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Original article**SUBSTANCE USE RELATED MENTAL HEALTH LITERACY AMONG MEDICAL AND NURSING COLLEGE STUDENTS****Nikita J. Chhatrola, Dr. Manasvi V. Jariwala, Dr. Bhaveshkumar M. Lakdawala, Dr.****Falguni B. Patel**, 3rd Year Resident Doctor, Department of Psychiatry, AMC MET Medical College and Sheth L.G. General Hospital, Maninagar, Ahmedabad, Gujarat**Corresponding author:**

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ABSTRACT

Background: Mental Health Literacy (MHL) for Substance Use and related disorders in college students is important as adolescents are at high risk for initiating substance use due to peer pressure and social influences. Poor knowledge about harmful effects of substance and positive association between poor knowledge and negative attitude towards substance users is observed in college students.

Aims: Study aimed to assess the Substance Use related Mental Health Literacy in Medical and Nursing College students at Tertiary Care Hospital attached to Medical College.

Methods: It was a cross-sectional observational study in 2nd and 3rd Year Medical and Nursing college students. Substance Use related ‘Knowledge and Attitude Addiction Questionnaire for Adolescents’ (KAAQA),(31 items with ‘yes’ or ‘no’ response) a self-reported questionnaire was used. IEC permission was taken. Written Informed consent was taken from all participants. Data analysis was done by SPSS version 15.

Results: Majority of students (76.1%) reported that substance abusing youths are influential in their group. Majority (90.4%) knew the harmful effect of substance. Nursing students had low knowledge and negative attitude towards substance use and users as compared to Medical students. Compared to nursing students, low self intake of substance and increase assertiveness was found in medical students.

Conclusion: Study identified low knowledge and attitude of students towards Substance Use. It highlighted the need for more awareness programs in medical and nursing colleges to promote a better understanding of substance use and problems related to it and designing intervention and support programs for vulnerable students.

Key Words: mental health literacy, medical students, nursing students, substance use, KAAQA

Introduction:

The term “mental health literacy” (MHL) refers to knowledge and beliefs about mental disorders which aid their recognition, management or prevention. MHL includes the ability to recognize specific disorders; knowing how to seek mental health information; knowledge of risk factors and causes, of self-treatments, of professional help available; and attitudes that promote recognition and appropriate help-seeking. ^[1]

College time is a transitional stage of overall development of the adolescents with high risk for initiating substance use. About 20% of Indian population is adolescent ^[2] with over 1.2 billion adolescent population in the whole world.

Experimentation and Reward Seeking behavior with addictive substance use begins in adolescence and college students as they are mature enough to know pros and cons of substance use and vulnerable to peer pressure and other social influences. There is substantial global increase in addictive substance use because of easy availability, easy marketing and poor policy making among those aged between 15 and 25 years.

Chatterjee *et al.* ^[3] reported in the study that Substance Use is increasing all over the world and the age of initiation of abuse and dependence is falling over time. Strong desire to be popular rapidly, poor role model, easy availability and pressure from the peer group of the substances make an adolescent to go for experiment with substance use. Earlier the initiation of substance use more is the academic impairment, crime, and difficulty in quitting and is often associated with a poor prognosis and a lifelong pattern of substance use and risk taking behavior.

Substance abuse is very much prevalent among the adolescent population and college students throughout the world (12%- 84%) ^[4] as well as in India (1.8% - 57.4%). ^[5, 6, 7, 8, 9, 10, 11]

Poor knowledge of short term and long term harmful effects of substance was reported not only in school and college students ^[12, 13, 14] but also in health professionals, ^[15, 16] and general public.^[17] Many studies in adolescent population have reported positive association between poor knowledge about substance use and negative attitudes toward substance users. ^[18] Most of the studies are from western countries ^[4, 12, 17, 18, 19] with limited data from India. ^[20, 21]

Aim:

This research was aimed to study the Mental Health Literacy (knowledge and attitude about substance use) in Medical and Nursing College students from Tertiary Care Hospital attached to Medical College.

