Cannabis Use in Psychiatric Patients

Lt Col S Chaudhury*, Brig S Sudarsanan⁺, Lt Col SK Saluja (Retd)[#], Mrs K Srivastava**

Abstract

Background : Cannabis abuse has been associated with psychiatric disorders

Methods : The pattern of cannabis use and incidence of cannabis dependence and cannabis psychosis among 471 consecutive patients admitted to a tertiary care psychiatric center was investigated.

Results : Cannabis use was reported by 67 (14.23%) patients of whom 42 (8.92%) were occasional users, 18 (3.82%) were classified as frequent users while 7 (1.49%) fulfilled criteria for cannabis dependence. 3 (0.64%) patients showed symptoms which were characteristic of cannabis psychosis. Among the 67 cannabis users, 56 (83.58%) had their first exposure to cannabis before entering service at 13-19 years of age. The remaining 14 (16.09%) began consuming cannabis 1-5 years after joining service.

Conclusion : The reasons given for using cannabis were curiosity about its effects 32 (47.76%), peer pressure 17 (25.37%) or traditional use during festivals 18 (26.87%).

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Key Words: Cannabis dependence; Psychiatric disorders

Introduction

Known and valued for centuries as an euphoriant, cannabis (bhang, marijuana, charas, hashish) was extensively used in the nineteenth century as an analgesic, anticonvulsant and hypnotic. Recent studies indicate that its derivatives may be useful in the treatment of glaucoma and nausea produced by cancer chemotherapy [1]. On the other hand, since the end of the 19th century there have been clinical reports of cannabis causing mental illness. From British Guyana, a physician as early as 1893 described the symptoms of cannabis psychosis in the following way "Cannabis psychosis gives the impression of acute mania or melancholia. Most often the patient is in a state of mania, suffering from delusions and visual and auditory hallucinations. He moves incessantly, waving his arms, throwing himself from one side to another, running up and down in the room, crying and singing. The psychosis might be associated with violent behaviour. Sometimes the patient refuses to eat and sometimes he gets an intense hunger. The state may change rapidly and very soon the patient will recover and seem quiet normal again. But after two or three relapses into cannabis abuse, the patient runs the risk of becoming apathetic and blunt. The cases of melancholia triggered by cannabis abuse are more rare. Since the turn of the century, physicians in Greece, Egypt, Turkey and India have known the

symptoms of chronic cannabis use and cannabis psychosis [2,3]. When used by various types of psychiatric patients adverse symptoms may ensue. Depressed patients may develop intense anxiety, confusion, severe depersonalisation or frank psychosis. In schizophrenics, exposure to marijuana may result in psychotic exacerbation requiring hospitalisation. Patients with borderline personality disorder may display brief psychotic regression after marijuana use. The connection of cannabis abuse with previous or underlying psychiatric illness is thus documented. However, the proportion of those users who develop adverse psychological reactions is unknown [4]. There is a continuum of cannabis use from occasional or experimental use to regular use. As the level of involvement in the drug progresses, the risk of associated psychiatric disorders is likely to increase. Very few workers have studied the prevalence of cannabis use among psychiatric in-patients [5,6]. In view of the paucity of work in this field the present study was undertaken.

Material and Methods

The study was conducted in the psychiatry ward of a tertiary care service hospital. All patients on their first admission to the psychiatry ward during the period of study were included in the investigation with their informed consent. After reassuring them of strict confidentiality the patients

*Classified Specialist (Psychiatry), Command Hospital (Western Command), Chandimandir, *Commandant, Armed Forces Medical Stores Depot, Delhi Cantt, [#]Ex-Classified Specialist (Psychiatry), Military Hospital Jalandhar Cantt, **Scientist 'D'(Clinical Psychologist), Department of Psychiatry, Armed Forces Medical College, Pune-40.

were interviewed in detail about the use of cannabis in any form at any stage of their lives. Information about cannabis use was also elicited from their colleagues and family members (when available). While all cases received a thorough psychiatric evaluation those with psychoses were specially screened both in respect of the clinical picture and pattern of drug abuse. Depending upon the pattern of cannabis intake patients were classified into occasional users (less than five times), frequent users (more than five times, usually at festivals but not regularly) and dependent users. Cannabis psychosis was diagnosed as per the characteristics enumerated by Bernhardtson and Gunne [7], which are:

- An increase in cannabis consumption just before the onset of symptoms.
- No heredity of mental illness. No signs of sensitivity, shyness or vulnerability had characterised the patient before onset of the psychotic symptoms
- The onset of the psychotic symptoms is characteristic with rapidly changing mood. Most often the patient is manic or hypomanic and has megalomaniac ideas. At the same time he suffers from concentration difficulties and/or confusion. Paranoid symptoms, visual and auditory hallucinations and aggressive and destructive behaviour are common.
- The course of the illness is, as a rule, self limiting. In majority of cases the patient has fully recovered within weeks, but, on rare occasions, the process may last as long as 1 year.
- Relapse into psychosis in connection with continuous abuse is common.

