ORIGINAL RESEARCH

Awareness camps eliciting community perception about substance use disorders, a cross sectional study from rural India

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ABSTRACT

Background: The Government of India report " Magnitude of Substance Use in India, 2019" highlights increasing trends of substance use disorders (SUDs) and lack of evidence based prevention programmes. We designed a study to assess community perception about SUDs and its solution. **Methods:** A cross sectional study (N = 216) was conducted in 2022, by organizing awareness camps in ten villages of district Solan by securing Ethics committee clearance. **Results:** Gender had a significant relation with education, occupation level and ever used pattern of drugs. SUDs prevalence of 31.9% was observed with10-29 year age group, the most affected. Percent prevalence of alcohol abuse was 25.5 followed by tobacco (smoked):16.7; tobacco (non-smoked, chewable): 14.8; cannabinoids: 5.6; opioid: 0.9 and prescription drugs: 0.5. 64.7 percent respondents had knowledge about reasons behind SUDs. Most common reason cited(in percent) was peer pressure (28.7) followed by mental illness (18.5), parent pampering (17.1), habit (15.3), richness of families (25.0), entertainment (15.3), unemployment (14.8), drug availability (6.5), mobile usage (6.5), loneliness (4.2) and impact of movies (1.9). 54.2 percent suggested methods for ameliorating SUDs. Significant suggestions were awareness generation and prohibition of drugs ((28.2 and 27.3 percent respectively). **Conclusion:** On the recommendations of the study, the State Government has enforced a rule to debar the school play grounds from becoming mere parking spaces for vehicles and that to keep them open till late evening hours for encouraging the sports activities by youth along with strict policing in rural areas to check the drug menace.

Keywords: Awareness camps, alcohol, opioid, cannabinoids, peer pressure, substance use disorders, school play ground

INTRODUCTION

Psychoactive substances such as alcohol, tobacco, opioids, cannabinoids and psychoactive prescription drugs have been abused across the world by 275 million people in the year 2020 and about 36 million people had suffered from drug use disorders[1].

United Nations has highlighted the need to close the gap between perception and reality to educate young people and safeguard public health in the context substance use disorders (SUDs). Community based studies have played a great significant role in reaching the public and eliciting various facets of the substance abuse menace[2]. Socio-demographic factors contributing to substance abuse are being continuously studied in rural and urban dwellings to understand the dynamics behind the abuse[3]. Schools and other educational institutes have been surveyed to elicit the causative agents behind the substance abuse[4]. Industrialization and associated migratory population dynamics have also contributed to the ever

growing statistics of substance abuse especially in developing countries like India[5]. Prevalence of tobacco and other substance of abuse have been observed in many parts of India[6]. Intervention programmes have been playing important roles in the management of SUDs[7].

Provision of equitable, accessible, acceptable, appropriate, effective and comprehensive services especially in the context of substance abuse to masses through clinics known as Nai Disha Kendras in public hospitals, sharpens the approach to fight with this social evil. Outreach activities like organization of community awareness camps are an integral part of the mental health services being provided under the National Mental Health Programme in India. In district Solan, there has been no study in the village community to know the knowledge base of the rural folk about the substance use disorders. Henceforth the present study was designed to not only create awareness amongst the rural masses through awareness camps but also to utilize these camps being run under the NDKs with the objectives of:

a) to assess the prevalence of substance use disorders in community
b) to evaluate the perception of community about the substance use disorders

METHODS

Sample size: The awareness camps about SUDs in the rural regions of the district were planned. The number of the camps was decided on the criteria that camps would be organized in different villages till the sample size for the study, as calculated below, was reached.

$$\text{Sample size} = \frac{Z_{1-\frac{\alpha}{2}}{}^2 \, \text{p}\,(1-\text{p})}{d^2} = 216$$

Here:

- $Z_{1-\alpha/2}$ = Standard normal variate {at 5% type 1 error ($p < 0.05$)} and is 1.96
- p is expected proportion in population (17 %, the probability of alcohol use in Himachal Pradesh as per the National Drug Survey Report 2019)
- d is absolute error or precision (5 %).

