Indian Journal of Health and Well-being 2024, 15(2), 175-178
Peer-reviewed and Indexed Journal
https://iahrw.org/our-services/journals/indian-journal-of-health-wellbeing/

ISSN-p-2229-5356,e-2321-3698

Prevalence of Psychosis and its Association with Cannabis Dependence Syndrome

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One may find it amusing that cannabis has been used traditionally in India since the Vedic period and texts of Ayurveda mention the use of cannabis. However, cannabis use has been linked with fundamental brain functioning and associated with anincreased risk of psychotic disorder. To assess the association between cannabis dependence syndrome and the prevalence of psychosis. The study was a cross-sectional hospital based study. The sample size comprised 260 individuals diagnosed with cannabis dependence syndrome, using purposive sampling techniques. Tools used were the Brief Psychiatric Rating Scale and Cannabis Use Disorder Identification Test. Study results show regular and high use of cannabis is associated with the prevalence of psychotic symptoms. The prevalence of psychosis among the selected individuals of cannabis users was highly prone than among the general population in India. Cannabis dependence syndrome is a particularly high risk group for psychotic disorders.

Keywords: cannabis dependence, prevalence, psychosis, hospitalization

Cannabis is the most extensively used illicit drug in India and it seems to be increasing in developed and developing countries (Hall & Degenhadt, 2007). Cannabis is one of the most commonly addictive substances used by adolescents and young adults, it's easily available in India. Cannabis can change brain functioning and play an important role in fundamental brain functioning such as neuronal cell proliferation. Cannabis abuse is associated with an increased risk of psychotic disorder, this research attempts to develop and discuss a possible reason for the prevalence of psychosis (Shrivastava et al., 2014).

World Drug Report 2014 by United Nations Drug and Crime in the global market for cannabis (both herb & resin) continues to expand; more than half of countries reported cannabis as the primary substance of abuse (WPRLD Drug Report, 2016). Indian National House hold survey demonstrated a prevalence figure of 4% and 3.3% for lifetime and current cannabis users (Ray, 2004).

Cannabis is used in numerous medicines, and it will be helpful in many cases but used flowed by certain procedures. But direct cannabis is dangerous for abusers it has been linked to an excess of psychopathology, cognitive dysfunction, disrupted psychosocial functioning and many psychological problems. Interestingly, in recent times especially after the existence of the endocannabinoids (eCB) system, renewed attention to the use of cannabis derivatives for therapeutic purposes is noted (Mechoulam et al., 2002; NASMD, 2017). In 2012, between 125 million and 227 million, people were estimated to have used cannabis, corresponding between 2.7% and 4.9% of the population aged. There is the trend of increasing use of cannabis in America, Oceania and several Asian Countries (WPRLD Drug Report, 2016).

Cannabis is involved in approximately 50% of psychosis, schizophrenia, and schizophrenia psychosis cases (Shrivastava et al., 2014). The past few years have led to the development of a plausible model in which schizophrenia is viewed as the consequence of a number of constituent causes, such as genetic factors or early environment hazards that slightly alter consequent neurodevelopment (Di-Forti et al., 2007). The incidence of psychosis in cannabis exposed and non-exposed populations is reported 31 and 20%, respectively (Kuepper et al., 2011). Cannabis exposure may be a “component cause” which interacts with other factors that may be a possible cause of schizophrenia or other psychotic disorders, but is neither necessary nor sufficient to do so alone (Malik, 2006).

Method

Aim of the study was to assess prevalence of Cannabis Dependence Syndrome and Its Association with Psychosis. The study was cross sectional hospital based descriptive research design. Total 260 individuals selected throw convenient sampling technique. Individuals diagnosed with cannabis dependence syndrome, taking treatment at Inpatient and outpatients department of IMHH Agra. Individual having co-morbid psychiatric illness or history of other substance abuse (except nicotine) was excluded from the study. Tools used for the study self-prepared Socio-demographic datasheet, Cannabis use Identification Test,(Adamson & Sellman, 2003) Brief Psychiatric Rating Scale (Overall & Gorham, 1962) assessing psychotic symptoms of participants.

