ORIGINAL ARTICLE

Substance Addiction in Urban Adolescents of District Ghaziabad

Deepika Agrawal, Neha Jetli, Gajendra K Gupta, Anupama Singh, Syed Hasan Nawaz Zaidi
Department of Community Medicine, Santosh Medical College, Ghaziabad Uttar Pradesh 201009

CORRESPONDING AUTHOR
Dr Deepika Agrawal, Professor, Department of Community Medicine, Santosh Medical College, Ghaziabad Uttar Pradesh 201009
Email: deepikasudhanshu@gmail.com

CITATION
Agrawal D, Jetli N, Gupta GK, Singh A, Zaidi SHN. Substance Addiction in Urban Adolescents of District Ghaziabad. Indian J Comm Health. 2024;36(5):640-646.
https://doi.org/10.47203/IJCH.2024.v36i05.004

ARTICLE CYCLE
Received: 13/03/2024; Accepted: 15/09/2024; Published: 31/10/2024

ABSTRACT

Background: Substance abuse is an important problem in today's world as it causes considerable physical and mental suffering. In India, adolescents are considered as a pillar of the nation as they are responsible for its future progress. Therefore, substance abuse control among this age group becomes even more important. **Objectives**: To find the prevalence, patterns and gender association of substance abuse among adolescents in urban areas of district Ghaziabad. **Methods**: A cross-sectional study was conducted in the schools of urban areas of district Ghaziabad. 750 adolescents including equal number of boys and girls were selected randomly from the co-education schools. A questionnaire was administered to assess the baseline information. MS Excel 2020 and SPSS were used to arrive at statistical conclusions. **Results**: Addicting substance was abused by 64.8% males and 33.9% females and this difference in proportions was statistically significant (p-value =0.001). The maximum number of study participants got encouragement to start the usage of addictive substances from their peers (33.0%). Four-fifths (80.3%), of the substance abusers had the desire to quit. **Conclusion**: In the present study, 33% of the participants started abusing addictive substances under peer pressure. School-based awareness, health education and motivation among the adolescents is the need of the hour. Role of student counsellors may prove fruitful and bring about the desired behavioural change.

KEYWORDS

Addiction; Adolescents; Alcohol; Substance Abuse; Smoking; Peer pressure

INTRODUCTION

Substance addiction means 'harmful usage of psychoactive substances'. It causes major health, social and economic problems. Therefore, substance abuse is an important concern due to its significant societal cost.(1) Substance usage includes permissible substances such as alcohol, tobacco, prescription drugs as well as illicit drugs.(2) The Global Burden of Disease Study stated that illicit substance use has killed an estimated 7.5 lakh people worldwide in 2017 with 22,000 lives lost in India alone.(3)

Adolescence is a period where childhood transits into adulthood. This is an

impressionable age where habits once developed stay for a lifetime.(4) More than 33% of the disease burden and 60% of premature deaths among adults can be traced back to behaviours beginning during adolescence be it tobacco, alcohol or other substance abuse, unhealthy eating habits or risky sexual behaviour.(5) According to many recent studies, 80% of adolescents use drugs or alcohol before adulthood.(6) India has the maximum number of adolescents in the world with a population of 253 million aged 10-19 years.(7) Therefore, it becomes all the more important to understand the negative behaviours hampering their productive youthful years for the nation's progress.

Effective enforcement of substance abuse policies and regular parental monitoring are useful preventive measures towards substance abuse.(8) Interventions to enhance skills within schools have also been effective in reducing substance use during this volatile age.(9,10) Research is still required to increase the information regarding useful preventive interventions to bring down the usage of such substances in adolescents in our diverse country. This study was thus, planned in the Department of Community Medicine, Santosh Medical College, Ghaziabad with the aim to assess the prevalence, patterns and gender association of substance abuse among adolescents in urban areas of district Ghaziabad.

