

Original Research Article

Effectiveness of live aerobic exercises and video based aerobic exercises on stress reduction among the patients of substance use disorder in de-addiction centre of selected hospitals of Ambala, Haryana

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ABSTRACT

Background: Substance use is a major public health concern across the globe. There is a strong link between stress and substance abuse. Everyone copes with stress in different ways, but some people may resort to using drugs or alcohol to manage their stress. The study aimed to assess the effectiveness of live aerobic exercises (LAE) and video based aerobic exercises (VBAE) on stress reduction among the patients of substance use disorder in de-addiction centre of selected hospitals of Ambala, Haryana.

Methods: Quantitative research approach, quasi experimental non-equivalent control group pretest post-test design was used to collect the data from 40 patients of substance use disorder (20 LAE group, 20 VBAE group) by using purposive sampling technique. Data was collected by using modified perceived stress scale (PSS-10) through interview technique. Live aerobic exercises and video based aerobic exercises were administered continuously for one week after pretest.

Results: The findings showed that there was significant difference in the mean score of stress in live aerobic exercise group and video based aerobic exercise group after administration of live aerobic exercises and video based aerobic exercises as the calculated 't' value was (-5.38 and p=0.001) with mean difference -5.35 which was statistically significant at 0.05 level of significance.

Conclusions: Both live aerobic exercises and video based aerobic exercises were effective in reducing the stress among patients of substance use disorder. However, live aerobic exercises were more effective than video based aerobic exercises in stress reduction among patients of substance use disorder.

Keywords: De-addiction centre, Live aerobic exercises, Stress, Substance use disorder, Video based aerobic exercises

INTRODUCTION

Substance use disorder (SUD) is a mental health condition in which a person has a problematic pattern of substance use that causes distress and/or impairs their life. Substance use disorder exists on a spectrum and may be mild, moderate or severe. It typically involves an overpowering desire to use the substance, increased tolerance to the substance and/or withdrawal symptoms

when you stop taking the substance. A person can have more than one substance use disorder at a time, such as alcohol use disorder and cocaine use disorder. Substance use disorder can significantly impact your health, relationships and overall quality of life. It can also be life-threatening.¹

Substance use is a major public health concern across the globe.² Both licit and illicit substances use are

substantially associated with morbidity, mortality, disability, and disease burden.³ The same is true for India as well.⁴ The use of many substances is reported and has been part of Indian culture for ages. Alcohol, cannabis, and opium are mentioned in religious scriptures and are part of many religious rituals/practices across the country.⁵

In India, a variety of psychoactive substances like alcohol, cannabis and opioids have been used for hundreds of years. In modern times, however, the pattern and dimensions of use of such psychoactive substances has assumed pathological proportions.⁶ Psychoactive substances are substances that when taken in or administered into the body by substance abuser, which ultimately damage the mental state of that person. e.g. perception, consciousness, cognition or mood and emotions. Psychoactive drugs are the affluent term for the whole class of substances-licit and illicit drugs.⁷

There is a strong link between stress and substance abuse.⁸ Everyone copes with stress in different ways, but some people may resort to using drugs or alcohol to manage their stress.⁹

The study aimed to assess the effectiveness of live aerobic exercises (LAE) and video based aerobic exercises (VBAE) on stress reduction among the patients of substance use disorder in de-addiction centre of selected hospitals of Ambala, Haryana. The objectives of the study were: to assess the level of stress before and after administration of live aerobic exercises and video based aerobic exercises among the patients of substance use disorder, to assess the effectiveness of live aerobic exercises and video based aerobic exercises on stress reduction among the patients of substance use disorder and to find out the association of stress in live aerobic exercises and video based aerobic exercises among the patients of substance use disorder with selected variables.

METHODS

This study has quantitative research approach, quasi experimental non-equivalent control group pretest post-test design. In this study, purposive sampling technique was used to select samples from population. Sample size was 40 substance-use disorder patients admitted at MMIMSR Hospital, Mullana, Ambala Haryana. Data was collected through Performa for demographic variables and modified perceived stress scale to assess the stress among substance use disorder patients through interview technique. The study included patients of substance use disorder who were: a) aged 20 years and above, b) willing to participate in the study, c) able to understand Hindi or English language, d) alert, e) oriented and comprehend to respond. The study excluded patients of substance use disorder who were: a) unable to perform aerobic exercises, b) not available at the time of data collection, c) having no stress. Screening with pre-test was taken on 1st day in both live aerobic exercise group and video

based aerobic exercise group. Aerobic exercises was administered to LAE group and VBAE group continuously for 7 days from 2 to 8th day and after completion of 7 days, post test was taken immediately on 8th day after completion of the intervention.

