Original Article

Time Trends of Cannabis Use Among Treatment-seeking Individuals at Government De-addiction Centers Across India Over a Period of 7 Years

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ABSTRACT

Background: Cannabis continues to be the most commonly used illicit psychoactive substance globally. The National Survey in India conducted in the year 2004 also reported it to be the most commonly used illicit substance in the country. Furthermore, it was reported to be the second most commonly used psychoactive substance by the treatment seekers at de-addiction centers in the country. **Objectives:** To assess time trends of cannabis use among treatment-seeking individuals at government de-addiction centers across India over a period of 7 years. **Materials and Methods:** The study utilized data collected through Drug Abuse Monitoring System across India. The data of treatment seekers from de-addiction centers established under the Drug De-addiction Program, Ministry of Health and Family Welfare, Government of India and supported by the Ministry of Social Justice and Empowerment, Government of India (122 in number) across the country were analyzed. **Results:** A total of 107,469 individuals sought treatment from government de-addiction centers over the 7 years (2007–2013) period. With the exception of an aberration for the year 2012, there has been a steady decline in the proportion of treatment seekers who are not current cannabis users. A significantly greater proportion (Chi-square: 586.30, df: 1, $P < 0.001$) of individuals with current cannabis use alone or along with tobacco (20.4%) tend to have a co-morbid psychiatric disorder as compared to treatment seekers with current use of substances other than cannabis (6.1%). **Conclusions:** It is important to focus on cannabis in clinical service delivery and research in the country.

Key words: *Cannabis, comorbid disorders, dual disorders, psychiatric disorders, treatment seeking*

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INTRODUCTION

Cannabis continues to be the most commonly used illicit psychoactive substance globally.[1] The National Survey in India conducted in the year 2004 also reported it to be the most commonly used illicit substance in the country.[2] In addition, it was reported to be second most commonly used psychoactive substance by the treatment seekers at de-addiction centers in the country.

There has been limited published literature on time trends of psychoactive substance use from India with only a few publications reporting longitudinal trends in substance use patterns among treatment seekers.[3-5] None of the studies have reported trends of cannabis use among treatment seekers across multiple treatment centers.

The earlier reports of stabilizing (and at times even decreasing) trends of cannabis use across the western countries have been challenged.[6,9,10] Recent worldwide trends indicate rising prevalence rates of cannabis use and cannabis-related hospitalizations with adolescents and young adults being especially vulnerable. In addition, evidence suggests cannabis use to be especially high among those who are using psychoactive substances for the first time.[6] Findings from India also suggest a high rate of use of cannabis among those on opioid substitution therapy.[7] The number of first-time entrants in treatment who were seeking help for cannabis use was higher than for other substances in most regions of the world during the past decade. Asia has the highest proportion of cannabis users in this group (62%).

However, little is known about the trends of cannabis use in a large proportion of world's population as there is no published report on trends over the years for cannabis use from some of the world's most populous countries including India.

The current report aimed at assessment of profile and time trends of cannabis use among treatment-seeking individuals at government de-addiction centers across India over a period of 7 years.

MATERIALS AND METHODS

The present report is based on the cross-sectional assessment of treatment seekers at various government de-addiction centers across India. The study utilized data collected through Drug Abuse Monitoring System (DAMS), across India. The details regarding the conception, implementation and other activities of DAMS, had already been published elsewhere.[11] In brief, DAMS is an ongoing project on regular collection and management of the data of treatment seekers from de-addiction centers established under the Drug De-addiction Program, Ministry of Health and Family Welfare, Government of India and supported by the Ministry of Social Justice and Empowerment, Government of India. DAMS is the only ongoing system of data collection (since 2007) on treatment seekers from Ministry of Health, and Family Welfare supported de-addiction centers at the national level in India. Information is gathered from 122 centers across the countries that are supported by DDAP.

The questionnaire used to gather information has been described elsewhere.[12]

Records of the treatment seekers over 7 years (2007–2013) were reviewed. The treatment seekers were classified into three groups-those using only cannabis (OC), those using cannabis along with other substances excluding tobacco (C + OD) and those using substances other than cannabis (OTC).

Data were analyzed using IBM® SPSS® Statistics 21.0. The comparability of presenting age at the time of treatment was checked by one-way analysis of variance. The Chi-square test (trend) was performed to test for the linear trend. The comparison of age at the time of treatment seeking for OC and C + OD groups were carried out using two sample independent *t*-test.

RESULTS

A total of 107,469 individuals sought treatment from government de-addiction centers over the 7 years (2007–2013) period. Almost all (99.4%) were male. Of these 14,561 (13.54%) reported current cannabis use. Over the period of 7 years, 15.3% of the treatment seekers reporting current cannabis use consumed it alone or along with tobacco. The rest (84.7%) use cannabis with at least one other psychoactive substance other than tobacco. Figure 1a-f represents the socio-demographic profile of the treatment seekers in the three study groups across the seven study years.

