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Implementation of the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem: Demand reduction and related measures

International Standards on Drug Use Prevention

I. Introduction

There was a time when drug prevention was limited to printing leaflets to warn young people about the danger of drugs, with little or no resulting behaviour change. Now, science allows us to tell a different story. Prevention strategies based on scientific evidence working with families, schools, and communities can ensure that children and youth, especially the most marginalized and poor, grow and stay healthy and safe into adulthood and old age. For every dollar spent on prevention, at least ten can be saved in future health, social and crime costs.[1]

These global International Standards summarize the currently available scientific evidence, describing interventions and policies that have been found to result in positive prevention outcomes and their characteristics. Concurrently, the global International Standards identify the major components and features of an effective national drug prevention system. It is our hope that the International Standards will guide policy makers worldwide to develop programmes, policies and systems that are a truly effective investment in the future of children, youth, families and communities. This work builds on and recognizes the work of many other organizations (e.g. EMCDDA, CCSA, CICAD, Mentor, NIDA, WHO)[2] which have

* E/CN.7/2013/1.

[1] Spoth, R. L., Clair, S., Shin, C., & Redmond, C. (2006). Long-term effects of universal preventive interventions on methamphetamine use among adolescents. Archives of pediatrics & adolescent medicine, 160(9), 876.

[2] European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), www.emcdda.europa.eu; Canadian Centre on Substance Abuse (CCSA), www.ccsa.ca/Eng/; Inter-American Drug Abuse Control Commission (CICAD) at the Organization of the American

previously developed standards and guidelines on various aspects of drug prevention.

1. Prevention is about the healthy and safe development of children

The primary objective of drug prevention is to help people, particularly but not exclusively young people, to avoid or delay the initiation of the use of drugs, or, if they have started already, to avoid that they develop disorders (e.g. dependence). The general aim of drug prevention, however, is much broader than this: it is the healthy and safe development of children and youth to realize their talents and potential becoming contributing members of their community and society. Effective drug prevention contributes significantly to the positive engagement of children, youth and adults with their families, schools, workplace and community.

Prevention science in the last 20 years has made enormous advances. As a result, practitioners in the field and policy makers have a more complete understanding about what makes individuals vulnerable to initiating the use of drugs ("risk factors") at both the individual and environmental level. More than a lack of knowledge about drugs and their consequences, the evidence points to the following among the most powerful risk factors: biological processes, personality traits, mental health disorders, family neglect and abuse, poor attachment to school and the community, favourable social norms and conducive environments, and, growing up in marginalized and deprived communities. Conversely, psychological and emotional well-being, personal and social competence, a strong attachment to caring and effective parents and to schools and communities that are well resourced and organized are all factors that contribute to individuals being less vulnerable (protective factors, recently also referred to as assets) to drug use and other negative behaviours.

It is important to emphasize that these risk factors referenced above are largely out of the control of the individual (nobody chooses to be neglected by his/her parents!) and are linked to many risky behaviours and related health disorders, such as dropping-out of school, aggressiveness, delinquency, violence, risky sexual behaviour, depression and suicide. It should not, therefore, come as a surprise that prevention science demonstrates that many drug prevention interventions and policies also prevent other risky behaviours.

Research indicates that some of the factors that make people vulnerable (or, conversely, resistant) to starting to use drugs, differ according to age. Science has identified risk and protective factors during infancy, childhood and early adolescence, particularly relating to parenting and attachment to school. At later stages of the age continuum, schools, workplaces, entertainment venues, media are all settings that may contribute to make individuals more or less vulnerable to drug use and other risky behaviours.

Needless to say, marginalized youth in poor communities with little or no family support and limited access to education in school, are especially at risk. So are children, individuals and communities torn by war or natural disasters.

States, http://cicad.oas.org/main/default_eng.asp; Mentor Foundation (Mentor), www.mentorfoundation.org/; National Institute on Drug Abuse (NIDA), www.drugabuse.gov/; World Health Organization (WHO), www.who.int/.

In summary, drug prevention is an integral part of a larger effort to ensure children and youth are less vulnerable and more resilient.

2. Prevention of drug use and substance abuse

Prevention is one of the main components of a health-centred system to address drugs, as mandated by the existing three international Conventions.[3] This document focuses on prevention of the initiation of drug use and the prevention of transition to drug use disorders. The global International Standards do not address other kinds of prevention (e.g. the prevention of health and social consequences of drug use), drug dependence treatment and care, or law enforcement efforts.

This is not to say that these other efforts are not worthwhile. Indeed, it should be stressed that no effective prevention intervention, policy or system can be developed or implemented on its own, or in isolation. An effective local or national prevention system is embedded and integrated in the context of a larger health-centred and balanced system responding to drugs including law enforcement and supply reduction, treatment of drug dependence, and prevention of health and social consequences (e.g. HIV, overdose, etc.). The overarching and main objective of such health-centred and balanced system would be to ensure the availability of controlled drugs for medical and scientific use whilst preventing diversion and abuse.

Although the main focus of the global International Standards is the prevention of the use of drugs controlled in the three International Conventions (including also the non-medical use of prescription drugs), it draws upon and presents evidence with regard to the prevention of other psychoactive substances, such as tobacco, alcohol and inhalants.

