School-based substance use disorder prevention in India: A brief appraisal

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ABSTRACT

Substance use among Indian school children is a rising concern. Awareness across Indian schools and mental health professions regarding school-based prevention programs for substance use is limited. Describing the globally recommended evidence-based school-based prevention programs, this commentary highlights their need, availability, feasibility, and cultural relevance in Indian context.

Key words: Children and adolescents, selected prevention, skills training, universal prevention

INTRODUCTION

Substance use is highly prevalent in Indian children and adolescents. Intriguingly, the recently released “magnitude of substance use in India” report shows that the “proportion of children between 10 and 17 years to adults between 18 and 75 years” in substance use is of the order 2.02, 0.85, and 0.27 for inhalants, opioids, and cannabis, respectively.[1] Both street children and school going students of India have been found to use various substances. In street children, prevalence rates as high as 82.98% have been reported.[2] The prevalence of substance use in school going students has been found to be 18%, in a meta-analysis.[3] In a large nationwide survey conducted in 2013, among substance abusing children, the proportion of school going children to those out of school or street children is 0.37.[4] Although the prevalence is relatively low in school going children, the rates are alarming, as 1 in every 5 school going children is affected by substance use.

Therefore, “prevention” has been the go-to word for the management of this social problem. At the level of national programs, emphasis on substance use prevention in the Rashtriya Kishor Swasthya Karyakram (National Adolescent Health Policy) and a focus on children in the Scheme of Prevention of Alcoholism and Substance (Drugs) Abuse (SPASA), have been the major high points. Perhaps, various community-based interventions in the context of substance use prevention have been conducted.[5] The most significant among them has been the “Empowering communities for prevention of drugs and HIV in India” project, which was supported by the Government of India and the United Nations Office on Drugs and Crime (UNODC).[6] This project covered around 60,000 school going children. However, awareness regarding school based prevention (SBP) programs for substance use in India has been conspicuously limited. To begin, this article comments on the need for SBP programs for substance use in India and then provides a brief appraisal of the recommended, evidence-based programs; a couple of Indian programs are described.
also described. Later section includes a short commentary on the feasibility of these programs in our settings and their relevance to Indian cultural context.

NECESSITY

In India, we ought to believe that nonschool and street children would be the major culprits in the social problem of substance use disorders. To an extent, it is true as well. Hitherto, the focus of prevention models in India has been community-based prevention citing higher prevalence in these children. However, patterns seem to have changed. A recent large survey from India report “more similar than dissimilar” patterns of substance use between school going and nonschool/street children, albeit earlier onset and greater dysfunction in the latter. In fact, the use of alcohol and tobacco was comparatively higher in school going children. Pertinently, the 2015 revision of the SPASA, under “preventive education and awareness generation” mentions targeting children both “in and outside educational institutions.” Instating “inside,” i.e., SBP programs, in addition to the already in-place “outside,” i.e., community-based prevention, for substance use seem to be definitely necessary.

EVIDENCE-BASED PROGRAMMES

The highest level of evidence, in the form of meta-analyses, is available on SBP programs for substance use. Intriguingly, the evidence base indeed prefers SBP programs over nonschool-based ones for the prevention of substance use disorders in adolescents. These studies, particularly highlight the lack of sufficient positive evidence for nonschool-based programs (such as community-based ones).

For SBP, all three levels of preventive models-universal, selected and indicated have been suggested. Principles of motivational enhancement therapy are suggested for indicated-prevention programs. Brief intervention (BI) is a time (5–30 min) and number (1–4 sessions) limited, motivational enhancement-based module. As it targets moderately risky patterns of substance use, it has been used to target adolescents in school-based, indicated-prevention programs. However, BI as a school based program has been shown to have moderate-quality evidence for a lack of significant effect on substance use outcomes. Recommended universal and selected SBP models are guided by three principal approaches - (1) social resistance skills training (SRST), (2) normative education (NE), and (3) competence enhancement skills training (CEST). As the name suggests, SRST primarily focuses on identifying high risk social situations and honing refusal skills in such situations. SRST also lays emphasis on the role of media influence on substance use behaviors in adolescents and increasing its awareness forms an essential element. Educating the “norm” or correcting “overestimates” regarding the prevalence of substance use among peers is the core purpose of NE. CEST includes a set of several self-management and social skills enhancing strategies to overcome prodrug cognitions, attitudes, and beliefs. The basic assumptions and common training methods used in each of these three approaches are shown in Table 1. These three approaches are complimentary to each other rather than being mutually exclusive. For example, resistance training has been deemed ineffective in the absence of NE. Selected-prevention programs, in addition to these three approaches, also consider motivational enhancement principles; here, children are specifically being informed regarding “quitting” strategies.