Material & Methods

A cross-sectional study was conducted in the urban areas of district Ghaziabad between July- December 2023. Taking the prevalence of regular substance abuse by adolescents as 34.93% according to a previous study done in northern India.(11) Sample size was calculated using the formula:

$$n = \frac{Z_{1-\alpha/2}{}^2 \, P \, (1-P)}{L^2}$$

Where, Z is 2 at 95% confidence interval with allowable error as 10% of P, total sample size was calculated to be 745. For ease of equal distribution of sample size between the two genders, a total of 750 study subjects were included.

Ethical Consideration: Ethical clearance was taken from the institutional ethical committee (SU/R/2023/2493(2)). Ghaziabad city is divided into five zones. A list of all co-educational schools was prepared. From each zone, one school was randomly selected. Informed written consent was obtained from the principals of the selected schools. One hundred and fifty adolescent students (75 girls and 75 boys) in the age group of 10-19 years were then randomly chosen from each school.

The purpose of the study was explained to the students beforehand. Anonymity was maintained throughout the study and informed consent was obtained from the study participants.

A pre-designed, pretested, semi-structured questionnaire in the local language was distributed to the students to assess the baseline information. It consisted of questions pertaining to socio-demographic characteristics of the students including socio-economic status according to Modified Kuppuswamy scale (12). Information regarding the substance abuse, type and knowledge regarding addictive substances was recorded from the participants. The collected data was compiled and entered in MS Excel 2020. Chi-Square test was used for statistical analysis, with p-value <0.05 taken to be statistically significant.

Results

The study participants were divided into three age groups. The maximum number of students (37.6%) were in mid adolescence, followed by late adolescence (34%). Minimum number of students (28.4%) were in early adolescence. Almost three-fourths of the study participants were Hindus (71.7%) followed by Muslims (14.8%). According to Modified Kuppuswamy scale maximum number of students were from Upper middle class (42.3%) followed by Upper class (23.8%). (Table 1)

Table 1: Socio-demographic profile of the study participants.

	SEX		Boys (N= 375) No. (%)	Girls (N= 375) No. (%)	Total (N= 750) No. (%)
Age(in years)	10-13	Early Adolescence	101 (26.9)	112 (29.9)	213 (28.4)
	14-15	Mid Adolescence	152 (40.5)	130 (34.7)	282 (37.6)
	16-19	Late Adolescence	122 (32.5)	133 (35.4)	255 (34.0)
Religion	Hindu		262 (69.9)	276 (73.6)	538 (71.7)
	Muslim		61 (16.2)	50 (13.3)	111 (14.8)
	Sikh		33 (8.8)	27 (7.2)	60 (8.0)
	Christian		19 (5.1)	22 (5.9)	41 (5.5)
Socioeconomic status	Upper		65 (17.3)	114 (30.4)	179 (23.8)
	Upper Middle		178 (47.5)	139 (37.1)	317 (42.3)
	Lower Middle		59 (15.7)	63 (16.8)	122 (16.3)
	Upper Lower		43 (11.5)	30 (8.0)	73 (9.7)
	Lower		30 (8.0)	29 (7.7)	59 (7.9)

The proportion of substance abuse was higher in boys than girls [(64.8%) vs (33.9%)) and this difference in gender distribution was found to be significant statistically (p <0.01) (Table 2).

Table 2: Proportion of use of addicting substance by the study participants

Use of addicting substance	Boys (N= 375) No. (%)	Girls (N= 375) No. (%)	Total (N= 750) No. (%)
Yes	243 (64.8)	127 (33.9)	370 (49.3)
No	132 (35.2)	248 (66.1)	380 (50.7)
	$\chi 2$ =71.78, df=1, P-value <0.01		

All percentages are column-wise

It was observed that smoking was the most frequent addiction (44%) followed by alcohol consumption (31.4%) among the adolescents respectively. Girls were smoking more than boys [(52.8%) girls vs (39.5%) boys] while alcohol consumption was similar in both the genders (Table 3).

