ORIGINAL ARTICLE

MARIJUANA SMOKING AMONG SECONDARY SCHOOL STUDENTS IN ZARIA, NIGERIA: FACTORS RESPONSIBLE AND EFFECTS ON ACADEMIC PERFORMANCE

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Abstract

Background: The use of Marijuana is on the increase worldwide especially among adolescents and youths. Marijuana smoking has gained a foothold in our environment because of peer group influence, accessibility and availability. Its medico-social effects could ruin the life and future of our youths. This study was undertaken to determine the prevalence and the factors that influence secondary school students in Zaria LGA to smoke and the effects on academic performance.

Methods: A cross-sectional descriptive study was employed to generate data among secondary school students. A multi-stage sampling technique was used. Data was collected with the use of a structured, pre tested self-administered questionnaire. χ^2 test was used to test for significance of association between categorical variables.

Results: Of the 350 respondents, 262 (74.9%) were males, while 88 (25.1%) were females. The study shows that 33 of the students smoke marijuana giving a prevalence of 9.4%. There were more smokers in the age group 15-19 years (54.6%). Other factors that influence marijuana smoking include family background, peer pressure and attendance of social functions. There was better academic performance (51.1%) among non smokers as compared to smokers (27.2%), and this was found to be statistically significant ($x^2 = 11.73, df = 5, P < .05$) There was also statistically significant association between age and marijuana smoking ($x^2 = 24, df = 2, P < .05$)

Conclusion: The prevalence of marijuana smoking is high. Age, family background, peer pressure and attendance of social function influence marijuana smoking. A comprehensive school health education program should be instituted to curtail this menace.

Key words: Marijuana smoking, prevalence, influencing factors

Résume

Contexte: L'utilisation de la marijuana est en augmentation dans le monde entier particulièrement parmi des adolescents et des jeunesses. Le tabagisme de marijuana a gagné un équilibre dans notre environnement en raison de l'influence, de l'accessibilité et de la disponibilité de groupe de pair. Ses effets médico-sociaux ont pu ruiner la vie et le futur de nos jeunesses. Cette étude a été entreprise pour déterminer la prédominance et les facteurs qui influencent des étudiants d'école secondaire dans Zaria LGA pour fumer et les effets sur l'exécution d'universitaire.

Méthodes: Une étude descriptive en coupe a été utilisée pour produire des données parmi des étudiants d'école secondaire. Une technique d'échantillonnage à plusieurs étages a été employée. Des données ont été rassemblées avec l'utilisation d'un questionnaire self-administered structuré et pré examiné. l'essai de Chi-place a été employé pour déterminer la signification de l'association entre les variables catégoriques.

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Résultats: Des 350 répondants, 262 (74.9%) étaient des mâles, alors que 88 (25.1%) étaient des femelles. L'étude prouve que 33 des étudiants fument la marijuana donnant une prédominance de 9.4%. Il y avait plus de fumeurs dans la catégorie d'âge 15-19 ans (54.6%). D'autres facteurs qui influencent le tabagisme de marijuana incluent le fond de famille, la pression de pair et l'assistance des fonctions sociales. Il y avait une meilleure exécution d'universitaire (51.1%) parmi des non-fumeurs par rapport aux fumeurs (27.2%), et ceci s'est avéré statistiquement significatif (x2 =11.73, DF =5, p< 0.05) Il y avait également statistiquement association significative entre l'âge et le tabagisme de marijuana (X^2 =24, DF =2, p< 0.05).

Conclusion: La prédominance du tabagisme de marijuana est haute. Vieillissez, fond de famille, pression de pair et assistance du tabagisme social de marijuana d'influence de fonction. Un programme d'éducation sanitaire d'école d'enseignement secondaire devrait être institué pour raccourcir cette menace.

Mots clés: Marijuana fumant, prédominance, influençant des facteurs

Introduction

Marijuana is a product of hemp plant *Cannabis sativa* which grows abundantly worldwide. The use of cannabis dates hack to the Stone Age when archaeologists found pots made from its fibers. However the use of it as an intoxicant and its consequences reached a global concern in the 21st century.

