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Original Research Article

Substance Abuse among the Undergraduate Students of a Medical College of Kolkata

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ABSTRACT

Background- Drug dependence has been showing a rising trend all over the world perhaps as a result of newer and greater stresses related to rapid changes in life styles. During adolescence students are more vulnerable due to increased academic pressure, peer group influence and increased popularity and availability of substances. Understanding the pattern and circumstances leading to substance abuse will help to go for appropriate interventions to protect the young adults from substance abuse.
Aims and Objectives- To find out the sociodemographic profile, prevalence, causes and types of substance abuse among undergraduate medical students of KPC medical college, Kolkata.
Materials and methods- A sample of 452 undergraduate medical students of KPC Medical College were included in the study during May 2015 to April 2016; stratified random sampling was done and 452 students were selected taking 113 students from each semester of students of the 4 semesters. Data was collected using a pre-tested questionnaire and analysis of data was done using suitable statistical tests.
Results- Prevalence of substance abuse was found to be 60.26% and it was predominately high among male students (75.09%). Alcohol (77.29%) was found to be the most common abuse followed by cigarette (76.56%), gutkha (20.51%) and drugs (13.55%). Academic pressure and curiosity were the major initiating factors.
Conclusion- The medical students though aware of the hazards are continuing substance abuse and it reflects lack of health consciousness along with increased academic and peer group pressure. Proper counselling with well planned policies should be implemented to root out the evil of substance abuse among the future doctors.

Key Words: Substance abuse, undergraduate medical students, drug dependence.

INTRODUCTION

Drug dependence has been showing a rising trend all over the world perhaps as a result of newer and greater stresses related to rapid changes in life styles. During adolescence, students are more vulnerable due to increased academic pressure, peer group influence and increased availability of substances. [1] Alcohol and drug related behavioural and medical complications are a major concern for policy planners and health professionals of most of the countries. This problem has received some attention in the recent years among the general public and mental health professionals. In last three decades, many epidemiological surveys have been carried out in India to assess the prevalence of alcohol and drug users.

A National household survey was conducted in India for estimating the extent of substance dependence for alcohol and opiates. The data was collected between March 2000 and November 2001. The diagnosis of dependence was arrived using ICD-10 criteria. In this study, the current

prevalence of alcohol was 21.4%, cannabis 3.0%, Heroin 0.2%, opium 0.4% and other opiates 0.1%. Another important finding of this survey was that in the range of 17-29% of current users of various substances was dependent users. [2]

Substance abuse and its associated problems are a global concern. A recent WHO estimate shows a burden of worldwide psychoactive substance use of around 2 billion alcohol users, 1.3 billion smokers and 185 million drug users. [3] Substances such as tobacco, alcohol, cannabis and various allopathic drugs have been widely abused by students for various reasons despite their known ill effects. [4] Studies conducted worldwide [5,6] including India [7-11] have estimated a prevalence rate of substance abuse to be around 20-40 per cent among students from various streams including the medical field; however, these restrict themselves to tobacco or alcohol use and many of these are gender biased. In majority of these epidemiological surveys substance abuse among medical undergraduate students has not been look and there lies the relevance of the study.

Understanding the pattern and circumstances leading to substance abuse will help to go for appropriate interventions to protect the young adults from substance abuse. The study was carried out to determine the socio demographic profile, prevalence, causes and types of substance abuse among undergraduate students of KPC Medical College and Hospital, Kolkata.

MATERIALS AND METHODOLOGY

An observational study with cross-sectional design was conducted at KPC Medical college and hospital (KPCMC&H), Kolkata, from 1st June 2016 to 30th July 2016, i.e. a period of 2 months taking undergraduate medical students of KPCMC&H as selected by systematic random sampling technique as study population. The sample size was determined by using the formula, Z^2PQ/L^2, where Z=1.96, P = prevalence of substance abuse among undergraduate medical students, Q = 1 – P, L = allowable error. Considering the prevalence of substance abuse among undergraduate medical students to be 45.87% [12] with the allowable error being 10% of the prevalence, the initial sample size came out to be 452.The total sample population of 452 was divided into 4 stratas where each stratum represented each year of students and consisted of 113 representative students. In each year out of 150 students, 113 students were selected by Simple Random Sampling.

Inclusion Criteria: 1) The students of KPCMC&H belonging to any of the 4 semesters. 2) The students who gave consent to participate in the study. Exclusion Criteria: 1) The students who did not give consent for participation.