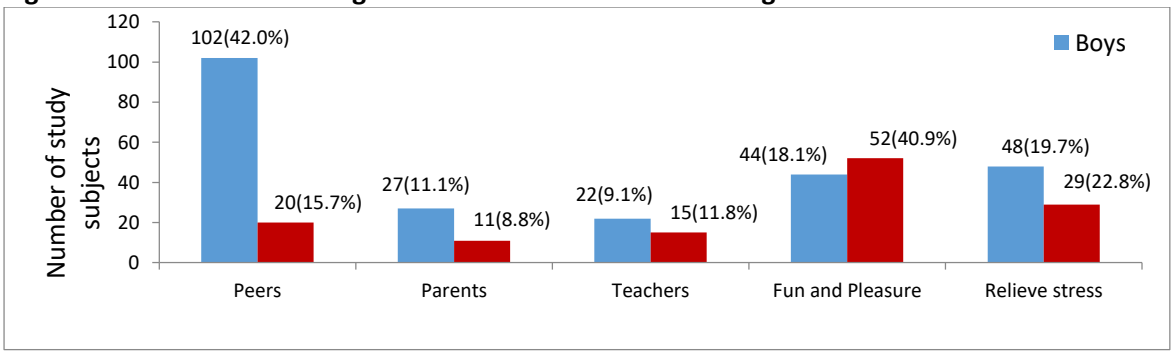
Table 3: Distribution of type of addictive substance used by adolescents (N=370)

Type of addictive substance used	Boys (N= 243) No.(%)	Girls (N= 127) No.(%)	Total (N= 370) No.(%)
Drugs like Charas, Ganja etc	16 (6.6)	03 (2.4)	19 (5.1)
Smoking	96 (39.5)	67 (52.8)	163 (44)
Tobacco chewing	55 (22.6)	17 (13.4)	72 (19.5)
Drinking	76 (31.3)	40 (31.5)	116 (31.4)

All percentages are column-wise

The study revealed that overall the most frequent influencers for starting substance abuse among adolescents were friends (33%). However, girls mainly started using addictive substances for fun and pleasure (40.9%) while boys mostly started it under peer pressure (42.0%). This difference in the reason for starting substances among the two genders was significant (p<0.01). (Figure 1)

Figure 1. Reason for encouragement of substance abuse among adolescents



Most of the adolescents knew about the health hazards of substance abuse. However, it was observed that more number of boys than girls had this knowledge [(79.4%) boys and (67.7%) girls] and this was found to be significant (p-value=0.013). Desire to quit was found in 79% males and 82.7% females who used addictive substances. The desire to quit was noticed more among girls than boys [(82.7%) girls vs (79.0%) boys] but this difference was not significant (p-value=0.4) (Table 4).

Table 4: Distribution of different characteristics of substance abuse (N=370)

Characteristics	Boys (N= 243) No.(%)	Girls (N= 127) No.(%)	Total (N= 370) No.(%)	p-value
Knowledge regarding health hazards of substance abuse				
Yes	193 (79.4)	86 (67.7)	279 (75.4)	0.013
No	50 (20.6)	41 (32.3)	91 (24.6)	
Desire to quit				
Yes	192 (79.0)	105 (82.7)	297 (80.3)	0.4
No	51 (21.0)	22 (17.3)	73 (19.7)	

All percentages are column-wise

On exploring the perceptions of the study subjects towards usage and ways to stop usage of the addicting substances, almost one-fourth of the subjects (24.1%) agreed that showing use of addictive substances in movies glorifies their use. (Table 5)