Data was analyzed with descriptive and inferential statistics. Mean, median and standard deviation of stress. Chi square was incorporated to find out association of stress in live aerobic exercises and video based aerobic exercises among the patients of substance use disorder with selected variables. Permission for this study was taken from the ethical committee as well as nursing superintendent and head of psychiatric department of MMIMSR Hospital, Mullana, Ambala. Following formal administrative approval from the concerned authority of MMIMSR Hospital, the study was conducted in the month of May 2024.

RESULTS

Table 1 depicts that most of the patients of substance use disorder (40%) were in the age group of 21-30 years and 31-40 years in LAE and more than half of the patients of substance use disorder (55%) were in 31-40 years of age in VBAE group. In both the groups, most of the patients were Hindu i.e. (90%) in LAE and (85%) in VBAE group respectively. Majority of substance use disorder patients (50%) and (40%) were having secondary education in LAE and VBAE group respectively. In LAE group more than one third of substance use disorder patients (35%) were laborer whereas in VBAE group more than half of the substance use disorder patients (55%) were from private employee. In both the groups, majority were having monthly income (in rupees) between 2630-4294 i.e. (45%) in LAE and (55%) in VBAE group respectively. Majority of substance use disorder patients were unmarried in both the groups i.e. (75%) in LAE and (80%) in VBAE group. In LAE group, more than half of the substance use disorder patients (55%) belong to joint family whereas in VBAE group, majority of substance use disorder patients (65%) belong to nuclear family. In LAE group, majority of substance use disorder patients were consuming more than one substance whereas, in VBAE group, half of the substance use disorder patients (50%) consuming only one substance and half of the substance use disorder patients (50%) consuming more than one substance. More than one third of the patients of substance use disorder (35%) were having duration of substance consumption is 3-6 years in LAE group whereas in VBAE group, majority of substance use disorder patient (40%) were having duration of substance consumption less than 2 years. In both the group, majority of substance use disorder patients had the previous history of stay in de-addiction centre i.e. (75%) in LAE and (60%) in VBAE group. Majority of substance use disorder patients (80%) in LAE group and (55%) in VBAE group had no family history of substance consumption.

Table 1: Frequency and percentage distribution of patients of substance use disorder in live aerobic exercises and video based aerobic exercises group in term of selected variables (n=40).

Selected variables	LAE group (n=20) N (%)	VBAE group (n=20) N (%)
Age (in years)		
21-30	9 (40)	7 (35)
31-40	9 (40)	11 (55)
41-50	2 (10)	2 (10)
Above 50	0 (0)	0 (0)
Religion		
Hindu	18 (90)	17 (85)
Muslim	1 (5)	2 (10)
Sikh	1 (5)	1 (5)
Christian	0 (0)	0 (0)
Others	0 (0)	0 (0)
Education		
Illiterate	0 (0)	0 (0)
Primary	4 (20)	5 (25)
Secondary	10 (50)	8 (40)
Graduate	4 (20)	5 (25)
Post graduate	2 (10)	2 (10)
Occupation		
Unemployed	5 (25)	3 (15)
Labourer	7 (35)	5 (25)
Private Employee	6 (30)	11 (55)
Govt. Employee	2 (10)	1 (5)
Monthly income (in rupees)		
≥8763	5 (25)	3 (15)
4381-8675	3 (15)	5 (25)
2630-4294	9 (45)	11 (55)
1314-2541	3 (15)	1 (5)
Marital status		
Unmarried	15 (75)	16 (80)
Married	5 (25)	3 (15)
Separated	0 (0)	1 (5)
Divorced	0 (0)	0 (0)
Widower	0 (0)	0 (0)
Type of family		
Nuclear	9 (45)	13 (65)
Joint	11 (55)	7 (35)
No. of substance consumption		
Taking >1		
Yes	14 (70)	10 (50)
No	6 (30)	10 (50)
Duration of substance consumption		
<2 year	6 (30)	8 (40)
3-6 years	7 (35)	5 (25)
7-10 years	3 (15)	3 (15)
>10 years	4 (20)	4 (20)
History of previous stay in de-addiction center		
Yes	14 (75)	12 (60)
No	6 (30)	8 (40)
Family history of substance consumption		
Yes	4 (20)	9 (45)
No	16 (80)	11 (55)

Table 2: Range, mean, median, standard deviation of stress among patients of substance use disorder before and after administration of LAE and VBAE in LAE and VBAE group (n=40).