Structured, close ended questionnaire was finalized after conducting a pilot study on undergraduate medical students (who were not a part of the actual survey). The relation of sociodemographic correlates with substance abuse was seen by using Chi square test. The data were analyzed using MS Excel 2010 and SPSS (version 20).

Informed consent was taken from the students who constituted the study population. This study protocol was approved by the Institutional Ethics Committee of KPC Medical College & hospital, Kolkata.

RESULTS

The prevalence of substance abuse was found to 60.26% among the medical undergraduate students of KPCMC&H and with 272 students having some form of abuse with male predominance of 75.09%. The distribution of students with substance abuse among the different strata is also being studied and it found that abuse is most prevalent among 3rd year students (67.26%). There were 204 (75.09%) male and 68 (24.91%) female substance abusers and Chi square test showed it to be statistically significant ($p < 0.05$). Majority of the abusers were Hindu 146 (53.68%) followed

by Muslim 122 (44.85%) and others 4 (1.47%). There were no statistically significant association found between religion and substance abuse (p >0.05). The abusers were mainly college hostelites 173(63.6%) followed by private hostel 82 (30.15%) and home 17 (6.25%). The association was found to be statistically significant (p<0.05). The abusers were belonged mainly to nuclear family 250 (91.91%) followed by joint family 18 (6.61%) and 4 (1.47%) belonged to three generation family and this association was statistically significant (p<0.05). (Table 1, Figure 1 and Figure 2)

The purpose of initiation was looked for and the commonest cause was found to be academic pressure 242 (53.54%) followed by curiosity 69 (15.65%). The other causes of initiation which were considered were failure in love, peer pressure and family tension. The most prevalent abuse was found to be of alcohol 158 (77.29%) followed by smoking 157 (76.56%). Other types of abuse were gutkha and drugs. (Table 2, Figure 3).

Table 1: Sociodemographic Characteristics and its Relation with Abuse

SOCIODEMOGRAPHIC CHARACTERISTICS	ABUSE	ABUSE	NO ABUSE	TOTAL	χ^2 AND P VALUE
GENDER	MALE	204 (76.12%)	64 (23.88%)	268	χ^2 =69.84
	FEMALE	68 (36.96%)	116 (63.04%)	184	p<0.05
RELIGION	HINDU	146 (59.84%)	98 (40.16%)	244	χ^2 =0.1382
	MUSLIM	122 (67.03%)	60 (32.97%)	182	p>0.05
	OTHERS	4 (15.38%)	22 (84.62%)	26	
PLACE OF STAY	HOME	17 (12.59%)	118 (87.41%)	135	χ^2 =354.3
	COLLEGE HOSTEL	173 (90.58%)	18 (9.42%)	191	p<0.05
	PRIVATE HOSTEL	82 (65.08%)	44 (34.92%)	126	
TYPE OF FAMILY	NUCLEAR	250 (69.44%)	110 (30.56%)	360	χ^2 =227.05
	JOINT	18 (31.58%)	39 (68.42%)	57	p <0.05
	THREE GENERATION	4 (11.43%)	31 (88.57%)	35	

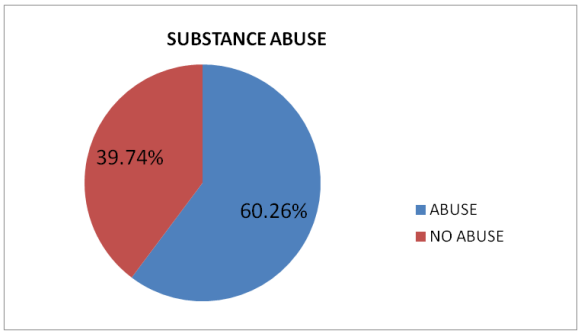

Fig 1: Distribution of study population according to prevalence of substance abuse