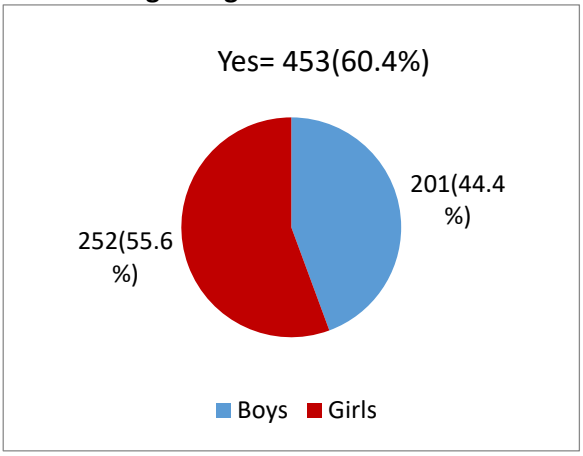
Table 5. Distribution pattern of beliefs about substance abuse

Perception	Boys (N=375) No. (%)	Girls (N=375) No. (%)	Total (N=750) No. (%)
Glorification of substance abuse in movies			
Yes	105 (28.0)	76 (20.3)	181 (24.1)
No	270 (72.0)	299 (79.7)	569 (75.9)

All percentages are column-wise

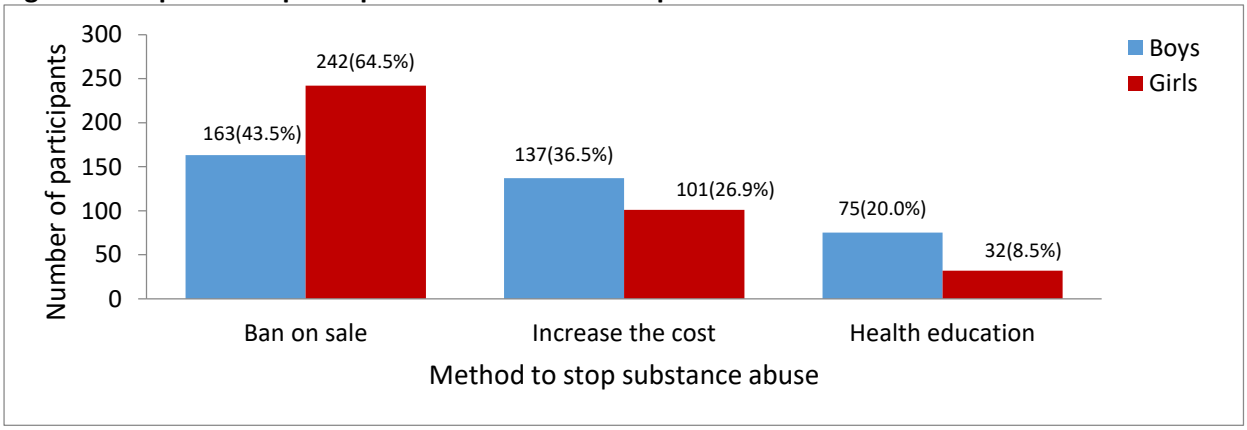
Majority of the adolescents believed that health warnings on the packets of addictive substances were helpful in reducing their use (60.4%). (Figure 2)

Figure 2. Proportion of adolescents believing that warning on cigarettes deters its use



Almost half of the respondents suggested banning of sale as a good method of stopping the rise in substance usage (54.0%), followed by increasing cost of the product (31.7%) and providing health education to the target users (14.3%). (Figure 3)

Figure 3. Responses of participants on methods to stop substance abuse.



DISCUSSION

In this study, 49.3% of the participants were using one or the other addictive substances. There were 64.8% males and 33.9% females having some form of substance abuse and this gender difference was significant (p-value= 0.001).