Variables	Group	Pre-test			Post-test		
		Obtained range	Mean±SD	Median	Obtained range	Mean±SD	Median
Stress	LAE group (n=20)	20-33	27.7±3.49	29.0	13-23	19±3.41	20.5
	VBAE group (n=20)	22-33	28.3±2.53	28.0	20-30	24.3±2.83	24.0

Minimum score=0 and Maximum score=40.

Table 3: Frequency and percentage showing distribution of patients of substance use disorder in terms of level of stress before and after administration of live aerobic exercises (n=20).

Level of stress	Actual range	Pre-test N (%)	Post-test N (%)
No stress	0	0 (0)	0 (0)
Low stress	1-13	0 (0)	2 (10)
Moderate stress	14-26	7 (35)	18 (90)
High perceived stress	27-40	13 (65)	0 (0)

Minimum score=0 and Maximum score=40.

Table 4: Frequency and percentage showing distribution of patients of substance use disorder in terms of level of stress before and after administration of video based aerobic exercises (n=20).

Level of stress	Actual range	Pre-test N (%)	Post-test N (%)
No stress	0	0 (0)	0 (0)
Low stress	1-13	0 (0)	0 (0)
Moderate stress	14-26	3 (15)	15 (75)
High perceived stress	27-40	17 (85)	5 (25)

Minimum score=0 and Maximum score=40.

Table 5: Mean, mean difference, standard deviation of difference, standard error of mean difference and 't' value of stress score among substance use disorder patient before and after administration of LAE and VBAE in LAE and VBAE group (n=40).

Variables	Group	Test	Mean±SD	MD	SDD	SEMD	't' value	df	P value
Stress	LAE group (n=20)	Pre-test	27.7±3.49	-8.70	3.90	0.87	-9.95	19	0.001*
		Post-test	19±3.41						
	VBAE group (n=20)	Pre-test	28.3±2.53	4.00	2.17	0.486	8.219	19	0.001*
		Post-test	24.3±2.83						

*S-Significant(p≤0.05). t (19) =1.72

Table 2 depicts that In LAE group, the mean pre test stress score was 27.7±3.49 and median was 29 with the range of 20-33 whereas mean post-test stress score was 19±3.41 and median was 20.5 with the range of 13-23. It infers that the mean post-test stress score was lesser than the mean pre-test stress score in LAE group. Whereas, in VBAE group, the mean pre-test stress score was 28.3±2.53 and median was 28 with the range of 22-33 whereas mean post-test stress score was 24.3±2.83 and median was 24.0 with the range of 20-30. It infers that the mean post test stress score was lesser than the mean pre-test stress score in VBAE group also.

The data presented in Table 3 depicts the frequency and percentage distribution of patients of substance use disorder in terms of level of stress before and after

administration of live aerobic exercises. Most of the substance use disorder patients (65%) were having high perceived stress before administration of live aerobic exercises. After administration of live aerobic exercises more than half of the patients of substance use disorder (80%) were having moderate stress and (10%) were having low stress.

The data presented in Table 4 depicts the frequency and percentage distribution of patients of substance use disorder in terms of level of stress before and after administration of video based aerobic exercises. Most of the substance use disorder patients (85%) were having high perceived stress before administration of video based aerobic exercises. After administration of video based aerobic exercises, only (25%) of substance use disorder patients were having high perceived stress.

Table 6: Chi square showing association of post test stress score among patients of substance use disorder with their selected variables in live aerobic exercises group (n=20).

Selected variables	χ^2	df	P value
Age (in years)			
21-30	2.716	2	0.257NS
31-40			
41-50			
Above 50			
Religion			
Hindu	0.247	2	0.884NS
Muslim			
Sikh			
Christian			
Others			
Education			
Illiterate	2.222	3	0.528NS
Primary			
Secondary			
Graduate			
Post graduate			
Occupation			
Unemployed	1.217	3	0.749NS
Labourer			
Private employee			
Government employee			
Monthly income (in rupees)			
≥8763	2.716	3	0.438NS
4381-8675			
2630-4294			
1314-2541			
Marital status			
Unmarried	0.741	1	0.389NS
Married			
Separated			
Divorced			
Widower			
Type of family			
Nuclear	1.819	1	1.78NS
Joint			
No. of substance consumption			
Taking >1	5.185	1	0.023*
Yes			
No			
Duration of substance consumption			
<2 year	2.407	3	0.429NS
3-6 years			
7-10 years			
>10 years			
History of previous stay in de-addiction center			
Yes	0.556	1	0.456NS
No			
Family history of substance consumption			
Yes	0.556	1	0.456NS
No			

NS-Not Significant ($p>0.05$); *-Significant ($p<0.05$); $\chi^2(1)=3.84$, $\chi^2(2)=5.99$, $\chi^2(3)=7.82$

Table 7: Chi square showing association of post test stress score among patients of substance use disorder with their selected variables in video based aerobic exercises group (n=20).

