Socio-Demographic and Clinical Profiles of Cannabis Abusers Admitted for Treatment in a Tertiary Healthcare Facility in Uyo, South-South Nigeria

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Authors' contributions

This work was conducted in collaboration among the authors. Author JHE designed the study and wrote the protocol. Author AUI performed the statistical analysis and performed the literature search. Author VEI wrote the first draft of the manuscript. All the authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Background: Cannabis is one of the commonly abused psychoactive substances worldwide. The increasing abuse of this psychoactive substance is recognized as a significant public health problem in many developing countries. A proper assessment of the patterns and trends of cannabis use disorders will be useful because of the increasing number of cannabis abusers worldwide and demand for appropriate treatment.
Aims: This study examined the socio-demographic and clinical characteristics of cannabis abusers admitted for treatment in a tertiary healthcare institution in the South-South region of Nigeria.
Materials and Methods: This was a retrospective study involving 105 subjects of cannabis abusers admitted for treatment over a one year period from August 2017 to July 2018. Socio-demographic and clinical variables were obtained from a careful chart review using a 35 item questionnaire. Diagnoses were made according to the International Classification of Disease Criteria (ICD-10).

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Results: 105 subjects were included in this study. The mean age of patients was 29.71±8.2. The mean age of initiation of substance use was 19.05±3.0 years. Males were predominantly involved in cannabis abuse practices. The age of initiation of substance use was significantly different between the male and female subjects (t=-2.86, *P=.009).* The age of initiation and duration of substance use was significantly related to the risk of developing substance dependence and psychotic symptoms.

Conclusion: Cannabis was commonly abused by people who were often unemployed, single, young males involved in multiple drug abuse. The low mean duration of use, multiple substance abuses together with increasing frequency of psychiatric morbidity forms a major challenge for our mental health care services. There is the need for preventive, curative, and rehabilitative strategies to reduce the public health impact of this scourge.

1. INTRODUCTION

Psychoactive substances use disorders are seen as major public health problem because of the magnitude of the social and economic burden to society through rising health care costs, loss of productivity and family income and disabilities associated with it [1]. The World Health Organization (WHO) has defined drug dependence as a cluster of behavioural, cognitive, and psychological phenomena that develop after repeated substance use and that typically includes a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite evidence of harm, tolerance, and occasional physical withdrawal state [2].

Drug use estimates in 2014 show that 1 in 20 adults, or a quarter of a billion people between the ages of 15 and 64 years, used at least one psychoactive drug. Of these, over 29 million people worldwide suffer from drug use disorders [3]. Recent studies have reported steep increases in the abuse of drugs worldwide particularly in the developing countries [4-6]. The youths and adolescence are more commonly involved in substance abuse than other age groups. According to World Health Organization's report, the age of initiation into drug use for 24.4% of the substance users was between 15 – 19 years of age [2].

Commonly abused psychoactive drugs tend to vary in different regions of the world. The main drugs of abuse are opiates in European and Asian countries, cocaine in South America and cannabis in Africa [7]. Cannabis is the world's most commonly used psychoactive drug, with approximately 200 to 300 million regular users. It is reported as fourth in worldwide popularity among psychoactive drugs, after caffeine, nicotine and alcohol [8].

In Nigeria and many African countries, industrialization, urbanization and increased exposure to Western life style have contributed to the spreading of substance use, with alcohol and tobacco and cannabis being the most commonly abused substances. Factors like unhealthy family background, high social class, peer-group influence, desire to remain awake at night, pressure to succeed in academic work, self-reported poor mental health, and easy accessibility of drugs have also been implicated [9-11].

Substance abuse among youths in different cultures is associated with social and mental problems in youth and adulthood. Significant psychopathologies and co-morbid psychiatric disorders have been described among heavy cannabis users. Previous studies have reported that people with substance use disorders have a higher risk of mortality and are also more likely to have a psychiatric disorder than people without substance use disorders [12-14].

A substantial percentage of the national resources are utilized for the treatment and rehabilitation of people with substance use problems [11]. A World Health Organization (WHO) report states that the main location for treatment of substance use disorders is the specialist substance abuse system, followed by the mental health system, the general health system, and primary care [2]. Considering the current magnitude of substance abuse in many African societies and the paucity of data on the use of specific substance, this study is imperative as only a few studies have been conducted on cannabis dependent subjects in treatment context trying to quit their drug use habit. Little is known about the pattern of presentation of cannabis use disorders in the psychoactive drug treatment context in the African setting. Little is

also known about any potential impact of various independent variables on the association of psychiatric co-morbidity of cannabis abusers with service utilization. This study was designed to make some contributions in this regard.

