ORIGINAL ARTICLE

INVESTIGATING RISKS IN DEPENDENCE PRODUCING DRUGS USERS AMONG SUB-POPULATION OF HIGHER EDUCATION INSTITUTES IN KARACHI;. A CROSS-SECTIONAL STUDY

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ABSTRACT

Backg Ground:

The non-medical use of dependence-producing drugs is not a new phenomenon and is strongly relatedwith the global health burden. The worldwide increasing trend of consumption of mood stimulating andenhancing substances constitutes as among the leading causes of addiction and deteriorating health especiallyamong the youth population.This study was conducted to ascertain the usage of different types along withrisk assessment and the need for intervention of substance/ drug use among the medical students acrossKarachi, Pakistan.

Methods:

This cross – sectional study was performedat four medical colleges (two public and two private) acrossKarachi, Pakistan from July 2018 to January 2019. A total of 445 participants who fulfilled the inclusioncriteria were inducted in present chosen for this study. A self administeredself-administered screeningquestionnaire designed by World Health Organization ASSIST (i.e. (Alcohol, Smoking and SubstanceInvolvement Screening Test) for assessing various levels of substance abuse was used to collect theinformation, which was then noted and analyzed using SPSS version 20.

Results:

Out of 445 respondents, 273 (61.3%) had never used any psychoactive substance, 97 (21.8%) had triedat least one, 34(7.6%) had used at least two, 23(5.2%) had tried three, while 18 (4%) had tried four or morepsychoactive drugs in their life time. Nearly 26.3% respondents reported Tobacco consummation, wasreportedly consumed by approximately 26.3% respondents,where in which 82% were found withat lowrisk/no intervention, 17.1% having moderate risk/brief intervention and 0.9% had high risk/intensivetreatment category. Use of psychoactive drug was significantly higher among private medical college male students.

Conclusion:

As illustrated by this study, the wieldiestmost commonly abused substance was tobacco-containing compounds followed by sedatives. The aforementioned trend occurrencewas largeliestlarcenist noted in private colleges where male students were remained as majorcontributors, mostly seen among male medical student belonging to the private sectors as compared tofemales and public sector colleges.

KEY WORDS: Psychoactive substance, tobacco, medical students

INTRODUCTION:

In the century-some since, lLife as we know it has changed tremendously in the past decade. Teenagers have an exceptionally strenuous schedule circulating on achieving good grades, meeting deadlines for submission of assignments, maintaining an all rounder good performance not only in the academic aspect but also in extra-curricular activities. They are also required to be socially active among friends, relatives and peers, all in all to eventually end up with a good professional career. These factors contribute to a stressful life and sometimes lead to a negative impact. In such a situation a student tends to search for a path to vent out his/ her frustrations which can be either be in a productive manner such as engaging in other extracurricular activities for example swimming, exercising or playing a musical instrument etc. or by means of indulging in the use and abuse of non – medical dependency producing drugs. According to World Health Organization (WHO) alcohol, tobacco and illicit drugs are the top three contenders among the 20 hazardous factors which are accountable for having detrimental effects on health among the youth1. Many numerous legal, social, and inter – personal difficulties and problems have been seen with the root cause being the excessive use of alcohol with or without other substances/ drugs2. Worldwide problem has been recognized and freedom from drug dependence has been identified as the one of the essential elements to ensure wellbeing. A collection of 17 objectives known "Global Goals" were the 2030 Agenda for Sustainable Development, it comprised of 169 targets. These Sustainable Development Goals (SDGs)were lead under the through a well thought, pre – planned and pre – meditated procedure constituting of 193 Member States, the goals officially known as "Transforming Our World" addressed key factors necessary to provide a safe future2. SDG 3.5 states “Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol”3.