Selected variables	χ^2	df	P value
Age (in years)			
21-30	0.987	2	0.610NS
31-40			
41-50			
Above 50			
Religion			
Hindu	1.020	2	0.601NS
Muslim			
Sikh			
Christian			
Others			
Education			
Illiterate	2.000	3	0.572NS
Primary			
Secondary			
Graduate			
Post graduate			
Occupation			
Unemployed	2.424	3	0.489NS
Labourer			
Private Employee			
Government employee			
Monthly income (in rupees)			
≥8763	2.424	3	0.489NS
4381-8675			
2630-4294			
1314-2541			
Marital status			
Unmarried	7.111	2	0.029*
Married			
Separated			
Divorced			
Widower			
Type of family			
Nuclear	1.832a	1	0.176NS
Joint			
No. of substance consumption			
Taking >1	2.400	1	0.121NS
Yes			
No			
Duration of substance consumption			
<2 year	2.178	3	0.536NS
3-6 years			
7-10 years			
>10 years			
History of previous stay in de-addiction center			
Yes	2.857	1	0.091NS
No			
Family history of substance consumption			
Yes	3.300	1	0.069NS
No			

NS-Not Significant ($p>0.05$); *-Significant ($p<0.05$); $\chi^2(1)=3.84$, $\chi^2(2)=5.99$, $\chi^2(3)=7.82$

Table 5 revealed that In LAE group, the mean pre-test score was 27.7 and mean post-test score was 19 with mean difference of -8.70. The calculated 't' value was found to be -9.95 and $p=0.000$ which was statically significant at 0.05 level of significance. It was a true difference and not by chance. Hence, live aerobic exercises were effective in reducing stress among substance use disorder patients. In VBAE group, the mean pre-test score was 28.3 and mean post-test score was 24.3 with mean difference of 4.00. The calculated 't' value was found to be 8.21 and $p=0.000$ which was statically significant at 0.05 level of significance. It was a true difference and not by chance. Hence, video based aerobic exercises was effective in reducing stress among substance use disorder patients.

Table 6 depicts that stress is only associated with number of substance consumption ($\chi^2=5.185$, $p=0.023$).

Table 7 showed that stress is only associated with marital status ($\chi^2=7.111$, $p=0.029$).

DISCUSSION

In present study, majority of the patients of substance use disorder in LAE group were in the age group of 21-30 years and 31-40 years i.e. (40%) and more than half of the patients of substance use disorder (55%) were in 31-40 years of age in VBAE group. These findings are consistent to the cross-sectional study conducted by Mehra et al on prevalence of substance abuse among 18 to 60 years' male in rural Etawah and to identify type and pattern of substance abuse where they found that majority were below 30 years of age (i.e. 42.8%).¹⁰

In the present study, majority of substance use disorder patients (50%) and (40%) were having secondary education in LAE and VBAE group respectively. These findings are consistent to the cross-sectional study conducted by Dadwani et al to estimate the prevalence of substance use and its association with socio-demographic variables where they found that proportion of substance abuse found to be greater among males (79.84%), those who were from class IV (68.37%) and who were literate (55.73%).¹¹

In present study, majority of the patients of substance use disorder in LAE group were in the age group of 21-30 years and 31-40 years i.e. (40%) and more than half of the patients of substance use disorder (55%) were in 31-40 years of age in VBAE group. Majority of substance use disorder patients were unmarried in both the groups i.e. (75%) in LAE and (80%) in VBAE group. In LAE group, more than half of the substance use disorder patients (55%) belong to joint family whereas in VBAE group, majority of substance use disorder patients (65%) belong to nuclear family. In both the group, majority of substance use disorder patients had the previous history of stay in de-addiction centre i.e. (75%) in LAE and (60%) in VBAE group. These findings are partially

consistent and contradictory to the study conducted by Kumar et al on prevalence and pattern of substance abuse among patients attending de-addiction centre, of PGIMS, Rohtak, Haryana where they found that 99% of males seek treatment for substance abuse problem. Majority of patients were married (74.85%) and currently living in joint family settings (51.63%).¹²

