feeling of relaxation, perception alterations (changes in shape, color and brightness, time seems slower), loquacity, and an increase in sociability within a specific social environment.^[19]

The same kind of findings have found in the present study, where 74% of patients of the experimental group have shown enhanced interaction with people, 72% of patients' self-confidence was high, and 76% of patients were optimistic for future and they were feeling pleasure. Thus, the findings of the previous studies are in favor of the present study.

Another side, inverse finding is found in the control group. They have shown 100% lack of interest in mixing with people and 96% of patients showed lack of interest in work. 88% of patients showed decreased self-confidence and 96% of patients of the control group have shown reduced optimism and feeling pleasures. Poor peer relationship is also noticed in the patients of the control group (52%) because in the patients with schizophrenia, isolated behavior is more prominent. Thus, the findings of the present study confirm that both the groups have shown opposite behavioral patterns.

In a study, Bebbington *et al.*^[20] assessed life events in 97 psychotic patients (52 with schizophrenia) and general population controls. There was a significant relationship between life events and onset of relapse of schizophrenia, although it was not as strong as for depressive psychosis. One possibility is that certain types of schizophrenic patients are particularly vulnerable to relapse following adverse life events. In our study, it was seen that precipitating factor was higher in the control group (22%) compared to the experimental group (4%) and a significant difference between both the groups was at 0.05 level. Similar findings were seen in the area of predisposing factors; it was 62% in the control group and only 18% in the experimental group and the difference between both the groups was at 0.01 level.

In a study,^[21] it was seen that majority of patients (59%) of the schizophrenia belonged to the urban domicile. Similar findings were seen in the present study, where 40% of patients of the control group belonged to the urban background. On the other hand, 92% of patients of the experimental group belonged to the rural background.

When we talk about symptomatology and psychopathology, it was seen that few symptoms were prominent in the experimental group compared to the control group such as visual hallucination, grandiose delusion, and religious delusion. Few other symptoms were also seen frequently in the experimental group in comparison to the control group such as pressure of speech, distractible speech, and clanging.

CONCLUSION

Continuous heavy use of cannabis can induce a psychotic disorder distinct from acute schizophrenia. Cannabis-induced psychosis has distinct demographic, premorbid, and clinical features.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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