An increasing worldwide shift can be noticed with people inclining towards the consumption of different mood – stimulating or mood – enhancing drugs, which are either being used one type at a time or in multiple combinations, also their frequency of utilization at different times, also poses a threat which is likely to further increase the risks of ill – health. A recent estimate by WHO shows a burden of global psychoactive substance abuse of around 1.3 billion smokers, 2 billion alcohol users, and 185 million other drug users4 – 6. Evidence has proven that tobacco and its containing substances are accountable for approximate 8.8% of mortality. A global burden of estimated 4.1% for all types of diseases and illicit drug dependence is directly related for the 20 million Disability Adjusted Life Years. (DALYs)7. Studies conducted worldwide 8 – 11 have estimated a prevalence rate of substance abuse to be around 20-40% among students including those belonging from the medical profession. Most of the adolescents start using drugs early into adulthood12. This study has been planned to get an insight into the magnitude of the problem among medical students of Karachi so that necessary steps can be developed and possible solutions that might help us in achieving the SDG 3.5 can be accomplished in the given timeframe. The purpose of this study is to determine the rate of use of various psychoactive drugs along with identification of the risk category by the application of WHO ASSIST (Alcohol, Smoking and Substance Involvement Screening Test) Version 3.0 and also to identify the intervention need for drug dependency among medical students in Karachi, Pakistan.

METHODS:

In order to understand the behavior of medical students towards dependency producing drugs a descriptive cross – sectional study was opted. Information was accumulated from four Medical colleges across Karachi, Pakistan July 2018 to January 2019. Two of these were private and two were public medical colleges. Permission from each setup was acquired prior to datacollection. Random sampling technique was used to select the location for data collection from a pre –defined list of registered colleges in Karachi. From each college a class was randomly chosen by lottery method and all students present in the class were invited to participate after informed consent.

Sample size was estimated by keeping prevalence of smoking at 36%13, á at 0.05, required precisionat 5% and adjusting for non–response and missing data at 25%. A total of 445 participants were calculated using the World Health Organization sample size calculator.

Permission and clearance were received from International Review Board prior to data collection. Informed consent was taken after explaining them ethod to the students and assuring the confidentiality and privacy of the study findings would be maintained through out the study and would be of the ut most importance. Respectives coresand the type of intervention category that would be required by the participants were disclosed at theend of the study.

Data was collected using as creening question naire developed by World Health Organization (WHO) to assess the type and quantity of mood stimulating psychoactive substances and alsoassociated problem sinaprimary health care setting. WHO ASSIST version 3.0, which stands for Alcohol, Smoking and Substance Involvement Screening Test is able to screenin dividuals for dependence on the following drugs: Tobacco containing products (cigarettes, cigars, chewing tobacco etc)

Alcoholicbeverages (wine, beer, spirits etc) Cannabis (marijuana, grass, hash, pot etc) Cocaine (crack, coke etc), Amphetamine type stimulants (diet pills, speed,ecstasy etc) Inhalants (glue, petrol, paint thinner, nitrous etc) Sedatives or sleeping pills (Xanax, Valium, Serepax, Rohypnol etc), Hallucinogens (LSD, acid, mushrooms, PCP, Special K etc), Opioids (heroin, morphine, methadone, codeine etc) Other –specify.

S. No.	Questions					
1.	Frequency of use during the previous 3 months	Never=0	Once or Twice = 2	Monthly=3	Weekly=4	Daily=6
2.	Desire for useduring the previous 3 months	Never=0	Once or Twice = 3	Monthly=4	Weekly=5	Daily=6
3.	Problems (Health, social, legal and financial) faced due to substance use during the previous 3 months	Never=0	Once or Twice = 4	Monthly=5	Weekly=6	Daily=7
4.	Failure due to substance use during the previous 3 months	Never=0	Once or Twice = 5	Monthly=6	Weekly=7	Daily=8
5.	Concern shown by relatives and friends	Never=0	Yes but notin the past 3 months = 3		Yes in the past 3 months = 6	
6.	Tried but failed in quitting	Never=0	Yes but notin the past 3 months = 3		Yes in the past 3 months = 6	

All the collected information was then recorded and results were analyz edusing SPSS version 20. Mean / standard deviation was reported for quantitative and percentages for qualitative variables. Chi Square was applied for risk estimation among gender as well for determining the need for intervention based only peof substance / drugsbeing consumed by the participants.