Of the various specified programs assessed for their utility in universal SBP, the “good behavior game (GBG),” “life skills training (LST),” and the “unplugged” programs have been shown to be the most effective by a Cochrane systematic review. With the exception of GBG, the other two programs essentially follow the SRST, NE, and CEST approaches. The GBG, which targets the first- and second-grade classrooms within elementary schools, is not directly related to substance use behaviors but only ensures good class room behaviors like “working quietly,” “being polite to others,” etc. It is a simple, teacher provided, behavior management method. Kellam et al. followed children who underwent this “game” in 1985–1986 till they

| Table 1: Principal approaches guiding universal and selected prevention of substance use disorders in schools |
|---------------------------------------------------------------|
| **Assumption** | **Training methods** |
| SRST | Adolescents begin to use drugs largely because they lack the confidence or skills to resist social influences to smoke, drink, or use illicit drugs | Teaching students to recognize high-risk situations |
| | Adolescents generally overestimate the prevalence of smoking, drinking, and illicit drug use among other adolescents and adults | Increasing the awareness of media influences |
| NE | Drug use behavior is learned through a process of modeling, imitation, and reinforcement, and is influenced by an adolescent’s prodrug cognitions, attitudes, and beliefs | Refusal skills training |
| | | Information about the prevalence of drug use from national or local surveys |
| | | Conduct own surveys |
| CEST | Drug use behavior is learned through a process of modeling, imitation, and reinforcement, and is influenced by an adolescent’s prodrug cognitions, attitudes, and beliefs | Self-management and social skills |
| | | Decision-making and problem-solving skills |
| | | Assertiveness skills |
| | | Increasing personal control |
| | | Enhancing self-esteem |
| | | Adaptive coping strategies for managing stress and anxiety |

CEST: Competence enhancement skills training, NE: Normative education, SRST: Social resistance skills training
reached 19–21 years and found significantly lower rates of substance use disorders in them. On the other hand, LST is primarily programmed for middle school children; but also targets elementary and high school children as well. It includes a curriculum of 30 class sessions over 3 years. This program is primarily provided by school teachers; peer leaders; and health professionals might as well become providers. Separate manuals for teachers and students, specific for each year have been prepared.[17] Online, onsite, and open workshops for providers have been made available (https://www.lifeskillstraining.com/training-overview/). The unplugged program is also a school-based curriculum provided by teachers. Although similar in the principles followed, it is shorter compared to LST. It consists of 12 1-h interactive sessions specifically targeting 12–14-year-old adolescents.[18]

Considering the fact that type and targets of these interventions might vary according to age and level of substance use, Stockings et al.[19] in their systematic review recommend interventions to incorporate skills training (i.e. CEST and SRST) but not social norms feedback (i.e. NE) for young people, in general. Among the methods that were used in the past but have been invalidated in the present context are “psychological inoculation” and “fear-arousal” educational programs.[11,14] Psychological inoculation was derived from the concept of infectious disease inoculation. Adolescents were initially exposed to weak prodrug social influences associated with substance use and then progressively to stronger ones. The underlying assumption was that a gradual exposure to these influences would build up resistance in adolescents. The “fear-arousal” educational programs were based on the assumption that decisions regarding substance use are made based on knowledge of the adverse consequences. As the underlying assumptions started receiving rising criticism, these techniques are no longer recommended.

INDIAN PROGRAMMES

Indian studies do not feature in the available evidence that form the part of above recommendations. Two recent narrative reviews, relevant to substance use prevention in Indian context, by Deb and Gupta[20] and Jiloha,[21] also do not feature any Indian SBP programs. However, there are a couple of programs that have been described. First among them is the UNODC and the Ministry of Social Justice and Empowerment, Government of India launched, life skills based, teacher-conducted, school drug awareness program titled “I Decide- I will not take drugs.”[22] It was implemented in the states of Delhi, Chandigarh, West Bengal, Maharashtra, Assam, Haryana, and the North Eastern States, across about 250 schools and 400,000 students. Two teachers from each school were selected and trained through a 3-day training workshop. Training included awareness on what substances are drugs, effects of their use, vulnerabilities and protective factors related to youth and a thorough knowledge on life skills. Drug use prevention activities were carried out through “I Decide” clubs set up at schools. Although not explicitly stated, the primary principles incorporated were SRST and CEST. This program observed positive attitudinal shift on several aspects as an outcome. The second one is the project-Mobilizing Youth for Tobacco-Related Initiatives (MYTRI) in India.[23] As the name suggests it was specifically designed for tobacco use reduction. It was a successful school-based intervention that included 14,063, 6th and 8th grade students across 32 schools in Delhi and Chennai. It was essentially a behavioral classroom curriculum based program that also included parental involvement and peer-led activism components. The findings showed that over the next 2 years, the likelihood of exhibiting an increase in cigarette or bidi smoking and also the intention of smoke or chew tobacco was significantly less in the intervention group.