The mean age of cannabis users was found to be 30 (standard deviation 10) years. The mean age of treatment seekers with current use of cannabis and, at least, one other psychoactive substance (besides tobacco) was more than treatment seekers with current cannabis use alone or along with tobacco (F: 27.05, df: 1, $P < 0.001$). A significantly greater proportion (Chi-square: 586.30, df: 1, $P < 0.001$) of individuals with current cannabis use alone or along with tobacco (20.4%) tend to have a co-morbid

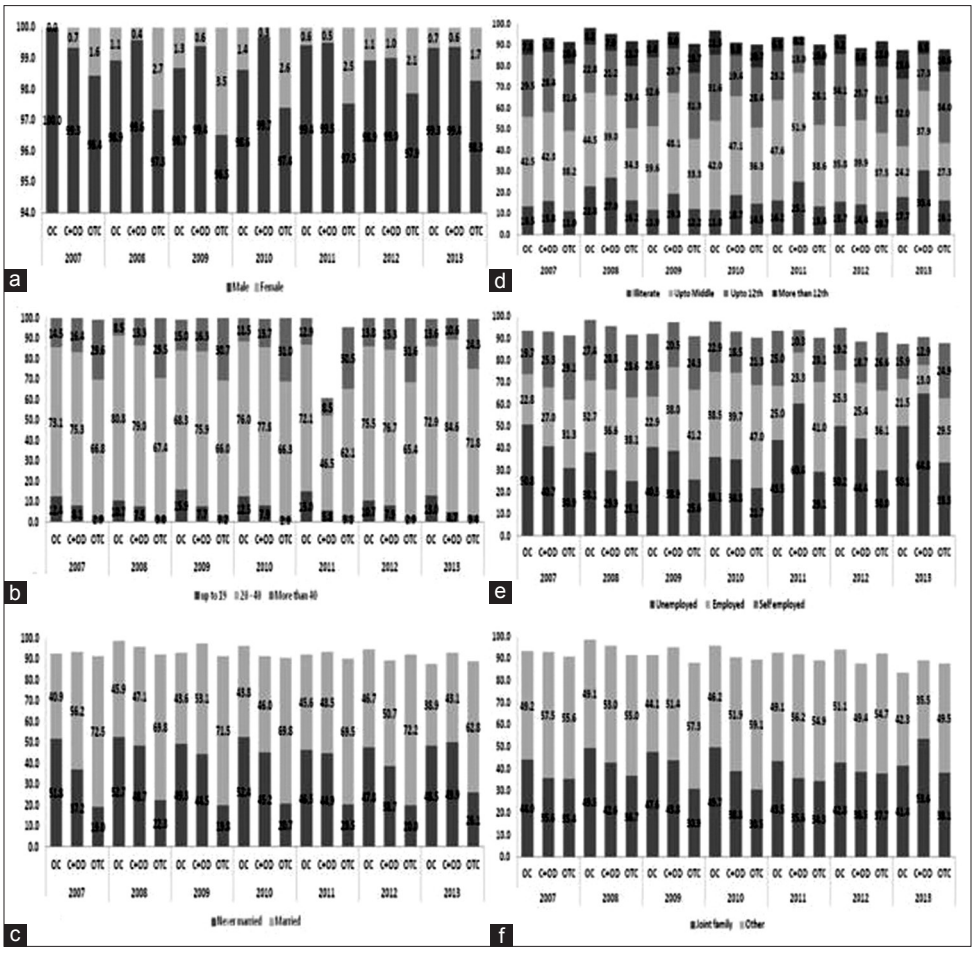

Figure 1: Component bar chart demonstrating the distribution of treatment seekers across India for different groups: Only cannabis along with tobacco (OC); cannabis along with other substance (C + OD) excluding tobacco; substances other than cannabis including tobacco (OTC), for various characteristics gender (a), age (b), marital status (c), education (d), employment (e), and living arrangement (f)

psychiatric disorder as compared to treatment seekers with current use of substances OTC (6.1%).

With the exception of an aberration for the year 2012, there has been a steady decline in proportion of treatment seekers who are not current cannabis users ($P_{Trend} < 0.001$) [Table 1]. In addition, among those who report current cannabis use, the proportion of those using it alone (or along with tobacco) is also on a decline with an increasing number of current cannabis users reporting use of other psychoactive substances.

DISCUSSION

These findings highlight the trends for cannabis use over a period of 7 years among those seeking treatment from government de-addiction centers across India.