2. MATERIALS AND METHODS

2.1 Location of the Study

This study was conducted at University of Uyo Teaching Hospital in October, 2019. The hospital is located in Uyo, the capital city of Akwa Ibom State, Nigeria. The hospital is a 450 bed capacity tertiary healthcare centre that offers secondary and tertiary care service. It receives referral from primary and secondary healthcare facilities in the state as well as from the neighbouring states. All diagnoses made in the institution were according to the tenth edition of the International Classification of Diseases and health-related disorders (ICD -10) criteria. Clinically generated data for each subject enrolled were matched to the ICD -10 criteria.

2.2 Subjects

This was a retrospective study involving hospital chart review. Data were collected retrospectively. Data sources were hospital records and case sheets. Over a period of one year (August 2017 to July 2018), 105 cannabis abusers who were admitted for treatment in the drug unit of the Teaching Hospital were included in the study. The main inclusion criteria were a history of current abused of cannabis or a history of cannabis abuse three months before admission for treatment. The subjects with no clear ICD-10 diagnosis were excluded from the study.

2.3 Instruments

A 35 item questionnaire designed by the authors was used to obtain relevant information from the case records. The information obtained included socio-economic status; age, education, occupation, duration of illness, history of hospitalization, drug use history, type of substance(s) used, age of initiation for each substance, and relevant family history, psychopathologies and diagnosis. The clinical diagnosis was based on ICD 10 (WHO 1992).

2.4 Procedure

The case records were first sorted out. Hospital records for the period march 2018 to August 2019 related to cannabis abuse was identified and carefully examined for information on socio-demographic details, cannabis use related variables. Psychopathologies and clinical diagnosis were obtained based on ICD 10 criteria.

2.5 Data Analysis

Descriptive statistics such as frequencies, mean and standard deviation were computed for socio-demographic and clinical characteristics of the participants and other variables as appropriate. Inferential statistics such as t-test and chi square and Pearson correlation were used as appropriate. Significance was computed at $p < 0.05$. The Statistical package for the social sciences 20 (SPSS Inc., Chicago, IL, USA) program was used for statistical analysis.

3. RESULTS

3.1 Socio-Demographic and Clinical Characteristics

A total of one hundred and five persons participated in the study. The mean age of participants was 29.71 ±8.2 years. More than half were males (96.2%). About 85.7% participants were unmarried; Christian constituted 98% of studied population and 18.4% were skilled laborers while 28.6% were employed. A good percentage of the subjects (84.7%) had more than six years of formal education.

Drug use characteristics by substance abusers attending this treatment facility shows that the mean of age of initiation drug use was 19.05±3.04 years, indicating that an onset of substance abuse practice was mainly in the late adolescent period. The mean age of initiation of cannabis use was significantly different between the male and female abusers (t=-2.86, *P=.009*). Also, the duration of cannabis use was significantly higher among male subjects compared to female drug abusers (t=4.04*, P=.001*).

Considering the duration of cannabis abuse, majority of the study participants (62.5%) abused the cannabis for less than 3 years while 37.5% of the abusers have used it for more than 3 years.

Majority of participants (61.4%), initiated substances use before the age of 20 years and none initiated the use of the substance after the age of 40 years. The mean duration of cannabis use was 5.19±2.6 Cannabis use was the only drug of abuse for 28.6% of participants. Poly-

substance abusers constituted 71.4% of study participants. The mean duration of treatment following admission was 28.04±8.9 days.

Detoxification was the most common form of treatment given to these patients (89.2%), followed by antipsychotic medications (62.8%) and psychotherapy (50.8%).

Table 1. Socio-demographic characteristics

Variables	Participants N(%)
Mean Age	29.71±8.2
Age in years	
11-20	15(14.3)
21-30	75(71.4)
31-40	10(9.5)
41-50	5(4.8)
Sex	
Male	101(96.2)
Female	4(3.8)
Marital Status	
Single	90(85.7)
Married	15(14.3)
Educational status	
Primary	15(14.3)
Secondary	35(33.3)
Tertiary	55(52.4)
Employment status	
Employed	30(28.6)
Unemployed	75(71.4)
Cannabis use pattern	
Mono substance	30(28.6)
Poly substance	75(71.4)

Table 2. Drug use characteristics of study participants

Variables	Mean (SD)
Current age	29.71±8.2
Age of initiation of drugs	19.05±3.0
Duration of drug use	5.19±2.6

A high proportion of the cannabis abusers presented with psychopathologies and psychological symptoms. The common psychological and behavioural symptoms at presentation for treatment include hallucinations (63.8%), delusions (52.4%). The delusions among study participants were mainly persecutory delusions (40%) followed by grandiose delusion 18% and delusion of reference 6%. Hallucination was experienced in the auditory modality in 35% of the subjects.