Study area: Henceforth, the camps were organized in ten villages. These villages were Barog, Basal, Chambaghat, Dharot, Jaunaji, Kabakalan, Nauni, Radiana, Subathu and Thari. The selection of the villages was based upon the felt need of the village community being communicated by either the Panchayati Raj Institute or through Non Governmental Organization (NGO), which were working in this field of SUDs in the district. Written informed consent was secured from the participants of age 18years or above. Pilot tested semi structured interviewer based questionnaire was administered to all the voluntary participants. Confidentiality of the participants was ensured. The information sheets were coded. After the completion of the collection of information from the participants, the awareness about the treatment aspects of de addiction being carried out at nearby health facilities was shared with the participants of the camp.

Study Design: Cross sectional study

Study Period: The study was accomplished in the months of February and March, 2022

Funding support: Nil

Ethical Consideration: The permission for the study was sought from the Ethics Committee of the MMM College and Hospital Kumarhatti, Solan, H.P vide letter No: MMMCH/IEC/22/520- 29/01/22.

Statistical Analysis: The data was analysed in Statistical Package for the Social Sciences, IBM Version 21 and Microsoft Excel 2010 software. The *p* values of <0.05 were considered as significant.

RESULTS

Table 1: Participant socio-demographic characteristics (N=216)

Characteristic		**Male** (%) N=105	**Female**(%) N=111	**Total** N=216
A. *Education	(i) Illiterate	14 (13.3)	27 (24.3)	41 (18.98)
	(i) Primary	19 (18.1)	29 (26.1)	48 (22.22)
	(ii) Middle	21 (20.0)	16 (14.4)	37 (17.13)
	(iii) High	17 (16.2)	15 (13.5)	32 (14.81)
	(iv) Intermediate	14 (13.3)	14 (12.6)	28 (12.96)
	(v) Graduate/Post Graduate	19 (18.1)	7 (6.3)	26 (12.03)
	(vi) Honors/Professional	1 (1)	3 (2.7)	4 (1.85)
B. Employment	(i) Unemployed	18 (17.1)	16 (14.4)	34 (15.74)
	(ii) Unskilled worker	2 (1.9)	5 (4.5)	7 (3.24)
	(iii) Semiskilled worker	7 (6.7)	3 (2.7)	10 (4.63)
	(iv) Skilled worker	8 (7.6)	2 (1.8)	10 (4.63)
	(v) Clerical/Shop/Farm	53 (50.5)	78 (70.3)	131 (60.65)
	(vi) Semi profession	9 (8.6)	2 (1.8)	11 (5.09)
	(vii) Professional	4 (3.8)	2 (1.8)	6 (2.78)
	Panchayati Raj Institute elected members	4 (3.8)	3 (2.7)	7 (3.24)

* Kuppuswamy scale

Table 1 inferred that 48.6 % of participants were male and 51.4 female, with the mean age (18-88 years) of 50.2 years and with a standard deviation of 15.69 years. Number of female illiterates was more than males whereas in having primary level of education and having professional degrees, the females outnumbered their male counterparts. There were 7 elected members from the Panchayati Raj Institute i.e., the village administrative body. The Gender was statistically associated with the education level of the study participants, χ^2 (6, N = 216) = 13.38,p = 0.03. Males were comparatively more unemployed. However, they outnumbered the females in being more skilled or semi skilled labourers. Fisher's Exact Test revealed statistically significant relation between the gender and the employment status of the participants (p = 0.01)

Table 2: Substance use by age of onset

Characteristic		**Male** (%) N = 105	**Female** (%) N = 111	**Total** N = 216
A. Ever used		67 (63.8)	2 (1.8)	69 (31.9)
Age of onset (year)	< 10	1 (1.0)	0	1 (0.5)
	10-19	22 (21.0)	0	22 (10.2)
	20-29	30(28.6)	1 (0.9)	31 (14.4)
	30-39	14 (13.3)	0	14 (6.5)

The prevalence of substance use at any point of time in life was found to be 31.9 percent in the present study (Table 2). The study elicited that the males were comparatively more who had ever used drugs in their life. The gender was significantly associated with the "ever used" pattern for the drugs, χ^2 (1, N = 216) = 95.43, p = 0.00.