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We have no known conflict of interest to disclose.
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Analyses were performed using IBM SPSS 20. Disruptive analysis for frequency, mean and standard deviation were done for basic information. Pearson's r correlations were administered for understanding relationship.

Results

Table 1 is shows mean age of the participants is 40.76 years. Educational qualification of the participants is 38.4% educated up to secondary education followed by 31.2% Matric, primary 28.5%, and graduation 1.9% respectively. In occupation total 48.5% of participants are unemployed, 33.1% work as labor work in a daily basis, only 14.6% are professionals and 3.8% are students. A total 44.2 participants belong to urban area compared to 29.2% from rural and 26.6 from semi-urban areas. A total of 48.4% of participants are unmarried highest in marital status flowed by 44.6% married, 7.3% separated, and 2.3% Divorced in the study. More than half 55% of participants have family history of substance use.

Table 2 shows BPRS findings that 27% have a guilt feeling and 26%mannerism posturing. Total 22% of participants reported tension, a similar percentage covered by Depressive mood, unusual thoughts and disorientation. Hallucinatory behaviour was 31%, grandiosity and excitement domain reported 30% each respectively. Other domains of the BPRS scale show that anxiety, suspiciousness, and hostility scores were 17, 14, and 11% respectively.

Table 1

Socio-demographic Characteristics of Participants (N-260)

Variables		Response	Percentage
Age	Mean = 40.76	Sd = 11.19	
Education	Primary	74	28.5
	Secondary	100	38.4
	Matric	81	31.2
	Graduate	5	1.9
Occupation	Unemployed	126	48.5
	Labor	86	33.1
	Professional	38	14.6
	Students	10	3.8
Domicile	Rural	76	29.2
	Urban	115	44.2
	Semi-urban	69	26.6
Marital Status	Unmarried	127	48.4
	Married	116	44.6
	Separated	19	7.3
	Divorced	6	2.3
Family history of substance use	Yes	143	55.0
	No	117	45.0

Table 2

Brief Psychiatric Rating Scale Score

BPRS items	Not Assessed	Not Present	Very Mild	Mild	Moderate	Modreate severe	Severe	Extrmly severe
Somatic Concern	7.3	86.5	3.8	1.5	0.8	0	0	0
Anxiety	6.9	76.5	3.5	11.5	1.5	0	0	0
Emotional woihdrawal	7.3	86.2	4.2	1.5	0.8	0	0	0
Conceptual disorganization	6.9	84.7	5.7	1.9	0.8	0	0	0
Gult feeling	6.5	66.9	11.2	9.2	4.6	1.2	0.4	0
Tension	6.2	71.9	3.8	12.3	3.8	1.2	0.8	0
Mannerism Posturing	6.2	67.3	10.2	9.2	5.0	1.6	0.4	0
Grandiosity	5.8	64.2	6.9	15.8	5.4	1.2	0.8	0
Depressive Mood	6.9	69.6	4.6	10.8	5.0	1.9	1.2	0
Hostality	6.2	82.3	5.8	3.8	1.9	0	0	0
Suspiciousness	6.5	80.0	6.5	3.5	1.5	1.2	0.4	0.4
Hallucinatory Behavior	4.2	64.8	7.3	15.8	6.5	0.8	0.8	0
Motor retardation	7.3	86.5	3.8	1.5	0.8	0	0	0
Uncooperativeness	7.3	85.8	3.8	2.3	0.8	0	0	0
Unusual thought Content	6.2	71.9	3.5	13.1	3.8	0.8	0.8	0
Blunted Affect	6.9	86.1	3.8	1.9	0.8	1.2	0	0
Excitement	5.8	64.2	7.7	15.0	5.4	1.2	0.8	0
Disorientation	6.2	71.5	3.8	12.3	3.8	1.6	0.8	0

