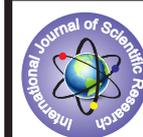


Cannabis Use in Adolescence- A 4-Year Experience



Medicine

KEYWORDS: - cannabinoid, frequency, adolescent

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ABSTRACT

Introduction: Cannabinoids are becoming increasingly popular in adolescent age group as an abused substance. **Aim:** To investigate adolescent age group cannabis users admitted to a tertiary care hospital.

Materials and Methods: Hospital database was screened for "cannabis drug level", "drug abuse" and "substance abuse". Positive reports for the presence of cannabinoids in urine were included. Cases with 13-18 years of age were included. **Results:** Hospital data scanning results showed 392 patents estimated for cannabis abuse suspicions throughout 4 year, among whom 75 patients were for positive urine drug testing. Men made up 86.2 % of the patients, the average age of users didn't change significantly in four years with mean age of 17 years old. The percentages of cannabis users increased in years; and the winter was found to be the most prevalent season. Majority of the patients (49.3%) were from forensic medicine out clinic Patients admitted to the hospital were discharged on the same day. None of the patients died.

Conclusion: Substance of abuse can cause potentially serious health care conditions that necessitate emergency evaluation. The widespread use of cannabinoids among adolescents draws attention to the need for further study of cannabis dependence as an important topic in public health.

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Introduction

Cannabis is a substance with deep roots, the earliest recorded uses date of which cast to the 3rd millennium BC (1, 2). The first report on cannabis in medical literature was in early 1980th (3), and thousands of ongoing investigations and reports have been discussed so after. Though it is not a debate that cannabis consumption has deleterious consequences, recreational use of the substance remains to be a widespread problem, and still cannabis is the most widely used illegal substance worldwide (4, 5) with estimated 128-232 (2.7% to 4.9% of the global population) million current users (4). United State reports declare that 12% of people 12 years of age or older confess use cannabis in the past year, and particularly high rates of use among young people (6). Even though cannabis has been subject to legal restrictions in the early 20th century (7), especially in the past decades, this 'outbreak' has been spread rapidly among the youth. Clinical reflections of cannabis use are ill-defined and it is still a challenge for physicians (8).

Studies report cannabis misuse to increase mortality among young men (9), relate it with increased risk for commit violent crimes (10), and even passive exposure to the smoke of cannabis is not innocent and may cause multiple health damages (11).

In order to investigate the breadth of the problem in our region, we conducted a retrospective study comprising four-year period. We aimed to scan the cannabis use in younger population admitting to a tertiary care hospital.

Materials and Methods

The hospital records of a Tertiary Care Hospital for ICD-10 codes related to cannabis use/abuse were investigated through 4-year-period retrospectively, Jan.2012-Dec.2015. Also, data of biochemistry and pharmacology laboratories was scanned for codes 'cannabinoid drug level in urine' and the patients 13-18 years of age were involved to the study.

The patients with negative laboratory results for substance level, and patients with lack of data were excluded from the study.

Positive reports for presence of cannabinoids in urine were investigated. Patients only between 13 and 18 years of age were taken into consideration.

Demographic features as number of patients, gender, age and seasonal distribution were determined. Information about the unit the patients admitted to, and also hospitalization and discharge data was investigated.

The data was evaluated for demographic features and descriptive statistics were performed. Main groups were separated into years. In subgroups, seasonal, gender and age variants were investigated. Both parametric and non-parametric tests were performed to force the results of analyses. Correlation and one-way ANOVA test were performed to investigate the relation of groups. SPSS 15 statistical software package for windows was used in the analysis.

Results

Between Jan. 2012 and Dec. 2015, 392 13-18 years of age patients were suspected and investigated for cannabis abuse. In 75 of the patients cannabis was detected meantime; demographic features of the patients are on table 1.

We evaluated the clinics where patients admitted first; the highest number of urine samples was from outer centers (n=209, 53.3%) and samples from forensic outpatient (n=137, 34.9%) (the patients who admit to hospital by prosecutor order). The other samples were collected from emergency department (n=21, 5.3%), psychiatry outpatient (n=14, 3.5%) and pediatric (n=11, 2.8%) outpatient clinic respectively. The positive detection ratio for cannabis in the samples was 49.3% (n=37), 45.3% (n=34), 2.6% (n=2), 1.3% (n=1) and again 1.3% (n=1) respectively from forensic medicine outpatient clinic, from samples from outer center, emergency department, psychiatry outpatient and pediatric outpatient clinic.

No one of the patients needed hospitalization. Most of the urine samples were collected in daytime working hours within 08:01-16:00 (n=280, 71.4%), and the others were collected in evening and night shifts, within 16:01- 00:00 and 00:01-08:00, 95 (24.2%) patients and 17 (4.3%) patients respectively. The positive detected urine samples for cannabis were as below: 53 (70.6%)

samples in daytime shift, 18 (24%) and 4 (5.3%) samples in evening and night shifts respectively.