Panigrahi O et al (13) in their study among adolescents of Sambalpur also found 43.4% of their study participants admitting to substance abuse. This was similar to the findings of our study. However, in another study by Tsering D et al in 2010 in West Bengal (14), substance abuse was present in 15.1% urban students studying in high school. Narain et al (15) in their study among the school students of Noida and Ghaziabad found that ever use of substance was 14.3% but they also found it to be 1.2 times more common among boys than girls which was significant. WHO also reiterated a similar finding in their substance abuse report.(16)

In this study, more than one-fifth, 54.0% of the users were addicted to smoking, followed by 31.4% students addicted to drinking alcohol. A National Survey conducted in India in 2019 revealed that 14.6% of the 10-75 years old Indian population were using alcohol, with men and women consumers in the ratio of 17:1 (17). After that Cannabis products (Ganja, Charas) and opioids (bhang) were the next commonly used psycho-active substances. They did not take tobacco use in their survey.

The Understanding the lives of adolescents and young adults (UDAYA) in Bihar and Uttar Pradesh study conducted in the year 2019 found that 22% of adolescents in UP consumed tobacco and its products followed by alcohol which was by 5% adolescents (18). Similar findings were seen by Faizi N et al (19) in their study among adolescents in Aligarh where the most common addiction was of tobacco smoking (56.6%) and alcohol (47.6%) by the ever users followed by codeine syrup (27.5%), Charas (13.6%) and Ganja (8.8%), whereas in our study substances like Charas and Ganja were being used by only 5.1% of the users. Tobacco and alcohol were the most common substances abused by adolescents according to a study conducted by National Commission for Protection of Child Rights followed by inhalants and cannabis (20).

In the present study, the maximum number of study participants got the encouragement to start the abusing substances from their peers (33.0%). Mahanta B et al (21) in their study in Assam also found peer pressure and popularity to be a reason for students to indulge in such practices. Narain et al (15) also found one-third of their study participants initiating substance abuse to make friends in their school. The second most common reason among the study participants (25.9%) was for getting some fun and attaining pleasure from these legalised addictive products. Almost one-fifth (20.8%) of the substance abusers stated relieving stress as their main reason for initiating this habit. Faizi N et al (19) also found that the use of addictive substances was mostly done to relieve stress (57.9%). Other reasons were curiosity to explore new things at this age, relationships, breakup, financial concerns, family obligations, physical or mental atrocities, boredom, curiosity of the substance, feeling to be in control, ignorance, instant gratification were reasons observed in their study.(22) It was also seen that 10% of the students found parents and teachers as a source of encouragement to initiate abusing substances. Narain et al (15) also found that such habits were 2.2 fold higher among students if the father abused substances. This shows how adolescents get influenced by the behaviours of the people around them.

It was also seen that three-fourths (75.4%) subjects who were using addictive substances had knowledge about the health hazards of their usage. Prakash O et al in (23) found that 99.6% of their study participants knew about the ill effects of substance abuse. However, in a study done by Singh V et al in (24) in NCT region found that only 40% participants knew about the effects of addictive substances being harmful on the body and society. They also found that nearly 80% subjects knew about the deleterious health effects of consuming tobacco. The current study revealed a

significant association between the two genders (p-value =0.013) and knowledge of the substance users.

In this study, four-fifths (80.3%) of the study participants, who used addictive substances had the desire to quit. It is therefore, suggested that treatment modalities of drug use need to be universal, well-planned and enforced even more strictly. Various therapies like motivational enhancement and cognitive behavioural therapy, family-based treatments and pharmacotherapy for substance dependence should be widely promoted.(25)

One-fourth of the study subjects (24.1%) in this study agreed that showing use of addictive substances in movies glorifies their use. Majority of the adolescents believed that health warnings on the packets of addictive substances were helpful in reducing their use (60.4%). Almost half of the respondents suggested banning of sale as a good method of stopping the rise in substance usage (54.0%). Similar perceptions were reflected from a qualitative study done by El Kazdouh et al in (26) in Morocco where majority of the study subjects felt that peer pressure, societal norms, family environment were main encouraging factors. The study also revealed that awareness campaigns and health hazard messages did have an effect in deterring the use of addictive substances.