Materials and Methods:

College students in Tertiary Care Hospital attached to Medical College pursuing their 2nd and 3rd Year of graduation were recruited in the study through Substance Use Disorders awareness programs in medical and nursing colleges. 1st Year students were excluded because their age was below 18 years so their informed consent is not valid. Substance Use related ‘Knowledge and Attitude Addiction Questionnaire for Adolescents’ (KAAQA), ^[14] a self-reported questionnaire was given and filled up in this cross-sectional study. It is a thirty one (31) item semi-structured questionnaire with response of ‘yes’ or ‘no’; developed after a series of de-addiction awareness programs for college students at Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh, India. It is reliable and valid questionnaire. This questionnaire has been used in various Indian Studies ^[14, 20, 21].

Written Informed consent was taken from all participants. The questionnaire was administered prior to awareness lecture on ‘Substance Use Disorders and their impact’. The author presented about commonly used and abused substances, scope of problem, myths and misconceptions related to substance use, their complications and treatment.

Procedure

Study was approved under Short Term Studentship (STS) Program of ICMR in 2016 (Reference No: 2016-05867). Before starting data collection the permission of the Dean of Medical College and Principal of Nursing College as well as approval Institutional Ethics committee (IEC) was taken. The subjects were assured that information revealed by them will be kept confidential and used for research purpose only.

Participants and tools used

This study was conducted on M.B.B.S. Students and Nursing Students. Socio-demographic details were taken. The students were given Substance Use related “Knowledge and Attitude Addiction Questionnaire for Adolescents” (KAAQA) (31 Items) and filled up during de-addiction awareness programs before the presentation at Tertiary Care Hospital attached to Medical College. Total Study duration was 2 months after receiving IEC approval letter by the institute. (June and July, 2016). Total 440 filled up forms were collected and out of them 14 forms were discarded because of incomplete details; so remaining 426 forms were selected for data analysis.

Statistical analysis

Analysis of the data was done by SPSS version 15 for Windows. Frequencies with percentages were calculated for categorical variables and mean and standard deviation calculated for continuous variables. The data was compared using chi-square (χ^2) test for categorical variables. P value of <0.05 was considered statistically significant.

Results and Observation:

Table 1: Socio-demographic Details

Variable	Medical Students (N=209) Frequency (%)	Nursing Students (N=217) Frequency (%)	(χ^2) value	P value
Sex: Male	101 (48.3)	4 (1.8)	121.359	<0.0001
Female	108 (51.7)	213 (98.2)		
Marital status: Single	207 (99)	202 (93.1)	10.048	0.007
Married	1 (0.5)	4 (1.8)		
Engaged	1 (0.5)	11 (5.1)		
Religion: Hindu	202 (96.7)	205 (94.5)	7.274	0.064
Muslim	3 (1.4)	7 (3.2)		
Christian	0	4 (1.8)		
Jain	4 (1.9)	1 (0.5)		
Year of study: 2 nd year	108 (51.7)	101 (46.5)	0.926	0.336

3 rd year	101 (48.3)	116 (53.5)		
Family type: Nuclear	142 (67.9)	171 (78.8)	5.896	0.015
Extended	67 (32.1)	46 (21.2)		
Locality: Urban	172 (82.3)	126 (58.1)	28.6	<0.0001
Rural	37 (17.7)	91 (41.9)		
Family Income/ Month (Rs.)				
16020-32049	3 (1.4)	23 (10.6)		
>32050	206 (98.6)	194 (89.4)		
Mean Age (SD) =19.66 ±1.07				

χ^2 test applied between Medical College and Nursing College group Students; P <0.05 was considered statistically significant

As per **Table1**, mean age of students was 19.66 (\pm 1.07) years. Compared to medical students, females were significantly higher in nursing students (51.7% vs. 98.2%, P <0.0001). Majority was unmarried (93%) and belonged to Hindu religion (95%). Equal numbers of students were in 2nd Year and 3rd Year in both medical and nursing fraternities. There was no significant difference in the year of study (2nd or 3rd year) of medical and nursing students (P=0.336). Majority from both the fraternities were from nuclear family. More medical students belong to urban area compared to nursing students and this difference was statistically proved (82.5% vs. 58.1%, P<0.0001). The difference in total family income of medical and nursing students was also significant ($\chi^2=14.042$, P=0.0002) increase in favor of nursing students.