Table 3

Association of CUDIT and BPRS Findings

Total Cudit	BPRS1	BPRS2	BPRS3	BPRS4	BPRS5	BPRS6	BPRS7	BPRS8	BPRS9
1	.284**	.023	.022	.131*	.68	.013	.018	.055	.123*
Total Cudit	BPRS10	BPRS11	BPRS12	BPRS13	BPRS14	BPRS15	BPRS16	BPRS17	BPRS18
1	.060	.007	.057	.018	.261**	.145*	.087	.025	.054

Note. Level of Significant: *0.05, **0.001

Table 3 shows the association of the Cannabis use disorder identification test with BPRS domain wise.

Discussion

Cross-sectional study was conducted among individuals with cannabis dependence in in-patient and out-patient departments. The study was focussed on the prevalence rate of psychosis among cannabis users. The prevalence of Psychosis was found quite high which was supported by previous research in India (Singh & Balhara, 2017; Patel et al., 2020). Our study found that significant association between using cannabis products even low content and high levels of psychotic symptoms were present in the individuals taking cannabis. There is strong evidence linking chronic cannabis use to an increase risk of developing psychosis and schizophrenia among individuals. The majority of the participants were young mean age of the study was 40 years (Patel et al., 2020). The risk is developing depressive episodes among young individuals who use cannabis regularly is high it also found that cannabis use can increase the suicidal risk without presenting pre-existing conditions (Gobbi et al., 2019). Strong evidence was reported that depression is associated with cannabis use during early adolescence through to late childhood, which varies across an individual's life, with the strength of the relationship (Leadbeater et al., 2019). Individuals with cannabis dependence increased risk of depression due to bidirectional relationship and pattern of use and individuals who initiate cannabis use commonly experienced depressive symptoms (Womack et al., 2016; Rhew et al., 2017). A survey conducted by Department of Health and Human Services in India in 2019 suggested that 14% of students and young adults engage in at least monthly use of cannabis (Leadbeater et al., 2019). The current study result also shows that 13.8% of participants are a student that indicates a higher involvement of students in cannabinoid misuse. Cannabis is the second most commonly used substance in India few formats of cannabis have legal status for selling and production UP is also one of the states where this study was conducted. About 2.8% of the population (3.1 crores) reported any kind of cannabis product within the last year, Uttar Pradesh was the highest cannabis prevalence state found in the survey (Ambekar et al., 2019).

Cannabis use has a significant relationship with various factors that increase the risk of poor academic performance, unemployment and Mental health challenges like depression, Schizophrenia, and other Psychotic disorders (Singh & Balhara, 2017; Patel et al., 2020; Womack et al., 2016). The association between anxiety and cannabis is also complex. Most of the people used cannabis for its euphoric and relaxing feeling. Individuals also reported that after consuming cannabis they felt anxious or paranoid (WPRLD Drug Report, 2016). The association of cannabis dependence and anxiety disorders was also stabilised (Kedzior & Laeber, 2014). Gobbi et al. (2019) found that cannabis use in adolescence is associated with harmful outcomes during adulthood like, adverse social behaviours, decreased neuropsychological and cognitive function, and increased risk for depression, anxiety, and suicidality. Regular cannabis use was associated with an increased risk for past-year bipolar disorder (Cougle et al., 2015). Evidence suggests that on the basis of literature heavy and frequent cannabis use, is also an important risk factor contributing to suicidal behaviour (Borges et al., 2016; Delforterio et al., 2015; Shalit et al., 2016).

Conclusion

Cannabis and Psychosis has a adjacent relationship throughout history. We have evidence indicating cannabis use predisposes or leads to the development of psychotic symptoms. The association of Psychosis with cannabis use endorses the need for early detection and management of cannabis use. Young age was found highly susceptible to developing psychotic symptoms so the special attention is needed for the management especially in the younger generation. Policy makers should look into the selling/ availability of cannabis to act as a preventive strategy.

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Received April 5, 2024
Revision received May 6, 2024
Accepted May 10, 2024