Conclusion

Almost half (49.3%) of the study participants were using some form of addictive substance. Smoking was the most frequent addiction (44%) followed by alcohol consumption (31.4%) among the adolescents. Male gender was significantly associated with substance abuse and knowledge regarding health hazards of substance abuse.

Recommendations

It was seen that three-fourths (75.4%) of the study participants had knowledge about the health hazards of drug use and four-fifths (80.3%) had the desire to quit. Rashtriya Kishore Swasthya Karyakram was launched to provide psychosocial support to the adolescents in rural areas to control drug use. However, there is no such support in the urban areas. Student counsellors in school and self-help groups in the community may play an important role in bringing about the desired behavioural changes. Frequent IEC and awareness sessions at the grassroot level and strict hand holding policies are the need of the hour to see a real change in this vulnerable section of the society that holds the key to our future.

Limitation of the Study

Due to resource constraints, the study was limited to only urban areas and rural adolescent behaviours were not explored. But based on the findings of this study, it is recommended that a comparative study including both the rural and urban adolescents be undertaken in the future to assess substance abuse among them

Relevance of the Study

This study gives valuable insights into the pattern of substance abuse. It was observed that drugs like Charas and Ganja are being used upto 5.1% and girls are also using such substances. Therefore, strong IEC activities highlighting the health hazards of such substances are needed as many of the participants were unaware of such effects. These results will aid in policy making for future.

Authors Contribution

All authors have contributed equally.

Financial Support and Sponsorship

Nil

Conflict of Interest

There are no conflicts of interest.

Acknowledgement

We are grateful to the principals of the selected schools for letting us interact with the students. We also thank our medico-social workers for helping in data collection.

Declaration of Generative AI and AI Assisted Technologies in the Writing Process

The authors haven't used any generative AI/AI assisted technologies in the writing process.