The burden of use and effects of marijuana and other psychoactive substances on the youths is assuming a dangerous dimension.[1-3] In a study by Eneh and colleagues among secondary schools students in Rivers State, Nigeria, the prevalence rate of cannabis use was found to be 26%. A study among secondary school pupils and high school pupils in Zambia and Santiago Chile found a prevalence rate of 10% and 7.3% respectively.[4,5]

In a study of trends in prevalence and pattern of substance abuse among secondary school pupils in Ilorin Nigeria,[6] it was found that there was a significant increase in current the use rates for alcohol, cannabis, mild stimulants and hypnosedatives. On the psychosocial correlates of substance abuse, a study among secondary school pupils in South Western Nigeria showed current use was associated with lower socio economic status, coming from a polygamous family, living alone or with a friend and self-rated poor academic performance.

In a similar study carried out in Ilorin,[7] the psychological correlates associated with cannabis smoking were male sex, self-rated poor academic performance and self-reported poor mental health. Another study in Ilorin, Nigeria,[8] it was found that current use of cigarettes and cannabis occurred significantly more in the male population. No significant sex differences were noted for other drugs (salicylates, analgesics antibiotics and stimulants) surveyed. In South Africa, a study of illicit drug use among high school adolescent[9] found that drug use, cigarette smoking and alcohol consumption are associated more with males than with females and most of the respondents do so when they are bored, tired or stressed up or at parties.

In the light of the worrisome trend in the use of cannabis and its numerous health consequences, this study was undertaken to determine the factors responsible and effects of marijuana on students' academic performance. The findings could also be use to design programmes and interventions that will curtail the menace in our environment.

Materials and Methods

The study was conducted among secondary school students in Zaria Local Government Area of Kaduna State, Nigeria in October 2004. According to the 1991 census, Zaria LGA had a total population of 284, 318 people, with 150, 501 males and 133, 817 females. The projected population of Zaria in 2004 was put at 412, 261. Zaria LGA has 13 wards and is predominantly populated by the Hausa and Fulani although members of other ethnic groups are found. Majority of the populace are Muslims and the predominant occupation is farming. There are 29 secondary schools in the LGA made up of 20 public and 9 private schools. A cross-sectional descriptive study design was employed. The study population consisted of secondary school students from the various schools in the LGA. Some of the schools are male only; others female only while others are mixed. A few have boarding facilities. A sample size of 360 was used based on a previous study[10] and determined using statistical formula for sample size determination in health studies.[11] From the list of the 29 schools, a proportionate allocation was used to select the schools based on all boys, all girls and mixed. This comprises of 4 boys schools, 1 girl school and a mixed school. Each school was equally allocated 60 questionnaires and in each school, 2 classes were selected by balloting from the list of classes in the schools. In each class, 30 students were selected by simple random sampling.

Data was collected by means of self-administered

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structured and pre tested questionnaires under the direct supervision of the school teachers and the researchers. Explanations were offered to some of the questions especially to pupils in the junior secondary school category. Data was analyzed both manually and with the help of the computer software: Epi info version 6 software.[12] Results were presented in the form of frequencies, tables and percentages. χ^2 test was to test for significance of association between categorical variables. A P value of 0.05 was considered statistically significant. A scoring system was also used by the authors to compare effect of marijuana smoking on academic performance (Table 1).

Table 1. Scoring system used for comparing effect of marijuana smoking on academic performance

Position in class	Ranking	Scores
1 – 5	Excellent	75% and above
6 – 10	Very good	65 – 74%
11 – 15	Good	50 – 64%
16 – 20	Fair	40 – 49%
>20	Poor	<40%

Results

A total of 350 respondents completed and returned the self administered questionnaire giving a response rate of 97.2%. Of these, 262 (74.9%) were males, while 88 (25.1%) were females. Majority of the respondents 263 (75%) were in the age group 15 – 19 and only 24 (6.9%) were between 10 – 14 years. Among the 350 respondents, 33 students smoke marijuana giving a prevalence of ever used of 9.4%. There was also more smokers 18 (5.4%) in the age group 15 – 19 years (Table 2). The factors studied and their effects on marijuana smoking were family background, peer pressure and attendance at social functions. On the family background, the study shows that there were more marijuana smokers 16 (46.5%) among students from monogamous homes, followed by those from polygamous homes 11 (33.3%) (Table 3). Regarding the various places where students were initiated to marijuana smoking, the study shows that party was the commonest 14 (42.4%) and doubles the next common which was night clubs and school with 21.2% each (Table 4).