It was observed that the age group of 20-29 years was the one wherein SUD got established the most followed by the adolescent age group of 10-19 years. Moreover, a significant association has been observed between the gender and the age of onset of the disorders, p = 0.00.

The percent prevalence of alcohol abuse was 25.5 followed by tobacco (smoked):16.7; tobacco (non-smoked, chewable): 14.8; cannabinoids: 5.6; opioid: 0.9 and prescription drugs: 0.5. Significant association was observed between the gender and alcohol {χ^2 (1, N = 216) = 57.48, p = 0.00}. Similarly smoked tobacco was also associated significantly with the gender, {χ^2 (1, N = 216) = 32.05, p = 0.00}. Gender was also found to have significant association with chewable tobacco, {χ^2 (1, N = 216) = 19.23, p = 0.00} and cannabinoids , {χ^2 (1, N = 216) = 0.48, p = 0.00}. However, no association was observed between the gender and opioid or the prescription drug abuse.

Overall 64.7 percent of the respondents were having the knowledge about the reasons behind the occurrence of SUDs and gender had a significant association on this knowledge, {χ^2 (1, N = 216) = 4.12, p = 0.04}. Peer pressure was the most common reason cited (28.7 percent) and it had an association with the gender, {χ^2 (1, N = 216) = 7.11, p = 0.00} followed by other reasons similarly having significant association with gender such as mental illness (18.5 percent): {χ^2 (1, N = 216) = 5.27, p = 0.02}; parent pampering (17.1): {χ^2 (1, N = 216) = 4.67, p = 0.03} and habit (15.3 percent): {χ^2 (1, N = 216) = 3.52, p = 0.06}. The percent of respondents citing the other reasons and which did not have any significant association with the gender (p = > 0.05) were the richness of families: 25; entertainment: 15.3; unemployment: 14.8; availability of drugs: 6.5; mobile usage: 6.5; loneliness: 4.2 and the impact of watching movies: 1.9.