Table 2: Substance use related knowledge and attitude (KAAQA)

No	KAAQA Items	Total Sample (N=426)	Medical Students (N=209)	Nursing Students (N=217)	χ^2 value	P value
		Frequency (%)				

1	Risk of substance use if staying with such people	302 (70.9)	152 (72.7)	150 (69.1)	0.506	0.4767
2	Substance use improves memory/ concentration	163 (38.3)	49 (23.4)	114 (52.5)	36.916	<0.0001
3	Most of youth starts substances with peer group	329 (77.2)	170 (81.3)	159 (73.3)	3.495	0.0615
4	Substances reduces stress	230 (54)	95 (45.5)	135 (62.2)	11.37	0.0007
5	Substances don't damage health if used in small amount	155 (36.4)	65 (31.1)	90 (41.5)	4.512	0.0337
6	Most of substance abuser don't know their harmful effects	277 (65.02)	133 (63.6)	144 (66.4)	0.238	0.6259
7	It causes liver damage if used for longer duration	385 (90.4)	199 (95.21)	186 (85.7)	9.983	0.0016
8	People appear influential/ rich on consumption of substance	234 (54.9)	98 (46.9)	136 (62.7)	10.084	0.0015
9	One should not take substances which cause bad effect but one may take substances which won't cause such bad effects	189 (44.4)	78 (37.3)	111 (51.2)	7.701	0.0055
10	Chewing tobacco may cause oral & throat cancer	406 (95.3)	205 (98.1)	201 (92.6)	5.924	0.0149
11	If one won't feel intoxicated over consumption of larger amounts it shows that he is healthy	78 (18.3)	20 (9.56)	58 (26.72)	19.825	<0.0001
12	Females won't consume any substance	86 (20.2)	28 (13.4)	58 (26.7)	10.93	0.0009
13	There is no treatment for addiction	80 (18.8)	29 (13.9)	51 (23.5)	5.853	0.0156
14	Substance abusers are bad people so they should not be helped	52 (12.2)	17 (8.1)	35 (16.1)	5.626	0.0177
15	Majority of substance abuser are rich people	112 (26.3)	24 (11.5)	88 (40.6)	44.937	0.0001
16	Injecting drugs may cause HIV	295 (69.2)	165 (78.9)	130 (59.9)	17.24	0.0001
17	Most of youth don't take any substance	94 (22.1)	44 (21.1)	50 (23.0)	0.143	0.7054
18	Willful subjects may quit substance any time despite longer intake of substance	317 (74.4)	152 (72.7)	165 (76.0)	0.451	0.5019
19	Drugs increases pleasure of life	173 (40.6)	57 (27.3)	116 (53.5)	29.187	0.0001

20	One should take substance at least once just to understand that it causes damage	123 (28.87)	44 (21.05)	79 (36.4)	11.483	0.0007
21	If someone takes substance at home there is more risk for such intake in family	333 (78.2)	164 (78.5)	169 (77.9)	0.001	0.9763
22	Substance abusing youth are influential in their peer group	324 (76.1)	151 (72.24)	173 (79.72)	2.869	0.0903
23	Substance abusing youth are more likely to succeed	126 (29.6)	33 (15.8)	93 (42.9)	36.16	<0.0001
24	There is no problem in substance intake until it is revealed to others	100 (23.5)	25 (11.1)	75 (34.6)	29.026	<0.0001
25	Harmful effects of drugs are only temporary	73 (17.1)	19 (9.1)	54 (24.9)	17.607	<0.0001
26	Youth takes substance only when there is any quarrel between parents/ peers	125 (29.3)	55 (26.3)	70 (32.3)	1.538	0.2149
27	Have you taken any substance	63 (14.8)	19 (9.1)	44 (20.3)	9.701	0.0018
28	Does any of your friend takes substances	145 (34.0)	87 (41.6)	58 (26.7)	9.872	0.0017
29	Does any of your family member takes substance	118 (27.7)	61 (29.2)	57 (26.3)	0.319	0.5722
30	Do you have confidence to say no when somebody offers you any substance	350 (82.2)	189 (90.4)	161 (74.2)	18.057	<0.0001
31	Do you want to have correct information regarding how to prevent substance intake	350 (82.2)	167 (79.9)	183 (84.3)	1.138	0.2861