A cumulatives core for the different types of substances / drugs was also calculated by summation of all the a fore mentioned questions except for

tobacco, for which only question 4 was skipped. Risk and intervention need was then categorized as follows: For all drugs, except Alcohol;

- Score sranging from 0 to 3 were considered Lowrisk / No intervention
- Score sranging from 4 to 26: Moderate risk / Brief intervention
- Score sranging 27 orgreater: High risk / Intensivetreatment

ForAlcohol;

- Score sranging from 0 to 10: Low risk / No intervention
- Score sranging from 11 to 26: Moderate risk / Brief intervention
- Score sranging 27 orgreater: High risk / Intensivetreatment

RESULTS:

The mean age of respondents was 21.37 ± 1.738 years, with minimum age of 17 years and maximum of 27 years. Out of 445 respondents, 270 (60.7%) were maleand 175 (39.3%) were females. Majority of the students were from public medical colleges 267 (60%) and 78 (40%) students were from private medical colleges.

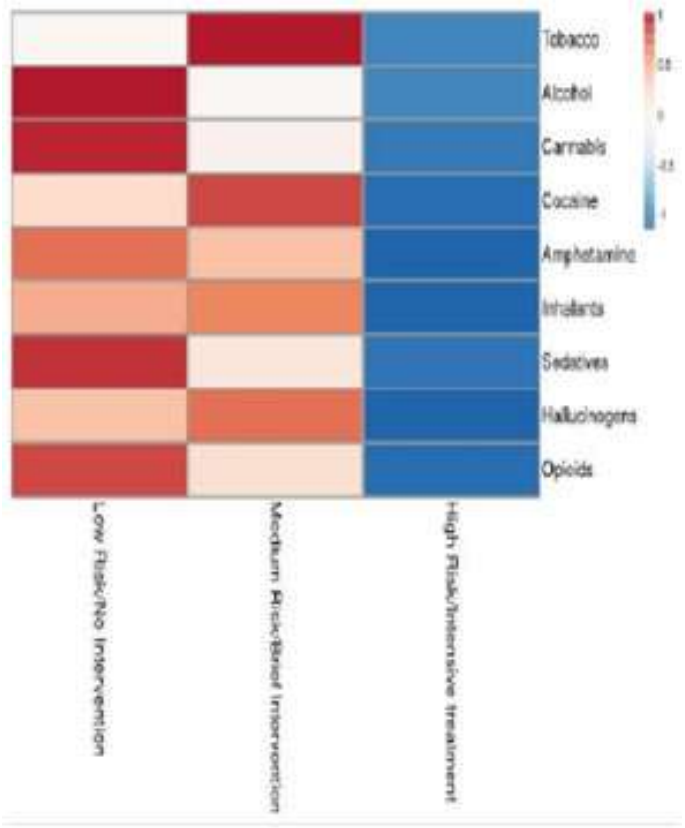
A mongall there spondents , 273 (61.3%) had never used any psychoactive substance, 97 (21.8%) had tried at least one, 34(7.6%) had used at least two, 23 (5.2%) had tried three, while 18 (4%) had tried four or more psychoactive drugs in their life time.

Table1: Use of Substance / Drugs among Medical Students

S. No.	Type of Substance / drug	No n(%)	Yes n(%)
1.	Tobacco	328(73.7%)	117(26.3%)
2.	Alcohol	420(94.4%)	25(5.6%)
3.	Cannabis	419(94.2%)	26(5.8%)
4.	Cocaine	412(92.6%)	33(7.4%)
5.	Amphetamine	428(96.2%)	17(3.8%)
6.	Inhalants	418(93.9%)	27(6.1%)
7.	Sedatives	402(90.3%)	43(9.7%)
8.	Hallucinogens	434(97.5%)	11(2.5%)
9.	Opioids	435(97.8%)	10(2.2%)
10.	Others	442(99.3%)	3(0.7%)

Table2:Risk calculation and assessment for intervention need among medical students based on type of psychoactive substance

S. No.	Type of Substance / drug	Low Risk / No Interventionn (%)	Medium Risk / Brief intervention n (%)	High Risk / Intensive treatment n(%)
1.	Tobacco	37(31.6%)	76(64.95%)	4(3.41%)
2.	Alcohol	15 (60%)	8(32%)	2(8%)
3.	Cannabis	16(61.54%)	9(34.61%)	1(3.85%)
4.	Cocaine	13(39.4%)	18(54.5%)	2(6.1%)
5.	Amphetamine	8(47.06%)	7(41.18)	2(11.76%)
6.	Inhalants	12(44.44%)	13(48.15%)	2(7.4%)
7.	Sedatives	26(60.46%)	16(37.21%)	1(2.33%)
8.	Hallucinogens	5(45.45%)	6(54.54%)	0(0%)
9.	Opioids	6(60%)	4(40%)	0(0%)