To measure the severity of anxiety symptoms we used the state (STAI-Y1) and trait (STAI-Y2) forms of the State-Trait Anxiety Inventory [8]. To measure the severity of depressive symptoms we used the Beck Depression Inventory [9]. In addition, since there is evidence [10] that psychoactive substance abuse is frequently associated with alexithymia (i.e. diminished capacity to identify and/or express emotions), we administered to the subjects the 20 item revised Toronto

Alexithymia Scale (TAS-20) [11], a self report questionnaire with a total score ranging from 20 (no alexithymia) to 100 (highly alexithymic) and a cut-off score of 61. The results were tabulated and statistically analysed using appropriate statistical tests.

Results

A total of 471 patients were included in the study of whom 54 (11.5%) admitted to cannabis use at some time of their lives. Among these, 36 (7.6%) were occasional users, 11 (2.3%) were frequent users while 7 (1.49%) met the criteria for cannabis dependence. The first two groups were distributed across a broad psychiatric diagnostic pattern (Table 1). Among the 54 cannabis users, 43 (79.6%) had their first exposure to cannabis before entering service at 13-19 years of age. These patients hailed from rural areas where cannabis was easily available and consumption of cannabis was socially accepted. The remaining 11 (20.4%) began consuming cannabis 1-5 years after joining service. The reasons given for using cannabis were curiosity about its effects 26 (48.2%), traditional use during festivals 19 (35.2%), or peer pressure 9 (16.6%).

Seven patients met the criteria for cannabis dependence, four of whom presented with features of psychosis. Out of these four cases, one was diagnosed as schizophrenia and remaining three were diagnosed as cannabis psychosis. These three cases presented many similarities in their clinical presentation viz rapid onset (over few days) following days/weeks of exceptionally heavy cannabis use (smoking 'charas' in two cases and ingestion of 'bhang' in the third case), marked excitement and hyperactivity, fluctuations in mood, religiously oriented delusions and hallucinations (particularly vivid visual ones), and euphoria without flight of ideas. In addition, two cases exhibited some degree of confusion and disorientation, which gave rise to suspicion of organicity, but relevant investigations (fundoscopy, CSF, X-ray skull) were within limits. The clinical picture did not resemble schizophrenia or affective psychosis. They responded well to antipsychotic drugs. Though all three regained full insight,

Table 1
Distribution of cannabis users according to diagnosis

Diagnosis	N	Occasional users n (%)	Frequent users n (%)	Dependent users n (%)	Total users n (%)
Schizophrenia	61	4 (6.6)	2 (3.2)	1 (1.6)	7 (11.5)
Affective Psychosis	28	2 (7.1)	1 (3.6)	-	3 (10.7)
Paranoid state	4	-	-	-	-
Other psychoses (including cannabis psychosis)	35	2 (2.9)	1 (2.9)	3 (8.6)	6 (17.1)
Neurosis	177	14 (7.9)	2 (2.8)	-	16 (9.0)
Personality disorder	2	2 (100)	-	-	2 (100)
Sexual disorder	12	2 (16.7)	-	-	2 (16.7)
Alcohol dependence	58	8 (13.8)	3 (5.2)	-	11 (19.0)
Drug dependence (Excluding cannabis psychosis)	4	-	1 (25)	3 (75)	4 (100)
Others	68	2 (2.9)	1 (1.5)	-	3 (4.4)
Psychiatric investigation NAD	22	-	-	-	-
Total	471	36 (7.6)	11 (2.3)	7 (1.49)	54 (11.5)

amnesia for considerable portions of their psychotic episodes persisted. After discharge from hospital one patient suffered from two relapses while another suffered one relapse in close time relation to resumption of cannabis habit. The third patient was abstinent from cannabis and remained symptom free during two years follow-up. Results of psychological testing of cannabis user are shown in Table 2.

Discussion

The prevalence rate of cannabis use in India has never been satisfactorily determined and estimates vary from 0.47% to 33% as having tried cannabis at some time. The finding of the present study that cannabis abuse exists across various diagnostic categories is in agreement with earlier studies (Table 3). Similarly our finding of increased cannabis use in psychoses, personality disorders and alcoholism is in agreement with earlier studies.

The type of psychopathology found in the cannabis user in the present study was undoubtedly affected by selection bias, and it is unlikely that the prevalence of specific diagnoses in our sample reflects the prevalence of co-morbid psychiatric disorders in the overall population of cannabis users, since all our subjects were serving in the defence forces. At the time of recruitment, individuals with schizophrenia or other psychotic disorders are likely to be identified and declared unfit for military service. Probably for this reason co-morbidity with schizophrenia was rather low in this study, even though there is evidence that cannabis use is relatively common among schizophrenic patients. The high prevalence of cannabis use among alcohol dependent patients is in agreement with earlier observations that cannabis is often used with alcohol and other drugs.