χ^2 test applied between Medical College and Nursing College group Students; P <0.05 was considered statistically significant

As shown in **Table 2**, more than two-thirds of students (70.9%) considered risk of substance use on staying with such people and even more students (78.2%), agreed for higher risk of such intake if someone takes substances at home. More than one-third of students perceived substances harmless for health if used in small amounts. Majority (77.2%) of students understand that most of youth starts substance with peer group without knowing its harmful effect (65.1%) and substance abusing youths are influential in their group (76.1%), while only one-fourth students (29.3%) consider quarrel between parents/peers to be reason of substance abuse in youth.

Very few students reported some positive effects of substance like it improves memory/concentration (38.3%), it increases pleasure of life (40.6%) and substance users are more likely to succeed (29.6%), but more than half students agreed that it reduces stress (53.9%) and people appear influential/rich on consumption of substance (54.9%). Majority of students know the harmful effect of substance use like it causes liver damage if used for longer duration (90.4%), oral and throat cancer with chewing tobacco (95.3%) and HIV with injecting drugs (69.2%). Only few students have false mindset about the items like; 'One should not take substances which cause bad effects but one may take substances which won't cause such bad effects' (44.4%), 'if one won't feel intoxicated over consumption of larger amounts it shows that he is healthy' (18.3%), 'one should take substance at least once just to understand that it causes damage' (28.9%), 'there is no problem in substance intake until it is revealed to others' (23.5%) and 'harmful effects of drug are only temporary' (17.1%).

About One-tenth students (12.2%) had negative attitude towards substance abusers, as they labeled them as 'bad people' and added that they should not be helped. One-fifth of the students agree that females (20.2%) and youth (22.1%) don't consume any substance and same number of students (26.3%) found more substance intake in rich people. One fifth of students (18.8%) considered no treatment modality for substance and majority of students added that person may quit substance with willpower despite the longer duration of intake.

Minority of students agreed for taking any substance by themselves (14.8%) or by their family members (27.7%) and friends (34.1%). Most of students (82.1%) were confident to refuse while being offered any substance and they were also willing to get information about more preventive measures.

Compared to medical students, a higher proportion of nursing students mentioned that substance use improves memory/concentration (52.5% vs. 23.4%, $P < 0.0001$) and reduces stress (62.2% vs. 45.5%, $P = 0.0007$), substance abusing youth are more likely to succeed (42.8% vs. 15.8%, $P < 0.0001$), it does not damage health if taken in small amount (41.5% vs. 31.1%, $P = 0.03$) and its harmful effects are only temporary (24.9% vs. 9.1%, $P < 0.0001$), person may take substance which won't cause bad effect (51.1% vs. 37.3%, $P = 0.005$) and one should take substance at least once just to understand that it causes damage (36.4% vs. 21.1%, $P = 0.0007$). They also believe that there is no treatment for addiction (23.5% vs. 13.8%, $P = 0.015$) and substance abusers should not be helped (16.1% vs. 8.1%, $P = 0.017$). So, there was low knowledge and negative attitude in nursing students.

Compared to nursing students, few medical students take any substance (9.1% vs. 20.3%, $P = 0.0018$) and higher proportion of medical students have confidence to say no when it is offered to them (90.4% vs. 74.2%), $P < 0.0001$) as they know harmful effects of substance abuse like liver damage (95.2% vs. 85.7%, $P = 0.0016$), oral-throat cancer (98.1% vs. 92.6%, $P = 0.0149$) and HIV (78.9% vs. 59.9%, $P = 0.0001$). So, there was increased assertiveness in medical students.

Discussion:

Adolescence and college time is a phase when individual goes for Experimentation and Reward Seeking behavior. It is the age when the many adolescents tend to start substance use and later become addictive. Adolescents often believe that substance use helps in their coping with personal difficulties and parents/peers related problems. ^[22] Hence colleges are important places to develop preventive activities and awareness programs related to substance use, not only because majority of the students go to colleges at particular ages,

but also colleges give very favorable environment for the development of certain habits, knowledge and attitudes. [23]

As in previous studies, [20, 24] in this study also students were aware about harmful effects of substances, such as liver damage with longer duration of substance, oral and throat cancer with chewing tobacco and HIV with intravenous drugs. Parents, friends, and teachers [24] and media such as radio or television [4, 14, 25] are reported to be major source of information among adolescents.