Other factors examined showed friends exert more influence on smoking among the respondents accounting for (57.6%). The least influencing factors accounted for 3.5% and include financial capability and self interest (Table 5). The study also revealed a statistically significant relationship between age and marijuana smoking ($X^2 = 24$, df = 2, $P < .005$). A comparison between marijuana smoking and academic performance was also made (Table 6). The study shows that there was better academic performance based on the position taken by the students among non-smokers (51%) and smokers (21.27%) and this was also found to be statistically significant ($X^2 = 11.73$, df = 5, $P < .05$).

Table 2. Prevalence of cannabis smoking vs age

Age group	Smokers (%)	Non Smokers (%)	Total (%)
10 – 14	9 (2.6)	15 (4.3)	24 (6.9)
15 – 19	18 (5.1)	245 (70)	263 (75)
>19	6 (1.7)	51 (14.6)	63 (18)
Total	**33 9.4**	**327 93.4**	**350 100**

($X^2 = 24$, df = 2, $P < .05$)

Table 3. Family background and prevalence of marijuana smoking

Family Background	No.	%
Monogamous	16	48.5
Polygamous	11	33.3
Separated	4	12.1
No response	3	9.1
Total	**33**	**100**

Table 4. Place of introduction to marijuana and prevalence of marijuana smoking

Place of introduction	No.	%
Party	14	42.2
Night clubs	5	15.2
School	7	21.2
Others	7	21.2
Total	**33**	**100**

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Table 5. Factors that influence marijuana smoking

Factors	No.	%
Friends	19	57.6
Relations	3	9.1
Schoolmates	8	24.2
Media	2	6.1
Others	1	3.0
Total	**33**	**100**

Table 6. Distribution of academic performance in school

Class position	Smokers	%	Non-Smokers	%
Excellent (1 – 5)	9	27.27	162	51.10
Very good (6 – 10)	11	33.33	68	21.45
Good (11 – 15)	4	12.12	40	12.18
Fair (16 - 20)	4	12.12	16	5.05
Poor	4	12.12	14	4.42
Non-response	1	3.03	17	5.36
Total	**33**	**100.00**	**317**	**100.00**

$(x^2 = 11.73, df = 5, P < .05)$

Discussion

Marijuana smoking is a serious public health problem among adolescents in this environment. In this study involving 350 secondary school students, a prevalence of 9.43% was recorded. Males accounted for more than 90% of smokers; this finding supports a similar study carried out by Oviasu and Odejide.[13,14] Most of the smokers fell within 15 – 19 years of age which support earlier studies suggesting greater risk among this age group in Nigeria. [15] The earliest age at first exploration in this study was less than 10 years, while the most frequent age at first exploration fell between 10 – 14 years of age. A younger age of 12 years was reported in a similar study in the USA among secondary school students which is in agreement with our findings.[5]

Top 3 factors responsible for the observed behavior (that is Marijuana smoking) were influence of friends at parties, school mates and relations at night parties. There were more smokers among students from monogamous home compared with polygamous homes, this finding is unusual because such behaviuor is more expected from polygamous homes on account of the unhealthy rivalry often observed between children of different mothers.

Another interesting finding was the observation made between the academic performance of smokers of marijuana and non-smokers. The better academic performance observed among non – smokers, might be as a result of absenteeism rather than intellectual capacity, this is so because there was a remarkable improvement in the academic performance of those students who were smokers then later stopped.

It can therefore be implied that the poor academic performance seen in smokers was as a result of persistent absenteeism which was found to be high among smokers than non – smokers, rather than due to low intellect. However chronic or long term marijuana smoking has been associated with some psychiatric conditions including mania.

Reasons for the involvement in the habit were also sought among the respondents. Most of the respondents smoked marijuana so that they could increase their confidence (up to51.5%) while few others reported happiness and relaxation as their perceived beneficial effects of smoking Marijuana. The reasons given for their behavior is not far from the true reason of the effect of Marijuana which is more or less used for mood elation.

In conclusion, this study found a high prevalence of marijuana smoking among secondary school students in Zaria LGA as reported in similar previous studies and its consequences had negative effects on academic performance. The findings of this study are limited because of the study design. A case-control study could have brought out significant factors and their odds ratios. A logistic regression analysis will then identify predictors that would help in developing appropriate interventions for the prevention of this adverse behavior. It is highly desirable to institutionalize appropriate school health programmes in order to curtail this menace and its sequel among our youths. There is also the need for parents to inculcate good moral values to their children and close monitoring of their children at home. Further in-depth studies are suggested in this area.

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