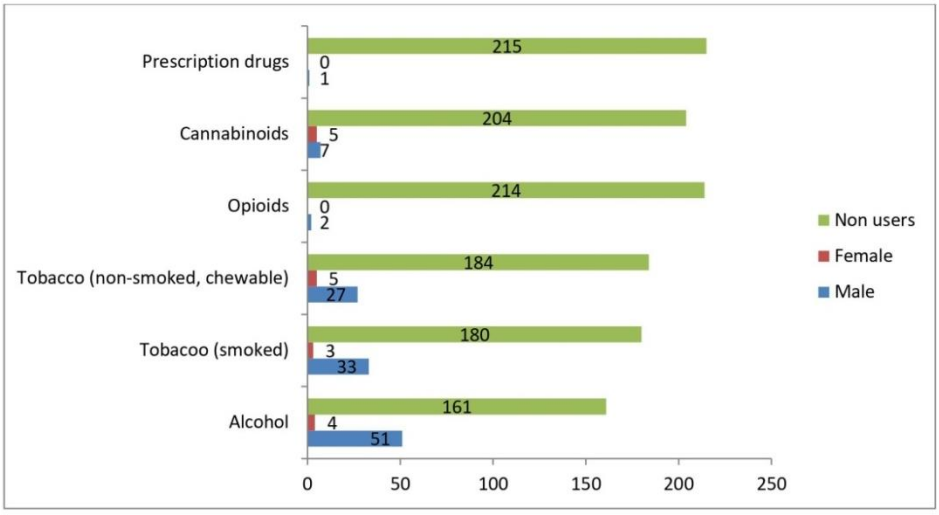

Figure 1. Substance Use Disorders by gender

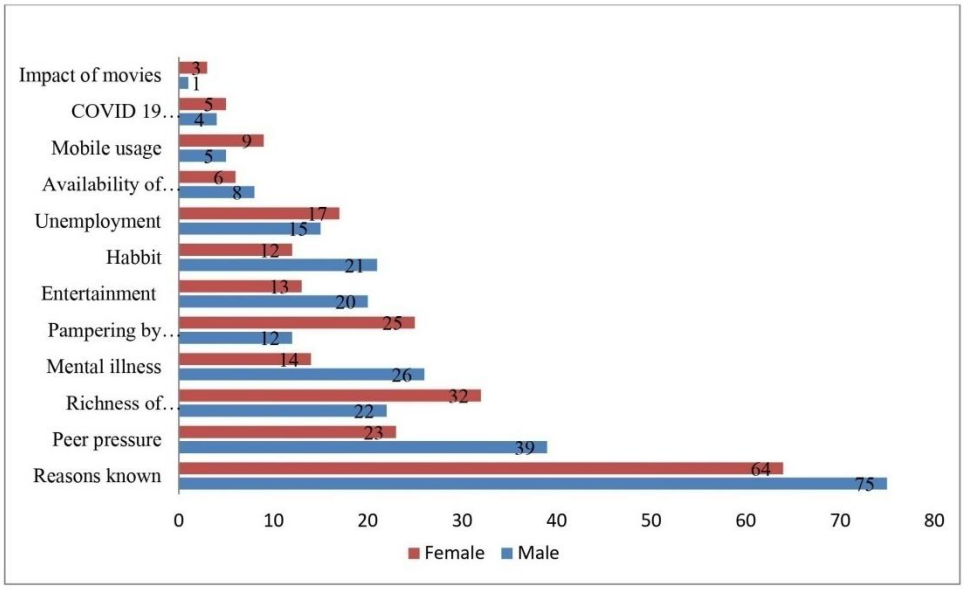

Figure 2. Reasons for Substance Use Disorders by gender

54.2 percent of the respondents had given suggestions for controlling the SUDs. However there was no statistically significant difference between the suggestions made by either of the gender. Creation of awareness about SUDs amongst people was the most important suggestion made (28.2 percent) followed by prohibition of drugs (27.3 percent). Statistically significant association existed between those who suggested for the awareness aspects and those in favour of prohibition, $\{\chi^2 (1, N = 216) = 10.19, p = 0.00\}$. It was felt that there should be strict ban of sale of substance of abuse in the community. Percent of respondents making other suggestions such as administrative check, keeping oneself busy, treatment facilities, curtailing supply of drugs, family time, physical exercises/ sports and following of religion was 14, 12.5, 10.2, 13.1, 8.8, 7.4 and 0.7 respectively.