In the present study, In LAE group, the mean pre-test stress score was 27.7 ± 3.49 and mean post-test stress score was 19 ± 3.41 and in VBAE group, the mean pre-test stress score was 28.3 ± 2.53 whereas mean post-test stress score was 24.3 ± 2.83 before and after administration of live aerobic exercises and video based aerobic exercises. This infers that aerobic exercises are effective in reducing stress in both the groups. These findings are consistent with the study conducted by Kumar et al to assess the effect of aerobic training programs on reducing stress and anxiety among people with alcohol withdrawal syndrome where the result showed that the comparison of pre and post-test mean DASS 21 of the experimental group was highly statistically significant, as compared to the control group because of the effect of aerobic training programs to reduce stress and anxiety among persons with alcohol withdrawal syndrome. Since the p value of 0.001 was lesser than 0.05.¹³ Further these findings were consistent with the quasi experimental study conducted by Manosha to examine the impact of aerobic exercise on stress in individuals with alcohol dependence at a few chosen de-addiction facilities in Tamil Nadu where it was found that the mean score for alcohol-dependent individuals in the experimental group was 19.4 in the post-test and 27.93 in the pre-test. The study's findings demonstrated that aerobic exercise helped alcohol addicts feel less stressed.¹⁴

The study has several limitations. Firstly, the small sample size may limit the generalization of the findings. Additionally, the absence of a control group and alternate interventions makes it challenging to fully understand the effectiveness of the present interventions. Including a control group and exploring alternative interventions in future studies could provide more comprehensive insights.

CONCLUSION

The findings of the study show that both live aerobic exercises and video based aerobic exercises were effective in reducing the stress among patients of substance use disorder as there was significant difference within the group. However, live aerobic exercises were more effective than video based aerobic exercises in stress reduction among patients of substance use disorder as there was significant difference between the groups.