Intravenous drug (IV) use was reported by only 4 (0.8%) respondents, 2 (0.4%) of them had used the IV drug be fore three months and 2 (0.4%) had used it within 3 months of data collection. It was found that psychoactive substance/ drug use was most frequently observe damong private sector colleges. in comparis on to the government sector, by applying Chi square test at significance ($p< 0.05$). Similarly Chisquare test also showed that psychoactive substance abuse was more common in males ascompared to females ($p< 0.05$).

Table3:Relationship between psychoactive substance use with type of college and gender

Variable		Substance Ever Used					
		0	1	2	3	4	
Type of College	Private	89/178 (50%)	48/178 (27%)	19/178 (10.7%)	14/178 (7.9%)	8/178 (4.5%)	
	Public	184/267 (68.9%)	49/267 (18.4%)	15/267 (5.6%)	9/267 (3.4%)	10/267 (3.7%)	
Gender	Male	146/270 (54.1%)	71/270 (26.3%)	27/270 (10.0%)	17/270 (6.3%)	9/270 (3.3%)	P=0.001*
	Female	127/175 (72.6%)	26/175 (14.9%)	7/175 (4%)	6/175 (3.4%)	9/175 (5.1%)	P=0.001*

DISCUSSION:

The increasing trend of substance abuse specifically among youth is becoming one of the major health related issue in different streams of life. Results of the present survey shows that more tha none third, i.e. 38.7% students had tried some psychoactive substance at least once in their life time, which is almost double than reported by similar studies 14 , 15. Onere as on for this observation of increased drug use may be prevalence of stress among Medical students, as stress has been linked to use of psychoactive drugs 16, 17.

Prevalence of tobacco consummation use was found to be 26.3%, with 18% of the students being inmoderate and high risk category, it seems to be higher than reported by a study in India which states that 20.43 percent medical students were using tobacco 18. Sedatives and cocaine, use was reported by 9.7% and 7.4% respectively. Alcohol consumption was much lower (9.7%) as compared to the prevalence of alcohol abuse in Indian adolescents which is 21.4%, as per according to a National survey was reportedly19. Same survey reported Cannabis use (0.3%) and opioid use (0.7%) much lower in Indian youth as compared to the present study which is 5.8% and 2.2% respectively. Non-medical use of prescription psycho-stimulants such as amphetamine, for the purpose of cognitive enhancement is a growing trend in educational environments. In presentour study, 3.8% (17/445) students reported the everuse of amphetamine, and 2% of them were in moderate to high risk category, which it is far much lower than 18% reported by as urvey in Chicago 20.

Psychoactive drug use was significantly higher among male students (Chi Square p ? 0.05). The findings are similar to other studies 21 – 23 clearly indicating a tendency that males might be under more pressureei ther because of then eed to achieving better acade micresult so rinsearch of social acceptance from peers.

CONCLUSION:

The increased tendency to use drugs can be associated to multiple factors including stress due to studies, peer pressure or even living in hostels i.e. away from families. Our study was able to is a late that to bacco was the most commonly used psychoactive drug among medical students, this can be attributed to minimum restrictions imposed by the government making its availability and purchas every easy. Al though the use of alcohol, cocaine, cannabis, amphetamine, inhalants, hallucinogens and sedatives was also reported, however their frequency was less may be due to strictpre-requisites making their accessibility difficult.We also found that psychoactive

drug use was more common in males as compared to females and was also more common in private colleges as compared to public sector colleges. There is need to create awareness regarding harms of drug abuse and provide for the interventions form oderate and high risk categories. As this was aonetime survey further research is warranted with long itudinal follow– up studies in this area, there by recruiting youth from other specialties of professional education on anation – wide scale.

DECLARATIONOFINTEREST: Allauthors belong to academic institutions, and there is noconflictofinterest.

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