Mean age of the students was 19.66 years because we studied 2nd and 3rd Year college students. Female students were higher in nursing fraternity because in our culture females take a role of nursing care. We selected students in such a way that comparison of results can be fruitful so equal students in both fraternities and both 2nd and 3rd year were taken in the study. Majority of students were from nuclear family because now a day in modern society family likes to live in a nuclear family. Majority of medical students were from urban area, this may be because family might have moved to urban area for better education of their children. Family income of nursing students were on higher side, this may be because of recent increase in land price in rural areas from where around 42% of students were represented and income from farming in rural area.

Two-thirds of students of study students were feeling risk of substance use on staying with people who are taking substances, which may have preventive aspect on one side. But on another side, they are likely to avoid contact with people who are taking substances which may have negative effects on treatment and maintaining abstinence from substances for those people. This finding was higher in our study as compared to study by Nebhinani *et al.* [20] in which only one fourth of the students were of this opinion. Compared to earlier report by Bryan *et al.* [17], very few proportion of students in this study were having negative attitude towards substance abusers (12% vs. 57%) but comparable to Indian study

by Nebhinani *et al.* [20]

Negative attitudes many a times are expressed through discriminative behavior which may further alienate such group that is already socially marginalized. This in turn may prevent people with substance use related problems from seeking the help and treatment they require. [17] Those who had personal experience of someone 'with a substance use problem' found to have less negative attitudes. [12, 17] In this study minority of students agreed for taking any substance by themselves (14.8%) or by their family members (27.7%) and friends (34.1%) which was similar to study by Nebhinani *et al.* [20]

Low knowledge is directly associated with negative attitude. In this study Compared to medical students, a higher proportion of nursing students had lower knowledge regarding substance use problems and it was reflected in their negative attitude towards such people. Even nursing students were having higher personal use of substance as compared to medical students and low assertiveness to say “No” when offered for substance use. This may be because around 42% of nursing students were from rural area and substance use is very common in rural area without having knowledge of harmful use of substance. And nurture plays a major role in further knowledge and attitude towards any aspect including substance use issue. This may be because of their lack of knowledge regarding harmful effects of substance use which further may be because their study curriculum may not be involving substance use topic.

Prevention based awareness programs are important to decrease demand by informing students about the relative risks of dependence on various substances based on current knowledge of these risks. As the substance use usually begins after the age of 12 and rises rapidly after that age. [26] Hence the preventive substance use disorder education should begin in early adolescence which can deter or delay substance use through changes in knowledge, attitude, and behavior. [26, 27, 28, 29, 30] Adolescent substance use education must

meet the needs of those not taking any substance as well as those experiencing initial substance exposures. Education provided at early age is important in modifying students' responses in substance use situations and in the later age it is most meaningful. [27]

Prevention programs should also be targeted to an individual's substance specific educational needs. [26, 28] Comprehensive approaches that address behavioral, emotional, and environmental factors are more effective in eliciting long term effects. [26, 27, 28, 29, 30]

Conclusion and Implication:

Two-thirds of students (70.9%) appreciated risk of substance use on staying with such people, 78.2% agreed for higher risk of such intake if substance is taken at home and knew the harmful effect of substance. Majority reported that substance abusing youths are influential in their group. Very less students reported some positive effects of substance which reflect their good knowledge in this area. Negative attitude towards substance abusers observed in students having low knowledge.

The result of the study highlight the need for more awareness programs in medical and nursing colleges to promote a better understanding of substance use and problems related to it as students had good knowledge in some areas while poor in other areas. The educational programs should include information concerning abuse and addiction and forms of treatment as well as appropriate treatment services. Majority of students had adequate knowledge about harmful effects of addictive substances but had limited information regarding treatment options in this study. This highlights the need for spreading more awareness about treatment of substance abuse by lectures, workshops, media and campaign at larger level.

Limitation:

The study is limited by its cross-sectional nature and findings cannot be generalized to the community at large as the students were recruited from only two educational institutes.

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