Gross change in behaviour occurred in 41.9% of participants while aggressive tendencies manifested in 51.4% of participants, wandering tendencies was reported by 20.0% of subjects, overactivity/restlessness was reported by 38.1%, talkativeness was reported in 28.6% of study participants (Table 3).

Associated psychiatric diagnosis among study participants included schizophrenia present in 27.4% of, bipolar affective disorder was present in 5.3%, antisocial personality disorder was present in 2.3%, and delusional disorder was present in 2.5%. Family history of psychiatric disorders was present in 7.3% of participants.

The pattern of cannabis clinical diagnoses due to the use of cannabis is shown in Table 4. The proportion of subjects diagnosed for dependence syndrome and psychotic disorders were 51.1% and 85.7% respectively. A small proportion of the subjects presented with acute intoxication (3.8%), harmful use (2.9%) and amnestic disorder (1%). There was no significant difference in terms of gender, educational status or employment status in the likelihood to present with Harmful use (*P=.07*), dependence (*P=.09*) or psychotic features (*P=.5*) The male subjects were significantly more likely to present with cannabis intoxication compared to the female subjects (*P=.04*).

Table 3. Psychological and behavioural symptoms among cannabis abusers seeking treatment

Variables	N(%)
Hallucinations	67(63.8)
Delusions	55(52.4)
Change in behaviour	44(41.9)
Aggression (physical/verbal)	54(51.4)
Restlessness	40(38.1)
Wandering tendencies	21(20.0)
Talkativeness	20(28.6)
Irrelevant speech	14(13.3)
Sleep difficulties	55(52.4)
Sadness	5(4.8)
Psychomotor retardation	8(7.6)
Poor Judgment	40(38.1)

Table 4. ICD-10 Psychiatric diagnosis due to the use of cannabis

Diagnosis	N(%)
Acute intoxication	4(3.8)
Harmful use	3(2.9)
Dependence	60(57.1)
Psychotic disorders	90(85.7
Amnestic disorder	1(1)

3.2 Association between Socio-Demographic and Clinical Variables

For all cases, there was a significant correlation between age at presentation and duration of substance use (r=0.49, P<.001). The age at initiation of substance use had significant positive correlation with the duration of illness (*r=0.71, P<.001*). Also, the age of initiating cannabis use was significantly related to the risk of developing dependence (x^2=9.7, P=.002) and Psychotic symptoms (x^2=6.4, P.001). The duration of cannabis use was significantly related to the risk of dependence (x^2=4.76, P=.06) and developing psychotic symptoms (x^2=3.4, P=.06). The female subjects were as likely as the male subjects to develop intoxication (*P=.63*), drug dependence (*P=.77*) and psychotic symptoms (*P=.78*).

4. DISCUSSION

Treatment services utilization by substance abusers constitute one of the sources of assessing problematic substance use in the community. Apart from serving as a proxy assessment of the magnitude and pattern of substance abuse in the community, it also measures treatment needs and demand. Problematic drug abuse continues to be a major public health challenge worldwide because of the number of people adversely affected by psychoactive substances abuse. Cannabis remains one of the commonly abused psychoactive drugs in many communities worldwide. The growing number of cannabis abusers in many countries will certainly result in growing demand for appropriate treatment [1].

Worldwide there is a rising trend in the number of people who initiate substance abuse at an early age. In this study, most of the participants had initiated cannabis use before the age of 20 years. The mean age for the initiation of substance use in our study was 19.05±3.04 years which is similar to that reported in previous studies from Nigeria and from other parts of the world [15-17]. However, some studies have reported a comparatively lower mean age of initiation of substance use [18,19]. In our sample, the mean duration of cannabis abuse was 5.19±5.6 years. This mean duration of cannabis use before onset of health problems appears low when compared to studies that have reported much higher mean period of psychoactive substance use before utilization of treatment services [15]. This seems to suggest a relatively short period of substance use before the possibilities of developing mental

health challenges following cannabis abuse in our sample. Similar finding have been reported in previous studies [5,20]. Since more youths in the productive age group are becoming involved in drug abuse, the social and economic cost to the community is becoming enormous. Majority of cannabis abusers in the present study (96.2%) were male subjects with about 71.4% being multiple substance abusers. The involvement of most participants in multiple substance abuses has the potential to increase the risk of harm to the individuals involved and to the community at large. This finding is generally in support of previous studies which have reported similar results [16-18].

The initiation of cannabis abuse in adolescence in our study is consistent with WHO report on adolescent drug abuse prevention which states that 4% of self-reported substance users were under 15 years old and 24.4% of the substance users initiated substances use between 15 – 19 years of age [21].