Temporal relationship for hospital admission was analyzed; increase in number in years and accumulation in certain months was reported (Table2.). The highest prevalence of cannabis use was reported in winter (Figure1.).

Discussion

The great is the problem of substance abuse in younger adult population the little is known about the patterning of adolescent cannabis use.

Most studies on cannabis use disorders and extensive reports on cannabis misuse prevalence assert male sex dominance (6, 12-14). Again, Korsgaard et al. reported the association between substance misuse and gender, they claimed girls to have more severe addiction properties (15). On the other hand our study groups was male dominate (p<0.05). Cultural features have great impact on initial utilization of the substances (16), they also affect alterations in the number of adolescent girls and boys addicting to substance use(17). Substance addiction is a present time disaster that involves victims from all ages; especially among adolescents (18-20). United States study reports have showed that prevalence of marijuana misuse among adolescents was declining (21), but still cannabis abuse remains to have high prevalence among the youngers (22). In our study, we disclosed that cannabinoid misuse had been increasing in number over four years; with data that each year cannabis users' number folded 2-3 times. We also want to mention that we reported only those cannabis users with positive urine tests on admission to the hospital. Therefore, other abusers with negative urine tests were not included into the study. Therefore the number of the cannabis users should be higher than our reports. On the other hand, as our study showed that the number of cannabis users has folded each year, the exact number of cannabis users should be much higher than reported.

Studies report different range of childhood substance abuse; in their studies Harolyn et al. report age of abusers dropping to early school age, up to 11-12 years old (23, 24). In our research, average age of cannabis misusers was reported 16-17 years. Such a manacle for young adults' health on the eve of their independent life is hazardous; both for themselves and for populations.

We reported a positive (but not statistically significant, p>0.05) correlation between cannabis uses report number. According to our investigation prevalence of cannabis use increased in winter (the most) and spring (Table2). investigations on risk factors for drug abuse emphasize reality about likelihood of receiving cannabis offer from friend and school surroundings (25), and therefor increased cannabis abuse rate within academic time period(26). This outcome should direct the authorities to the point where the problem originated-schools, social areas for adolescents etc., in order to carry out their precautionary work.

The hospital records indicated that hospital admissions of cannabis misusers with clinical presentation such as intoxication symptoms, withdrawal or deprivation signs were less in number and were mostly detected on evening and night shifts. Besides, outpatient admissions to forensic medicine clinic and the patients' number that have been send to hospital for medical control by the judiciary, was obviously higher. During daytime shifts 70% of the patients suspected for cannabis use were evaluated, and 70% of them again were detected actual users meantime.

Because adverse health effects of cannabinoids misuse identified in details; as risk of addiction (4), negative affect on brain development (27), relation to mental illnesses(28), risk of motor-vehicle accidents (29), and cardiovascular and respiratory side effects (16), we need to develop strategies in order to protect adolescents, as the most vulnerable group of population.

Conclusion

Our study confirms an alarming increase in cannabis misuse; users' number reports among adolescents doubles nearly each year.

Academic semester period is the most risky time for abuse. Surveillance of drug abuse, especially in young population is essential.

Tables and Figures

Table1. Demographic features of patients

	Patients, detected use cannabis					
	Female	Male	Total	Female	Male	Total
Patients, evaluated for cannabis use						
Gender, n (%)	54 (13.77)	338 (86.22)	392 (100)	9 (12)	66 (88)	75 (100)
Age (mean), years	16.00	17.00	17.00	16.19	17.43	17.00

Table2. Distribution over years and seasonal distribution of cannabis use report

	2012	2013	2014	2015
Cannabis users, suspected ,(n)	25	35	92	240
Cannabis users, proven ,(n)	10	11	32	22
	Winter	Spring	Summer	Autumn
Cannabis users, suspected ,(n)	125	96	80	91
Cannabis users, proven ,(n)	23	21	13	18

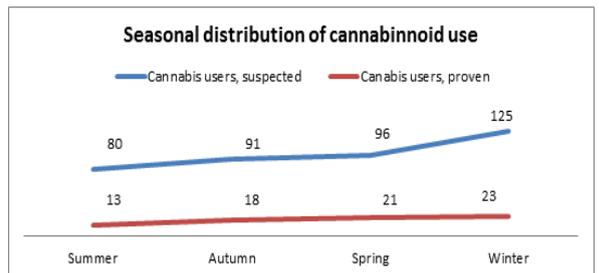


Figure1. Cannabis users' data incline: distribution in regard with seasons

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