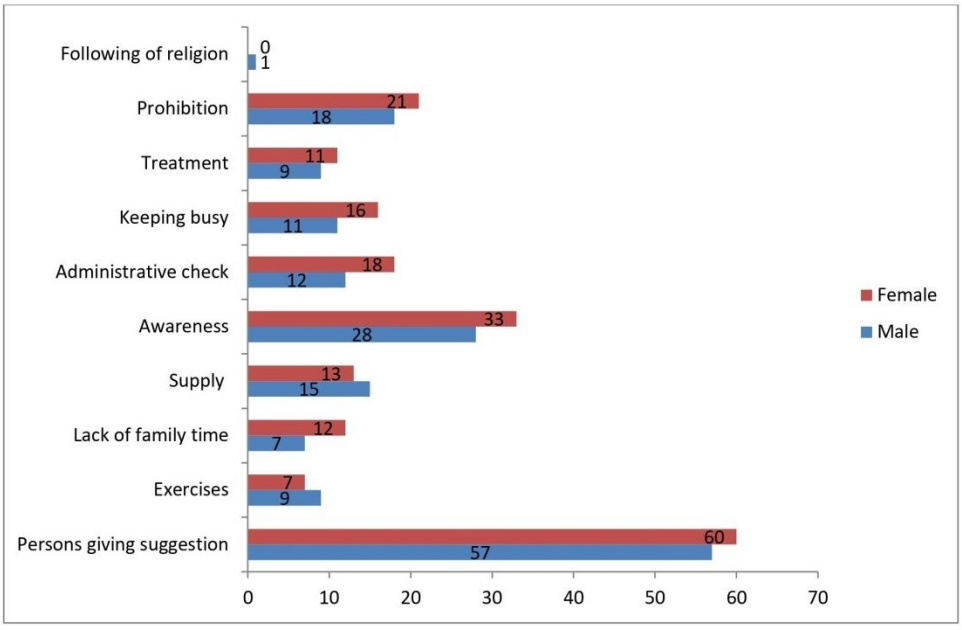

Figure 3. Suggestions to prevent SUD cited by the respondents by gender

Table 3 inferred that there was a statistically significant association between the education status of the respondents and their reasoning capability but this education did not probably seem good enough to yield suggestions for the prevention of SUDs.

Moreover there was statistically significant association between the Reasons cited by the respondents and the suggestions made by them, $\{\chi^2 (1, N = 216) = 6.64, p = 0.01\}$

Table 3: Reasons for drug abuse and suggestions made by education status of respondents

Education	Reasons known			Suggestions made		
	Yes N=139	No N=76	Total N=215	Yes N=117	No N=99	Total N=216
1. Illiterate	20 (14.4)*	21 (27.6)	41 (19.1)	18(15.4)	23 (23.2)	41 (19.0)
2. Primary	21 (15.1)	27 (35.5)	48 (22.3)	26(22.2)	22 (22.2)	48 (22.2)
3. Middle	22 (15.8)	15 (19.7)	37 (17.2)	16(13.7)	21 (21.2)	37 (17.1)
4. High	22 (15.8)	9 (11.8)	31 (14.4)	20(17.1)	12 (12.1)	32 (14.8)
5. Intermediate	27 (19.4)	1 (1.3)	28 (13.0)	15(12.8)	13 (13.1)	28 (13.0)
Graduate/Post Graduate	23 (16.5)	3 (3.9)	26 (12.1)	18 (15.4)	8 (8.1)	26 (12.0)
7. Honors/Professional	4 (2.9)	0 (0.0)	4 (1.9)	4 (3.4)	0 (0.0)	4 (1.9)
Chi-square	35.681, df 6, p= 0.000			10.178, df 6, p= 0.177		

* Figures in parenthesis represent percentage

DISCUSSION

The present study had elicited an association of gender with the education level. Handique (2020) in a study, similarly, had documented that the gender disparity in education system in India occurred at different stages of education[8]. Moreover, an association of gender with the occupation level has also been observed in our study, similarly reported by Mallaiah (2014) [9].

It has been evinced by the present study that there was male preponderance in having SUDs. Similar studies documented that gender was associated with the substance use pattern in the society worldwide and that males were the more who had SUDs (McHugh et al., 2017; Singh et al., 2021)[10, 11].

Age of onset of SUDs was observed to be during the adolescent age (10-19 years) and young adult age group (20-29 years) in majority of the patients in our study, also similarly observed by Cloninger (1987)[12], Poudel and Gautam (2017)[13], Dawson et al., 2008[14] and King and Chassi, 2007[15].