Adolescence represents a period when youths make a transition from a restricted life to a more self directed life influenced by external factors including the school environment. This perceived freedom from direct adult and family supervision motivates the youth to indulge in unhealthy behaviours such as smoking, alcohol and drug abuse. Also, many countries in sub-Saharan Africa are experiencing rapid economic, social, and cultural transitions which have created favorable conditions for increased and socially disruptive substance use [22-24]. This in part may account for the high level of involvement of adolescences in cannabis abuse observed in this study. Increasing involvement of adolescents in psychoactive drug abuse can be attributed to the wide availability and easy accessibility of these substances especially alcohol and tobacco products. Both alcohol and tobacco have been described as "gateway drugs" to other substances [4,21].

The negative impact of psychoactive substance abuse on educational pursuit of participants is observed in this study. In the present study, although a large proportion of study participants (52.4%) had up to tertiary level of education, about 23.6% of these were either school dropout or showed irregular school attendance. This may reflect the possibility of cannabis related impaired cognitive function, lower scholastic performance causing increasing school dropout among cannabis abusers [16].

The role of gender in psychoactive drug abuse practice and service utilization is highlighted in the study. Men were significantly more likely than women to abuse cannabis. This is consistent with previous studies which have reported a higher rate of substance abuse among men compared to women [25]. Plausible reasons for the gender difference in the age of initiation of cannabis use and duration of cannabis abuse before utilization of treatment service may include the fact that societal roles of women have conferred greater stigma on women with substance abuse problems than their male counterparts. Women are considered primary caregivers and constitute supportive and stabilizing influences in the family structure, and therefore involvement in illicit substance abuse by women are perceived to be socially unacceptable particularly in the mainly traditional cultures that are prevalent in many developing countries. Also, the motivations for increased substance use differ between the sexes. Women are more likely to use cannabis to cope with tension and chronic stresses while men often report mood enhancement as a motive for drug use. Women are also known to be compelled into substance use by proximity to males abusing illicit substances [25-27].

Gender difference in treatment utilization is observed in the present study. This may point to potential problems in access to treatment services utilization among females. In previous studies, women have been found to be consistently less likely to utilize treatment services for drug related problems compared to men [27].

Previous epidemiological and clinical studies have reported increased risk of psychiatric morbidity following abuse of cannabis. In the present study, psychotic symptoms were commonly experienced as delusions, hallucinations and gross behavioural deviations. This may indicate that in a treatment seeking context, the abuse of cannabis is commonly associated with psychological or behavioural problems. Similar findings have been reported in previous studies conducted in Nigeria and India [28,29].

The high prevalence of psychotic symptoms in our sample is consistent with recent studies from some western industrialized nations which have reported strong association between cannabis use and psychotic symptoms in individuals who have had heavy or frequent cannabis use during adolescence. These studies also reported that the age at which cannabis use begins appears to correlate with the age at onset of psychosis, suggesting a causal relationship to the onset of psychosis in vulnerable individuals. Recent studies from America have reported an association between heavy cannabis use and various forms of psychotic symptoms and behavioural abnormalities including violent and destructive tendencies, interpersonal violence and aggressive behavior [30-37].

The role of gender in the development of psychiatric co-morbidities in psychoactive substance abuse has been widely reported in previous research. In the present study, males were as likely as the females to develop psychiatric co-morbidities following cannabis abuse. Earlier studies indicated that women have higher rates of psychotic co-morbidities compared to men [38]. Future research will be necessary to establish whether the increased levels of psychological problems among cannabis dependent subjects seeking treatment are usual consequences of cannabis abuse and also to establish whether the relationship is causal in nature.

5. LIMITATIONS

There are a number of limitations in the present study. This was a cross-sectional study which cannot establish causality. Also, these results are from a treatment-seeking population and the results may therefore not be generalizable to the general population at large. Moreover, a high proportion of the study participants are multiple drug abusers. This may limit the interpretation of the findings of the study in respect of cannabis use disorders. Underreporting may be a potential problem especially when collecting data from drug abusers. Reliance on hospital records may limit the information obtained in the course of the study.

6. CONCLUSION

The cannabis abuse is prevalent in the young adolescent age group of the population. A pattern of poly-substance abuse was found to be quite common in patients admitted for treatment of cannabis abuse. Psychotic symptoms and behavioural abnormalities were common in cannabis dependent persons seeking treatment. There is a growing risk of developing mental health problems with cannabis abuse. Measures are required to stem this tide of substance abuse

and improve the mental health status of the community.

CONSENT

As per international standard informed and written participant consent has been collected and preserved by the authors.

ETHICAL APPROVAL

Ethical approval for the study was obtained from the Institutional Research and Ethical Committee of the Hospital (UUTH/AD/S/96/XX1/012).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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