REFERENCES

1. Substance abuse | National Health Portal of India. (n.d.). Available at: https://www.nhp.gov.in/disease/non-communicable-disease/substance-abuse. (Accessed on 25-10-2024)
2. Murthy P, Manjunatha N, Subodh B, Chand P, Benegal V. Substance use and addiction research in India. Indian J Psychiatry. 2010;52(7):189-99.
3. India Today. (2021, October 4). All you need to know about drugs, substance abuse in India . India Today. Available at: https://www.indiatoday.in/diu/story/all-you-need-to-know-about-drugs-substance-abuse-in-india-1860644 (Accessed on 25-10-2024)
4. Arora, W. by D. M. (n.d.). Project Udaya: Population Council. Project UDAYA | Population Council. Available at: https://www.projectudaya.in/substance-abuse-impact-on-adolescents-in-india (Accessed on 25-10-2024).
5. World Health Organization. (n.d.). World health report : 2002. World Health Organization. Available at: https://www.who.int/publications-detail-redirect/9241562072 .(Accessed on 25-10-2024)
6. Gray KM, Squeglia LM. Research Review: What have we learned about adolescent substance use? J Child Psychol Psychiatry. 2018;59(6):618–27.
7. Adolescent health: National health mission. (n.d.). Available at: https://nhm.gov.in . Accessed on 25-10-2024
8. Nawi AM, Ismail R, Ibrahim F, Hassan MR, Manaf MRA, Amit N, et al. Risk and protective factors of drug abuse among adolescents: a systematic review. BMC Public Health. 2021;21(1):2088.
9. Jiloha R. Prevention, early intervention, and harm reduction of substance use in adolescents. Indian J Psychiatry. 2017;59(1):111-118.
10. Nath A, Choudhari SG, Dakhode SU, Rannaware A, Gaidhane AM. Substance Abuse Amongst Adolescents: An Issue of Public Health Significance. Cureus [Internet]. 2022 Nov 7 Available at: https://www.cureus.com/articles/116541-substance-abuse-amongst-adolescents-an-issue-of-public-health-significance (Accessed on 25-10-2024)
11. Qadri S, Goel R, Singh J, Ahluwalia S, Pathak R, Bashir H. Prevalence and pattern of substance abuse among school childern in nothern India: A rapid assessment study. Int J Med Sci Public Health. 2013;2(2):273.
12. Gunjan Kumar, Dash P, Jayeshmit Patnaik, Gitanjali Pany. Socioeconomic status scale-modified kuppuswamy scale for the year 2022. Int J Community Dent. 2022;10(1):1–6.
13. Panigrahi O, Sarangi L, Acharya H. Substance abuse among adolescents in urban slums of Sambalpur. Indian J Community Med. 2008;33(4):265-267.
14. Tsering D, Pal R, Dasgupta A. Substance use among adolescent high school students in India: A survey of knowledge, attitude, and opinion. J Pharm Bioallied Sci. 2010;2(2):137-40.
15. Narain R, Sardana S, Gupta S. Prevalence and risk factors associated with substance use in children: A questionnaire-based survey in two cities of Uttar Pradesh, India. Indian J Psychiatry. 2020;62(5):517-523.
16. World Health Organization. (n.d.). Monitoring. World Health Organization. Available at: https://www.who.int/teams/mental-health-and-substance-use/alcohol-drugs-and-addictive-behaviours/monitoring (Accessed on 25-10-2024).
17. Ambekar A, Agrawal A, Rao R, Mishra AK, Khandelwal SK, Chadda R. Magnitude of Substance Use in India- National Survey on Extent and Pattern of Substance Use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India; 2019. Available on https://www.lgbrimh.gov.in/resources/Addiction_Medicine/elibrary/magnitude_substance_abuse_india.pdf
18. UDAYA, Adolescent Survey, Bihar and Uttar Pradesh, 2018–19. Harvard Dataverse. Available at: https://dataverse.harvard.edu/dataset.xhml?persistentId=dol:10.7.7910/DVN/RRXQNT (Accessed on 25-10-2024)
19. Faizi N, Alvi Y, Saraswat A, Yasir Mohd. Knowledge, attitude, practice, and pattern of substance use among adolescents and young adults from Aligarh, India. Indian J Community Health. 2021;33(4):615–20.
20. Roy, E. (2021, February 10). NCPCR-NCB Release Action Plan to Combat Drug Abuse Among Children. The Indian Express. Available at: https://indianexpress.com/article/india/ncpcr-ncb-release-action-plan-to-combat-drug-abuse-among-children-7182021/ (Accessed on 25-10-2024).
21. Mahanta B, Mohapatra P, Phukan N, Mahanta J. Alcohol use among school-going adolescent boys and girls in an industrial town of Assam, India. Indian J Psychiatry. 2016;58(2):157-63.
22. Keys 12: 22 reasons people use drugs and alcohol . (2022). Available at: https://www.12keysrehab.com/22-reasons-people-use-drugs-and-alcohol/ (Accessed on 25-10-2024).
23. Prakash O, PrakashGiri O, Kumar Mishra A, Kumar S, Kulhara P. Knowledge and attitude of Indian adolescents towards addiction: Findings from an exploratory survey. J Ment Heal Hum Behav JMHHB [Internet]. 2009;14(2):74–9.
24. Singh V, Pal HR, Mehta M, Kapil U. Tobacco consumption and awareness of their health hazards amongst lower income group school children in National Capital Territory of Delhi. Indian Pediatr. 2007 Apr;44(4):293–5.
25. Ambekar A, Mongia M. Planning research in psychosocial interventions. Indian J Psychiatry. 2018;60(8):575-582.
26. El Kazdouh H, El-Ammari A, Bouftini S, El Fakir S, El Achhab Y. Adolescents, parents and teachers' perceptions of risk and protective factors of substance use in Moroccan adolescents: a qualitative study. Subst Abuse Treat Prev Policy. 2018;13(1):31.