Cannabis has been reported to be a commonly used psychoactive substance among the treatment seekers in previous Indian studies. Venkatesan *et al*. observed changing characteristics among treatment-seeking substance users across 3 decades (1985–2006) and reported cannabis use in 28% of the polysubstance users, second only to alcohol.[4] A large proportion of cannabis users (84.7%) were found to be polysubstance users in the current study as well. Basu *et al*. found that 9.6% of treatment seekers during 1999–2008 for substance use disorders were dependent on cannabis.[5] Around 14% of the treatment, seekers have reported cannabis use in the period 2007–2013 in the current study.

Long-term trends in cannabis use have been studied in some western countries. National prevalence of daily cannabis users among the general population in Australia has fluctuated between 14.9% and 16.4% over the previous decade.[13] A significant proportion of treatment seekers from other countries also report using cannabis. According to the National Survey on Drug Use and Health on US teens and adults, marijuana use has increased from 5.8% in 2007 to 19.8% in 2013 while the use of other drugs has not increased.[14] The Canadian Alcohol and Drug Use

Table 1: Year-wise distribution of study subjects

Groups[@]	Year							Total
	2007	2008	2009	2010	2011	2012	2013	
OC	193 (1.7)	281 (2.4)	227 (1.9)	288 (2.3)	340 (2.2)	458 (2.3)	447 (1.8)	2234 (2.1)
Mean age (SD)	30 (11)	28 (9)	29 (11)	29 (10)	29 (10)	30 (10)	29 (11)	
C + OD	904 (8.1)	1169 (10.1)	979 (8.4)	1311 (10.3)	2146 (13.6)	179 0 (9.1)	4028 (16.1)	12,327 (11.5)
Mean age (SD)	31 (10)	30 (10)	31 (10)	30 (10)	31 (10)	31 (10)	30 (9)	
OTC	10,074 (90.2)	10,129 (87.5)	10,450 (89.7)	11,123 (87.4)	13,292 (84.2)	17,366 (88.5)	20,474 (82.1)	92,908 (86.5)
Mean age (SD)	36 (11)	35 (11)	36 (11)	36 (11)	36 (11)	36 (11)	34 (11)	
Total	11,171	11,579	11,656	12,722	15,778	19,614	24,949	107,469

[@]OC – Only cannabis or cannabis along with tobacco; C + OD – Cannabis along with other substances; OTC – Substances other than cannabis excluding tobacco; SD – Standard deviation

Monitoring Survey has reported a decline in a lifetime and past use prevalence of cannabis from 2004 to 2012 with the decline from 2004 to 2011 being statistically significant.[15] The 2011 annual report from European Monitoring Center for Drugs and Drug Addiction (EMCDDA) reported the age group of 15–24 years to have the highest lifetime prevalence of cannabis use (30%) in Europe.[16] The 2014 EMCDDA report indicates a reduced prevalence.[17]

Studies also indicate higher association with high-risk alcohol and illicit substance use in cannabis users.[8] Similarly, there is an increase in trend of cannabis being a companion drug among those seeking treatment at the government de-addiction centers in India. This predisposition could be due to effect of cannabis on the meso-cortico-limbic dopaminergic pathway as well as social factors such as marginalization, poor educational outcomes, unemployment, and higher rate of exposure to other drugs. Furthermore, individuals who use cannabis along with other psychoactive substances are at higher risk of having a co-morbid psychiatric disorder as observed in the current study.

Research suggests that the average age of initiation of cannabis users worldwide is declining; however, this trend in declining age did not reflect among the treatment seekers in the current study. This shall suggest that in spite of starting early the cannabis users fail to seek treatment early. Moreover, those who use cannabis along with any other psychoactive substance (apart from tobacco) tend to seek treatment at an even later age. This observation becomes even more relevant in context of the observation that these individuals are more likely to experience co-morbid psychiatric disorders.

There are limited treatment options for individuals with cannabis use disorders. There remains a need to build a case for importance of cannabis use related issues. More potent forms of cannabis are being cultivated and sold in most parts of the world while the laws regulating cannabis production and sale (including recreational use) have become more relaxed across many countries. Its impact on future trends in use is expected.

The current study has certain limitations. The findings are reported from only the government de-addiction centers. The available information does not permit evaluation of the possible variables associated with these observations. In spite of these limitations, a salient feature of this report is that it has looked at changing trends over a 7 year period (2007–2013) in the de-addiction center across the country. Moreover, the findings have been reported for the treatment seekers who are more likely to be problem users. The findings of the current study suggested that cannabis is a common companion drug among treatment seekers at de-addiction centers in India. Hence, it is important to focus on cannabis in clinical service delivery and research in the country.

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Conflicts of interest

There are no conflicts of interest.

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