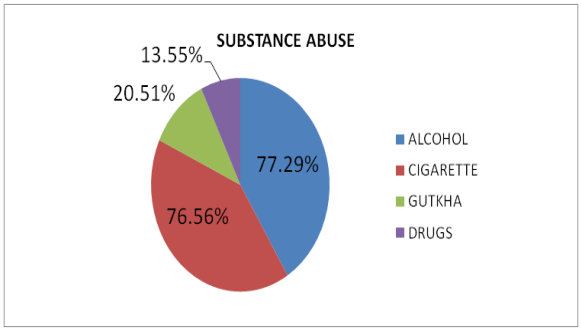

Fig 3: Distribution of study population according to the type of abuse

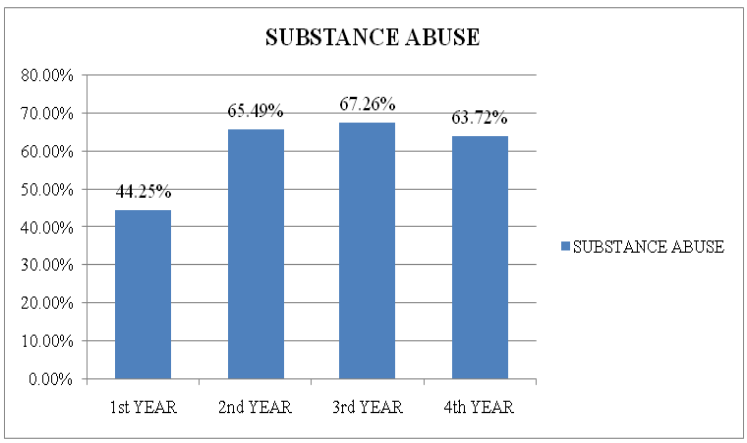

Fig 2: Distribution Of Abusers In Different Stratas

Table 2: Distribution of Substance Abusers According To Type of Abuse and Factors Leading To Initiation of Substance Abuse

FACTORS		CIGARETTE	ALCOHOL	GUTKHA	DRUGS	TOTAL
PURPOSE OF INITIATION	ACADEMIC PRESSURE	113(72.44%)	105(66.46%)	12(28.57%)	12(42.86%)	242(53.54%)
	CURIOSITY	25(16.03%)	25(15.82%)	11(26.19%)	8(28.57%)	69 (15.65%)
	FAILURE IN LOVE	16(10.26%)	15(9.49%)	14(33.33%)	4(14.29%)	49(10.84%)
	PEER PRESSURE	2(1.28%)	9(5.70%)	3(7.14%)	2(7.14%)	16(3.54%)
	FAMILY TENSION	1(0.64%)	4(2.53%)	2(4.76%)	2(7.14%)	9 (1.99%)

DISCUSSIONS

The overall prevalence of substance abuse among medical undergraduate students of KPCMC&H was found to be 60.26% with a higher prevalence among males (75.09%). Our study showed higher prevalence in comparison to a study by S K Palo, N C Sahani and R M Tripathy. [1] Alcohol was found to be the most common type of substance abuse (77.29%) followed by cigarette (76.56%), gutkha (20.51%) and drugs (13.55%) in this study which was comparable with the study of S K Palo, N C Sahani and R M Tripathy [1] among the professional college students. Academic pressure was the major reason behind abuse which was also seen in similar other studies in India by Ponnudurai R et al, Mannapur B et al, Singh VVet al, Zulfikar AR et al [13-16] and studies from other countries by Webb E et al, Melani AS et al, Deressa W et al, Ashton CH et al [17-20] have revealed similar prevalence and pattern of substance abuse among medical students and other college student. [21] A study from India noted nearly 50 per cent of the undergraduate medical students reporting experiencing stress of variable severity, predisposing to substance abuse. [14] A higher proportion of children were found to be using any of the substances when one or both of their parents were doctors or para-medical professionals. A study by Naskar et al showed the prevalence of substance abuse as 20.43 % among medical students which was much lesser than the obtained one from this study. An increase in substance abuse was observed in the latter years of medical education. The most common reasons for substance use were relief from psychological stress and occasional celebration 72.4% but our study shows academic pressure 53.54% and followed by curiosity 15.65% were the common reasons for initiation of substance abuse.

LIMITATIONS

The study was limited by the facts that only students in the medical stream were included without any other control group; factors of parents-student, student-teacher and peer relationships were not assessed; reasons that led to the restart of substance use were not assessed; regression analysis could not be carried out due to limited number of substance users; harmful effects and dependence potential were not evaluated.

CONCLUSION

This study differs in some aspects from earlier community surveys done in India. Since the medical undergraduate students are involved in the study their awareness and health is an important factor for the development of society and throw out the evil of substance abuse from root. The reasons behind initiating substance abuse was found to be academic pressure and curiosity and hence recreational measures, acitivity clubs can be helpful to reduce academic pressure. The reason of curiosity can only be eliminated if legal steps can be taken regarding handling of different substances.

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