Interestingly, the two programs described here vary from the point of view of the kind of substance that was targeted. While the former focused on illicit drugs such as opioids, the later focused only on tobacco, the licit substance. The evidence-based SBP programs, in principle, do not necessarily focus on the distinction of licit versus illicit. In general though, the rates of illicit drugs among Indian school children has been found to be lower than the licit substances.[24]

FEASIBILITY

Largely, fear of disclosure and discrimination, parents’ and schools’ integrity are the expected hurdles in recruiting children in SBP programs for substance use. In addition, social representations that linearly relate substance use to violence and abnormality, perceived need for a specialist, poor planning by schools, blaming family for substance use, and lack of knowledge regarding substances among teachers have also been identified in this regard.[25] Dhawan et al.[9] in their multi-site survey of nearly 4000 children, state that the recruitment was “easier.” However, the absence of data for girl students from many sites in this survey indicates the presence of these hurdles. Otherwise, with a nod from government in the form of national programs and policies and increasing awareness among teachers, schools and parents, feasibility should not be a concern. In addition, as the recommended universal-prevention programs are primarily provided by teachers and a need for trained professionals like psychologists does not exist, we honestly deem that these programs are certainly feasible in the context of deficient mental health professionals in India. Moreover, for convenience, training workshops available in online mode can be undertaken by teachers. As it is now obligatory to include information on substance use in Indian school curriculum, school boards such as the Central Board of Secondary Education (CBSE), the Indian certificate
of Secondary Education should take leads from programs such as LST and “Unplugged.” A step in the right direction, we found a mention of “substance abuse” in CBSE Class IX and X- “Life Skills Education” and, “Adolescent Education Programme” materials.

Intriguingly, school-based indicated-prevention programs using BI that have been found to have a negative evidence in western studies,[13] might be more feasible in resource limited Indian settings. Especially with a positive evidence from Indian studies,[20] albeit in adults, the possibility of its better efficacy is greater.

CULTURAL RELEVANCE

Culturally, India compared to west is literally poles apart. Moreover, the prevalence of street children is still high in our country. In Indian settings, community-based prevention programs that mainly target street children cannot just be ignored, as they have not been found to have enough evidence base in western settings. The three principle approaches in the universal-prevention and their assumptions are largely culture free and are indeed fully apt in Indian settings as well. In the context of growing popularity for substance cued mass media modes in India (music videos such as “chaar botal vodka, kaam mera roz ka” and “haan main alcoholic hoon”), approaches such as SRST become extremely important. And hence, their relevance to our settings cannot be questioned. In fact, Chakravarthy et al.[27] recommend the National Institute of Drug Abuse, USA’s strategies for school prevention programs. Finally, assuming India to be a more “fear/shame” society, in cultural anthropology terms, role of fear arousing educational sessions may not be completely negated.