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REFERENCES

- American Psychiatric Association. What is a substance use disorder? 2022. Available at: <https://psychiatry.org/patients-families/addiction-substance-use-disorders/what-is-a-substance-use-disorder>. Accessed on 12 December 2022.
- Ali SF, Onaivi ES, Dodd PR, Cadet JL, Schenk S, Kuhar MJ, et al. Understanding the global problem of drug addiction is a challenge for Idars scientists. *Curr Neuropharmacol*. 2011;9(1):2-7.
- Tran BX, Moir M, Latkin CA, Hall BJ, Nguyen CT, Ha GH, et al. Global research mapping of substance use disorder and treatment 1971-2017: implications for priority setting. *Subst Abuse Treat Prev Polic*. 2019;14(21).
- Murthy P, Manjunatha N, Subodh BN, Chand PK, Benegal V. Substance use and addiction research in India. *Indian J Psychiatr*. 2010;52(Suppl 1):S189-99.
- Sharma HK. Sociocultural perspective of substance use in India. *Subs Use Misuse*. 1996;31(11):1689-714.
- Magnitude of substance use in India 2019. Ministry of Social Justice and Empowerment. Available at: <https://socialjustice.gov.in/writereaddata/UploadFile/Survey%20Report.pdf>. Accessed on 1 June 2019.
- World Health Organization. Drugs- psychoactive. Geneva: WHO; 2024. Available at: <https://www.who.int/health-topics/drugs-psychoactive>. Accessed on 3 November 2024.
- Sinha R. Chronic stress, drug use, and vulnerability to addiction. *Ann N Y Acad Sci*. 2008;1141:105-30.
- National Institute of Mental Health. Substance use and co-occurring disorders. 2021. Available at: <https://nida.nih.gov/research-topics/co-occurring-disorders-health-conditions>. Accessed on 01 March 2021.
- Mehra J, Nayak K, Kharya P, Krishnappa K, Jain PK, Gangwar A. Prevalence and pattern of substance abuse among 18 to 60 years male in a rural area of district Etawah, Uttar Pradesh. *Indian J Comm Health*. 2022;34(3):357-61.
- Soren S, Hembrom M, Prasad S, Bakhla AK. Prevalence and Pattern of Substance Abuse in patients attending district mental health programme (DMHP) Dumka (Jharkhand). *Glob J Res Analysis*. 2017;6(6):144-5.
- Dadwani RS, Thomas T. Prevalence of substance abuse: a community based study. *Int J Community Med Public Health*. 2016;3(3):647-50.
- Arunkumar M, Punitha P, Geetha M. Effect of aerobic training program to reduce stress and anxiety among persons with alcohol withdrawal syndrome. *J Chem Health Risks*. 2023;13(6):2031-6.
- Panthri K. A study to assess the effectiveness of aerobic exercises on anxiety among substance abuse patients at selected psychiatric rehabilitation centre, Dehradun. *Int J Nurs Educ Res*. 2017;5(1):77-82.
- Vasilenko SA, Evans-Polce RJ, Lanza ST. Age trends in rates of substance use disorders across ages 18-90: differences by gender and race/ethnicity. *Drug Alcohol Depend*. 2017;180:260-4.
- Ambekar A, Agrawal A, Rao R, Mishra AK, Khandelwal SK, Chadda RK. Magnitude of Substance Use in India 2019. Ministry of Social Justice and Empowerment, Government of India. Available at: <https://online.fliphtml5.com/ljdmb/aacc/#p=1>. Accessed on 29 November 2022.
- Ray R. The extent, pattern and trends of drug abuse in India, National Survey. Ministry of Social Justice and Empowerment, Government of India; 2004.
- Lazarus RS. Stress and emotion: a new synthesis. New York: Springer Publishing Company; 1999.
- Cohen S, Kessler RC, Gordon LU. Measuring stress: a guide for health and social scientists. New York: Oxford University Press; 1995.
- Levine S. Developmental determinants of sensitivity and resistance to stress. *Psychoneuroendocrinology*. 2005;30(10):939-46.
- Charmandari E, Tsigos C, Chrousos G. Endocrinology of the stress response. *Annu Rev Physiol*. 2005;67:259-84.
- McEwen BS. Protective and damaging effects of stress mediators: the good and bad sides of the response to stress. *Metabolism*. 2002;51(6):2-4.
- Sinha R, Jastreboff AM. Stress as a common risk factor for obesity and addiction. *Biol Psychiatr*. 2013;73(9):827-35.
- Al'Absi M. Stress and addiction: biological and psychological mechanisms. Academic Press; 2007.
- Sinha R. How does stress increase risk of drug abuse and relapse? *Psychopharmacology*. 2001;158:343-59.
- Tomkins SS. Psychological model of smoking behavior. *Am J Public Health*. 1966;56(1):17-20.
- American Psychiatric Association. What is a substance use disorder? 2024. Available at: <https://www.psychiatry.org/patients-families/addiction-substance-use-disorders>. Accessed on 2 June 2024.
- SAMHSA. Results detailing mental illness and substance use levels 2021. 2023. Available at: <https://www.hhs.gov/about/news>. Accessed on 3 January 2023.
- American College of Sports Medicine. Physical Activity Guidelines. Available at: <https://www.acsm.org>. Accessed on 2 June 2024.
- Smith MA, Lynch WJ. Exercise as a potential treatment for drug abuse: evidence from preclinical studies. *Front Psychiatr*. 2011;2:82.
- National Institute of Social Defence. Drug abuse prevention. 2023. Available at: https://www.nisd.gov.in/drug_abuse_prevention.html. Accessed on 2 June 2023.

32. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th edn. Arlington, VA; 2013.
33. National Alliance on Mental Illness. 2015. Available at: <https://nami.org>. Accessed on 2 June 2023.
34. Paglia A, Room R. Preventing substance use problems among youth: a literature review and recommendations. *J Prim Prev*. 1999;20(1):3-50.
35. Buchanan J. Understanding problematic drug use: A medical matter or a social issue. *Br J Community Justice*. 2006;4(2):387-97.
36. Mekonen T, Fekadu W, Chane T, Bitew S. Problematic alcohol use among university students. *Front Psychiatr*. 2017;8:86.
37. Healey A, Roberts S, Sevdalis N, Goulding L, Wilson S, Shaw K, et al. A cost-effectiveness analysis of stop smoking interventions in substance-use disorder populations. *Nicotine Tobacco Res*. 2019;21(5):623-30.
38. Weinberger AH, Desai RA, McKee SA. Nicotine withdrawal in US smokers. *Drug Alcohol Depend*. 2010;108(1):7-12.
39. World Health Organization. Substance Abuse. Geneva: WHO; 2015 Available at: http://www.who.int/topics/substance_abuse. Accessed on 2 June 2024.
40. WHO. Alcohol Policy. Global Status Report. Geneva: WHO; 2004. Available at: <https://www.who.int/publications/i/item/global-status-report-on-alcohol-2004>. Accessed on 01 March 2021.

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