The inference from the present study about alcohol being the largest substance of abuse followed by tobacco (smoked), tobacco (non smoked, chewable) and cannabinoids has also been reported in many other studies (Hser et al., 2003; Brierea FN et al., 2014, Chawla et al., 2017)[16-18]. Our study inferred perception of the community which was a heterogeneous group of people, the working and the non working class, the males and the females, the educated and the uneducated and the users and non users of substance of abuse. Peer pressure was the most common reason elicited for the SUDs. Mental illness, pampering by parents, and SUDs as a habit were the other reasons perceived. Faizi et al. (2021)[19] had also documented the peer pressure and mental stress as reasons for SUDs. Use of drugs for entertainment and due to peer pressure has also been documented in rural community by Kumar et al. (2020)[20]. Our study also documented richness of families, entertainment, unemployment, availability of drug, mobile usage, loneliness and the impact of watching movies as the perceived reasons for SUDs. Similar findings have also been observed in a study in an adjoining state of ours by Kour et al. in 2021[21].

The present study had not only elicited the perception of the community about reasons for substance abuse but also evinced suggestions to combat the menace of SUDs. Awareness generation amongst masses about SUDs and prohibition of drugs and alcohol by the Government were the major suggestions made. Tucker et al. (2008) had similarly shown in their study that awareness for SUDs will enhance the health seeking behaviour of people which in turn will then reduce the burden of SUDs[22]. Education about SUDs and strict prohibition were also observed to be the main contributors suggested by community in a study in Kenya (Mutiso et al., 2022)[23]. Smith and Lynch (2012) had illustrated the positive effects of physical exercises in management of SUD[24]. In present study also, a good proportion of people suggested that exercises especially to involve youth should be started at the village level itself. The concept of open gymnasiums in villages was suggested in this regard. Many elderly villagers emphasized to implement policies in the schools so as to allow the school grounds for sports activities after school hours and rather not to lock down these grounds in lieu of them being used as parking grounds for vehicles of the public. A small proportion of respondents of present study had also suggested the protective role of religiosity in SUD management. Elarabi et al. (2018) had also documented the role of religion in their study[25].

PUBLIC HEALTH ACTION

On the basis of the recommendations, the State administration has implemented a rule for the schools that the play grounds of the schools will never be used for parking and that these would also remain open till late evening hours so as to ensure sports activities taking place there. Strict policing in rural areas has also been enforced to check the drug menace.

CONCLUSION

The study elicited that education level of community got reflected in the reasoning capability of community in the context of SUDs. However, this education level could not get transformed to a level which could significantly suggest methods for removing SUDs

form the community. However, various suggestions elicited by the study especially awareness generation, prohibition and exercises-sports facilitation in village communities, if implemented, will prove their worth in the future fight against substance use disorders.