There are high rates of drug misuse among people with psychiatric disorders. The Epidemiological Catchment Area survey [12] showed that the risk of meeting criteria for substance misuse disorder was 4.6 times higher in those suffering from schizophrenia than in general population. Schizophrenia was associated with

a six fold increase in risk of developing a drug use disorder, and cannabis was the most commonly misused drug. Menezes et al [13] examined the prevalence of substance abuse problems in 17 psychotic patients in London. Alcohol problems were more prevalent, but current use of one or more drugs was found in 35 subjects (20%); all but 2 said they used cannabis. Cantwell et al [14] studied 168 subjects presenting with a first episode of psychosis and found 1-year prevalence rates of 19.5% for drug misuse, 11.7% for alcohol misuse, and cannabis was the most commonly misused substance.

The finding that occasional cannabis users were significantly less depressed and had significantly less trait anxiety as compared to frequent users is in agreement with earlier studies and suggests that the risk of associated psychiatric disabilities tends to increase progressively with the degree of involvement with cannabis. In addition, a categorical diagnosis of

Table 3
Some Indian studies of drug abuse in psychiatric patients

Authors	No of patients	Diagnosis	Prevalence of drug use
Dube & Handa 1969	702	Schizophrenia	12.5%
		MDP	16.22%
		Organic psychosis	4.2%
		Psychoneurosis	1.88%
Goel & D'Netto 1975	334	Personality disorder	16.7%
		Neurosis	14.3%
		Psychosis	6.12%
Trivedi & Sethi 1976	1000	Schizophrenia	19.65%
		Affective psychosis	22.8%
		Neurosis	15.4%
Bagadia et al 1979	20	Schizophrenia	50%
		Alcoholism	30%
		Involutional psychosis	10%
		Depression	1%
Lal et al 1981	48	Schizophrenia	16.6%
		Depression	2.0%
		MDP	1.0%
Present study	471	Schizophrenia	11.5%
		Affective disorders	10.7%
		Alcoholism	19.0%
		Neurosis	9.0%

Table 2
Results of psychological tests of cannabis user

Name of Psychological test	Mean (SD) of test scores			P values		
	Occasional users (I)	Frequent users (II)	Dependent users (III)	IvsII	IvsIII	IIvsIII
Beck depression*	7.6	13.2	15.1	0.008	0.002	0.55
Inventory	(4.8)	(5.3)	(4.2)	S	S	NS
STAI-Y1*	41.3	42.7	44.9	0.777	0.081	0.134
	(6.9)	(6.2)	(9.4)	NS	NS	NS
STAI-Y2*	35.6	40.5	42.6	0.029	0.016	0.122
	(6.1)	(4.9)	(8.1)	S	S	NS
TAS-20*	45.6	49.8	50.7	0.495	0.699	0.901
	(13.9)	(13.8)	(12.3)	NS	NS	NS
Alexithymia#	7 (19.4%)	4 (36.4%)	3 (42.9%)	0.451	0.394	0.825
(TAS-20, Score>61)				NS	NS	NS

*Mann Whitney U test, # Chi Square test, S=Significant, NS - Not significant

alexithymia was made in 28.4% of the cannabis users which is similar to the prevalence rate of alexithymia in subjects with cannabis use and dependence (30%) in Italian Army draftees [15]. The finding is also in agreement with the 35.8% prevalence of alexithymia reported by Haviland et al [10] in a group of males with alcohol and mixed substance abuse. This finding suggests that among cannabis users, difficulty in identifying and/or expressing emotions is a problem as common as among subjects abusing other drugs including alcohol.

There are several reports of the psychiatric symptoms comprising cannabis psychosis. Chopra & Smith studied 200 Indian patients and reported that common symptoms of cannabis psychosis included confusion, delusions, hallucinations, emotional instability, amnesia, disorientation and paranoia [2]. A study of cannabis psychosis among American soldiers in Vietnam found the presence of significant impairment in cognitive functioning, hallucinations, paranoia and other delusions [3]. Analysis of symptom presentation of 15 patients with bhang-induced psychosis suggested that the condition is characterized by three general components. The first component comprised 'mania like' features: e.g. excitement, grandiosity, hostility and uncooperativeness. Suspicion, mannerisms, posturing, hallucinatory behaviour and tension suggesting a 'paranoid-like' psychosis characterized the second component. The third component consisted of unusual thought content, conceptual disorganization, disorientation and blunted affect. With the exception of blunted affect this component represents cognitive disorder [16]. These findings are broadly in agreement with our findings and suggest that cannabis psychosis is an agitated organic psychosis with manic and paranoid features.

In conclusion we state that there are high rates of cannabis use among patients with various psychiatric disorders. Therefore the availability of facilities for urine testing for cannabis and other commonly misused drugs in psychiatric centers will greatly facilitate early detection of such patients.

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