Having stated all this, Indian studies should focus on building our own evidence base either by expanding on the existing programs or investigating newer innovative culture-specific methods.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Ambekar A, Agrawal A, Rao R, Mishra AK, Khandelwal SK, Chadda RK. Group of investigators for the National Survey on Extent and Pattern of Substance Use in India. Magnitude of Substance Use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India; 2019. Available from: http://socialjustice.nic.in/writereaddata/UploadFile/Magnitude_Substance_Use_IndiaREPORT.pdf. [Last accessed on 2020 Jan 29].
2. Sharma N, Joshi S. Preventing substance abuse among street children in India: A literature review. Health Sci J 2013;7:137-6.
3. Pal R, Tsering D. Tobacco use in Indian high-school students. Int J Green Pharm 2009;3:319-23.
4. Tikoo VK, Dhawan A, Pattanayak RD, Chopra A. Assessment of Pattern, Profile and Profile of Substance use Among Children in India. New Delhi: National Commission for Protection of Child Rights (NCPCR) and All India Institute of Medical Sciences (AIIMS); 2013. p. 57-60. Available from: http://www.ncpocr.gov.in/view_file.php?id=17. [Last accessed on 2019 May 24].
5. Malick R. Prevention of substance use disorders in the community and workplace. Indian J Psychiatry 2018;60:5559-63.
6. United Nations Office on Drugs and Crime. Drug Prevention, Treatment and Care. United Nations Office on Drugs and Crime; 2009. Available from: https://www.unodc.org/southasia/en/topics/frontpage/2009/ drug-prevention.html. [Last accessed on 2019 Jan 26].
7. Bhattacharjee S, Kumar R, Agrawal A, O’Grady KE, Jones HE. Risk factors for substance use among street children entering treatment in India. Indian J Psychol Med 2016;38:419-23.
8. Tripathi BM, Lal R. Substance abuse in children and adolescents. Indian J Pediatr 1999;66:569-75.
9. Dhawan A, Pattanayak RD, Chopra A, Tikoo VK, Kumar R. Pattern and profile of children using substances in India: Insights and recommendations. Natl Med J India 2017;30:224-9.
10. Ministry of Social Justice and Empowerment. Central Sector Scheme of Assistance for Prevention of Alcoholism and Substance (drugs) Abuse and for Social Defence Services. Ministry of Social Justice and Empowerment, Government of India; 2015. Available from: http://socialjustice.nic.in/writereaddata/UploadFile/sch-drug-1115635790509608217343.pdf. [Last accessed on 2019 Jan 26].
11. Griffin KW, Botvin GJ. Evidence-based interventions for preventing substance use disorders in adolescents. Child Adolesc Psychiatr Clin N Am 2010;19:505-26.
12. LeNoue SR, Riggs PD. Substance abuse prevention. Child Adolesc Psychiatr Clin N Am 2016;25:297-305.
13. Carney T, Myers BJ, Louw J, Okwundu CI. Brief school-based interventions and behavioural outcomes for substance-using adolescents. Cochrane Database Syst Rev 2016;1:CD008969.
14. Botvin GJ. Preventing drug abuse in schools: Social and competence enhancement approaches targeting individual-level etiologic factors. Addict Behav 2000;25:887-97.
15. Foxcroft DR, Tsersvazdeva A. Universal school-based prevention programs for alcohol misuse in young people. Cochrane Database Syst Rev 2011;5:CD009113.
16. Kellam SG, Mackenzie AC, Brown CH, Poduska JM, Wang W, Petras H, et al. The good behavior game and the future of prevention and treatment. Addict Sci Clin Pract 2011;6:73-84.
17. Botvin GJ, Kantor LW. Preventing alcohol and tobacco use through life skills training. Alcohol Res Health 2000;24:250-7.
18. Vigna-Taglianti FD, Galanti MR, Burkhart G, Caria MP, Vadrucci S, Faggiano F, et al. “Unplugged,” a European school-based program for substance use prevention among adolescents: Overview of results from the EU-Dap trial. New Dir Youth Dev 2014;2014:67-82, 11-2.
19. Stockings E, Hall WD, Lynskey M, Morley KI, Reavley N, Strang J, et al. Prevention, early intervention, harm reduction, and treatment of substance use in young people. Lanced Psychiatry 2016;2:280-96.
20. Deb KS, Gupta SK. Prevention strategies for substance use disorders in low-resource settings. Indian J Soc Psychiatry 2017;33:112-7.
21. Jiloca RI. Prevention, early intervention, and harm reduction of substance use in adolescents. Indian J Psychiatry 2017;59:111-8.
22. United Nations Office on Drugs and Crime. Empowering School Children and the Teacher Community to Say, ‘I Decide- I will not take drugs’. United Nations Office on Drugs and Crime, and Ministry of Social Justice and Empowerment, Government of India; 2008. Available from: https://www.unodc.org/documents/southasia/reports/School_programme_on_prevention_of_drug_use.doc. [Last accessed on 2019 Jan 26].
23. Perry CL, Stigler MH, Arora M, Reddy KS. Preventing tobacco use among young people in India: Project MYTRI. Am J Public Health 2009;99:999-908.
24. Tsering D, Pal R, Dasgupta A. Licit and illicit substance use by adolescent students in eastern India: Prevalence and associated risk factors. J Neurosci Rural Pract 2010;1:76-81.
25. Moreira A, Vovio CL, Micheli DD. Drug abuse prevention in school: Challenges and possibilities for the role of the educator. Educ Psycr 2015;41:119-35.
26. Matto SK, Prasad S, Ghosh A. Brief intervention in substance use disorders. Indian J Psychiatry 2018;60:S466-72.
27. Chakravarthy B, Shah S, Loftspour S. Adolescent drug abuse – Awareness and prevention. Indian J Med Res 2013;137:1021-3.