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REFERENCES

1. UNODC. Global Overview: Drug Demand Drug Supply. World Drug Report 2021. United Nations Publications, Sales No. E. 21.XI.8. Available on unodc.org/res/wdr2021/field/WDR21_Booklet_2.pdf. Accessed on August 5, 2021.
2. Dadwani RS, Thomas T. Prevalence of substance abuse: a community based study. Int J Community Med Public Health.2016;3:647-50.
3. Kokiwar PR, Jogdand GS. Prevalence of substance use among male adolescents in an urban slum area of Karimnagar district, Andhra Pradesh. Indian J. Public Health.2011;55(1):42-5.
4. Chawla S, Mehta B, Bhardwaj N, Singh A K, Aggarwal S K. Prevalence and correlates of tobacco use among school going adolescents in a rural area of Himachal Pradesh, India. J. Integr. Health Sci.2017;5(1):32-8.
5. Singh AK, Verma K, Guleria A, Puri S, Sharma A, Sharma V. Evaluating substance use in an urbanizing town of mid hills of Northern India. Int J Res Med Sci.2020;8(10):3611-17.
6. Pradhan PM, Niraula SR, Ghimire A, Singh SB, Pokharel PK. Tobacco use and associated factors among adolescents students in Dharan, Eastern Nepal: a cross-sectional questionnaire survey. BMJ open.2013;3(2):e002123.
7. Giri OP, Bhardwaj R, Misra AK, Kulhara P. Impact of drug awareness and treatment camps on attendance at a community outreach de-addiction clinic.Indian J. Psychiatry. 2015;24(2):202-5.
8. Handique C. Gender Parity in Indian Education – Progress and Problems. EEO.2020;19 (4):3733-37.
9. Mallaiah LC. Gender and occupational distribution in India. International Journal of Scientific and Innovative Research Studies.2014; 2(2):ISSN:2347-7660 (Print).
10. McHugh RK, Votaw VR, Sugarman DE, Greenfield SF. Sex and gender differences in substance use disorders. Clin. Psychol. Rev.2018;66:12-23.
11. Singh AK, Verma K, Chawla S, Sharma V, Gupta P. Utility of special drive campaign on substance use disorders in hard-to-reach communities in the fast urbanizing town of Solan, India. Indian J. Psychiatry.2021;63:433-38.
12. Cloninger CR. Neurogenetic adaptive mechanisms in alcoholism. Science.1987;236:410-16.
13. Poudel A, Gautam S. Age of onset of substance use and psychosocial problems among individuals with substance use disorders. BMC Psychiatry.2017;17:10.
14. Dawson DA, Goldstein RB, Chou SP, Ruan WJ, Grant BF. Age at first drink and the first incidence of adult-onset DSM-IV alcohol use disorders. Alcohol. Clin. Exp.Res.2008; 32(12):2149-60.
15. King KM, Chassin L. A prospective study of the effects of age of initiation of alcohol and drug use on young adult substance dependence. J Stud Alcohol Drugs.2007;68(2): 256-65.
16. Hser YI, Grella CE, Collins C, Teruya C. Drug-use initiation and conduct disorder among adolescents in drug treatment. J. Adolesc.2003;26(3):331-45.
17. Brierea FN, Fallu JS, Morizot J, Janosz M. Adolescent illicit drug use and subsequent academic and psychosocial adjustment: an examination of socially-mediated pathways. Drug Alcohol Depend.2014;135:45-51.
18. Chawla S, Mehta B, Bhardwaj N, Singh AK, Aggarwal SK. Prevalence and correlates of tobacco use among school going adolescents in a rural area of Himachal Pradesh, India. J. Integr. Health Sci.2017;V(1): 32-8.
19. Faizi N, Alvi Y, Saraswat A, Yasir M. 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. Kumar DS, Thomas JJ, Mohandas A, Chandana H, George PS, Murthy MRN. Prevalence of substance use and awareness about its ill effects among people residing in a rural village in Chamarajanagara district, Karnataka. Clin. Epidemiology Glob. Health.2020; 8(2):442-45.
21. Kour P, Lien L, Hjelde KH, Pettersen H, Kumar B. The use of substances at an early age: a qualitative study among young men living with substance use disorders in Punjab, India. HSOA Addict. Addict. Disord.2021;8:061.
22. Tucker JA, Foushee HR, Simpson CA. Public perception of substance abuse and how problems are resolved: implications for medical and public health services. South. Med. J.2008;101(8):786-90.
23. Mutiso VN, Ndetei DM, Muia EN, Musyimi C, Osborn TL, Kasike R, Onsinyo L, Mbijjiwe J, Karambu P, Sounders A, Weisz JR, Swahn MH, Mamah D. Prevalence and perception of substance abuse and associated economic indicators and mental health disorders in a large cohort of Kenyan students: towards integrated public health approach and clinical management. BMC Psychiatry.2022;22:191.
24. Smith MA, Lynch WJ. Exercise as a potential treatment for drug abuse: evidence from preclinical studies. Front. Psychiatry.2012;2:82.
25. Elarabi H, Hamedi FA, Salas S, Wanigaratne S. Rapid analysis of knowledge, attitude and practices towards substance addiction across different target groups in Abu Dhabi City, United Arad Emirates. International journal of prevention and treatment of substance use disorders.2008;1:76-88.