

Editorial

Prevention of Substance Abuse among Adolescents in Low- and Middle-Income countries

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Globally substance abuse is a major public health and social concern. With changes in lifestyle, globalisation in substance marketing, the erosion of powers of censure that have existed in traditional societies, and an increased acceptance of such substances it is clear that their use is growing in low- and middle-income (LAMI) countries, particularly in the children, adolescents and the youth. In 2002, the use of alcohol and illicit drugs was estimated to contribute 4% of the disease burden in the 15–29 years age group in LAMI countries.¹ Also, problems associated with use, e.g. deaths and the spread of infectious disease are on the rise.^{2,3} In addition to acute effects and disorders, substance use in children and adolescents can harm the healthy development of the body, brain, and behaviour.⁴ There is thus an obvious need to target adolescents in order to reverse this trend. Preventive efforts in adolescence will have the additional spin-off of reduction in substance use in adult populations as the majority of adult drug users begin some form of drug use while still in their teens and the powerful influences of habit and addiction, made greater by their extended length of drug use, are more likely to make them resistant to cessation interventions at the later age.^{2,5,6}

Preventive approaches are needed particularly because drug use disorders in adolescence mostly include harmful use and abuse rather than dependence, and there is limited evidence on treatment of drug abuse in adolescents. Systematic reviews show inconsistent outcomes after treatment for drug abuse in adolescence.⁴ Even more pertinent to LAMI countries is the fact that inadequate screening, assessment, and access to care complicate the treatment of adolescent substance abuse and dependence all over the world.⁷ In particular, pharmacotherapies have not been evaluated in adolescent population, making the use of some medication (e.g. substitution medications, particularly for opiate treatment) less appropriate for adolescents, since they don't have long histories of use or severe use. Finally, enough is known about the developmental and risk factors of drug abuse to mount preventive interventions in adolescence. Factors implicated in harmful pattern of drug use later in life include, exposure to maternal substance use before birth, environmental tobacco smoke in childhood, disrupted parenting associated with substance misuse within families, and tobacco use in early adolescence.^{4,8} Also, prevention in adolescence is a pragmatic option because there are few environments where adults (particularly rural adults) can be targeted en masse for prevention and intervention, whereas a majority of children and adolescents can be reached at school and via other contexts.⁵

Evidence in support of preventive interventions

A recent systematic review on interventions to reduce harm associated with adolescent substance use concluded that rates of tobacco use, harmful alcohol use, and illicit drug use in young people can be reduced through the concerted application of a combination of regulatory, early-intervention, and harm-reduction approaches.⁴ Regulatory interventions to limit drug-related harms address reduction of supply, which range from unfettered access to prohibition with criminal sanctions. Regulatory frameworks for legal substances increase the options for influencing health outcomes. The early intervention framework combines early screening of adolescent substance use behaviour and brief interventions aimed at encouraging behaviour change. Harm-reduction interventions attempt to prevent problems by targeting risky contexts or patterns of use, or by moderating the relation between use and problem outcomes, without necessarily affecting overall rates of use. The authors recommended the following as evidence based preventive interventions:

- Tobacco: restrictions on environmental tobacco smoke in public places, smoke-free alternatives;
- Alcohol: random breath testing of drivers, safe glassware, thiamine fortification of drinks and flour;
- Cannabis: use of civil penalties to reduce social harms with criminal penalties;
- Other illicit substances: needle exchanges, hepatitis B vaccination for users, prescribed heroin, safe injecting rooms;
- All substances: public education about the care of intoxicated persons at risk of fatal overdose

In addition to these, the developmental prevention framework provides long-term opportunities to reduce pathways to severe patterns of illicit drug use by improving conditions for healthy development in the earliest years through to adolescence (e.g. reduction of drug use in pregnancy, reduction in exposure of children to environmental tobacco smoke, drug education and competence building). Such programmes have been found to be both, efficacious and cost effective.⁴ However, developmental prevention programmes are unlikely to be adequate as a stand-alone policy to reduce population harm related to substance use, particularly for substances such as tobacco where the burden of harm falls late in life. They can be usefully coordinated with other approaches. In general, prevention programmes seem more successful when they maintain intervention activities over several years and incorporate more than one strategy.^{4,9} Finally, treatment of comorbid conditions (more than 60% of adolescents with substance use problems have conduct, oppositional defiant, attention-deficit hyperactivity, depressive or/and anxiety disorders¹⁰) forms a preventive strategy for drug use disorders. Successful pharmacological treatment of comorbid conditions, particularly affective disorders, is typically associated with reduced substance use problems.¹¹

What can be done in the LAMI country situation?

Interventions need to be developed based on empirically derived theory, rather than intuition or the uncritical adoption of strategies from other areas of the world.⁵ A problem in generalizing from the evidence base discussed above⁴ is that it is generated entirely in high-income countries; and hence, it is particularly suspect in dealing with a problem like drug abuse in which cultural underpinnings and the political climate have substantial roles.³ Some evidence

regarding efficacy of preventive approaches is emerging in LAMI countries. A community-based program in China delivered through community participants like village leaders in rural schools resulted in 2.7-fold greater reduction in drug use initiation in the intervention area in comparison to a control area.¹² Reduction was highest among males aged 15 to 19, single men, illiterate men, and the Jingpo minority. HIV/AIDS knowledge and attitudes and recognition of drug problems were all significantly better in the intervention area.¹² Participation in religious activities was shown to lead to lower drug and alcohol consumption in Brazil.¹³ Similarly, based on a study on risk and protective factors of substance use in a large Central American sample, that showed that risk interacted consistently with a personal belief in God, parent religiosity and student-teacher communication; Kliewer and Murrelle suggested that prevention efforts should focus on interactions that adolescents have in different microsystems (e.g., with parents, teachers, and peers).¹⁴

There is a need to articulate and advocate a drug and alcohol policy that incorporates issues related to prevention and promotion in adolescents. Regulatory frameworks for legal substances need to be laid down. It would be necessary to involve and combine the activities of the public health sector, the formal educational system, and community organizations to raise effective prevention programmes. It is also necessary to try to change the criminal view that society has of the drug user, as it hinders access to health care and leads to risky measures like self-treatment. Drug education can be integrated into the school curriculum and delivered through the information and communication materials (e.g. posters, leaflets) and mass media. It is crucial to improve the training of health care professionals regarding treatment of drug abuse, mental health, and prevention of HIV/AIDS. Developing monitoring systems for drug use among adolescents is a priority.² There is also the need for research to develop the relevant evidence base and for subsequent action.

Although harm reduction approaches such as needle exchange programmes often face political controversy, they have a strong evidence base as interventions that contribute to saving lives and reducing disease in disadvantaged populations. Medical practitioners, together with other health professionals, have a responsibility to seek a balanced policy.⁴

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