Many useful lessons and parallels can be drawn from these complementary prevention fields, but this is far from the only reason for presenting such a comprehensive picture of the evidence. Inhalants are strongly toxic with devastating consequences, driving the urgent need for prevention efforts to address initiation of use. Moreover, in the case of children and adolescents, prevention of tobacco and alcohol initiation is a powerful tool for preventing drug use as well. The brain of children and adolescents is still developing and prevention science tells us that the earlier they start to use psychoactive substances, the more likely they are to develop substance and drug abuse disorders later in life.[4]

3. Prevention science

Thanks to prevention science, we also know a lot about what is effective in preventing substance abuse and what is not. It is important to note that science does not happen of its own accord. We owe what we know to the dedication and efforts of

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[3] Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol; Convention on Psychotropic Substances of 1971; and United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

[4] Throughout the rest of the document, terminology will be utilized as follows. “Drug use” will be used to refer to the non-medical and/or non-scientific use of drugs controlled in the three International Conventions. “Substance abuse” will be used to refer to the “harmful or hazardous use of psychoactive substances”. In addition to drug use, this includes tobacco use, alcohol abuse, the misuse of inhalants and non-prescription drugs, the use of new psychoactive substances (so-called “legal highs” or “smart drugs”).

researchers and practitioners who rigorously evaluated these prevention programmes, and to the organizations that funded this research. The purpose of this document is to organize the findings from these years of research in a format that enhances the ability of policy makers to base their decisions on evidence and science.

This is not to say that we know it all. Through the review process many gaps in prevention science were noted. The majority of the science originates from a handful of high-income countries in North America, Europe and Oceania. There are few studies from other cultural settings or in low- and middle-income countries. Moreover, most studies are "efficacy" studies that examine the impact of interventions in well-resourced, small, controlled settings. There are very few studies that have investigated the effectiveness of interventions in a "real life" setting. Additionally, there are limited studies that have calculated whether interventions and policy are cost-beneficial or cost-effective (rather than just efficacious or effective). Last, but not the least, it has been observed that few studies report data disaggregated by sex.

Another challenge suggests that often studies are too few to be able to conclusively identify "active ingredients", i.e. the component or components that are really necessary for the intervention or policy to be efficacious or effective, including with regard delivery of the strategies (who delivers them best? what qualities and training are necessary? what methods need to be employed? etc.).

There is a lack of resources and opportunities to undertake rigorous evaluations in some settings, and particularly in low- and middle income countries. This is not to say that work being undertaken is ineffective. Some of the qualitative evaluations that are undertaken reflect promising indications. However, until these strategies are not given the opportunity to be tested in a rigorous scientific manner, it is just not possible to state whether they are effective or not.

Finally, as in all medical, social and behavioural sciences, publication bias is a real problem. Studies which report new positive findings are more likely to be published than studies that report negative findings. This means that our analysis risks overestimating the efficacy and the effectiveness of drug prevention interventions and policies.

There is a strong and urgent need for research to be nurtured and supported in the field of drug prevention globally. It is critical to support prevention research efforts in low- and middle-income countries, but national drug prevention systems in all countries should invest significantly in rigorously evaluating their programmes and policies to contribute to the global knowledge base. It is hoped that future updates and editions of these Standards will be able to present a much richer picture of the available evidence.

What can be done in the meantime? Should policy makers wait for the gaps to be filled before implementing prevention initiatives? What can be done to prevent drug use and substance abuse, and ensure that children and youth grow healthy and safe NOW?

The gaps in the science should make us cautious, but not deter us from action. A prevention approach that has been demonstrated to work in one area of the world is probably a better candidate for success than one that is created locally only on the

basis of good will and guesswork. This is particularly the case for interventions and policies that address vulnerabilities that are significant across cultures (e.g. temperament, parental neglect). Moreover, approaches that have failed or even resulted in negative outcomes in some countries are prime candidates for failure and iatrogenic effects elsewhere. Prevention practitioners, policy makers and community members involved in drug prevention and substance abuse prevention have a responsibility to take such lessons into consideration.

What we have is a precious indication of where the right way lies. By using this knowledge and building on it with more evaluation and research, we will be able to provide to policy makers the information they need to develop national prevention systems that are based on scientific evidence and that will support children, youth and adults in different settings to lead positive, healthy and safe lifestyles.

4. The International Standards

This document describes the interventions and policies that have been found to result in positive prevention outcomes by the scientific evidence and could serve as the foundation of an effective health-centred national drug prevention system.[5] The International Standards also provide an indication as to how interventions and policies should be implemented drawing on the common characteristics of interventions and policies that have been found to yield positive outcomes. Finally, the document discusses how interventions and policies should exist in the context of national prevention systems supporting and sustaining their development, implementation, monitoring and evaluation on the basis of data and evidence.

The process of development of the International Standards

The document has been created and published by UNODC with the assistance of a globally representative group of 85 researchers, policy makers, practitioners, non-governmental and international organizations. Members of this Group of Experts were in part identified by UNODC because of their research and activities in the field of drug prevention. Additionally, members were nominated by Member States, as they had all been invited to join the process.

Members of the group met twice: in January 2012 to provide general guidance to UNODC on the scope of the process, and in June 2012 to review the evidence

[5] Throughout the document and for sake of simplicity, drug prevention endeavours are referred to as either “interventions” or “policies”. An intervention refers to a group of activities. This could be a programme that is delivered in a specific setting in addition to the normal activities delivered in that setting (e.g. drug prevention education sessions in schools). However, the same activities could also be delivered as part of the normal functioning of the school (e.g. drug prevention education sessions as part of the normal health promotion curriculum). Normally, the evidence about most interventions has been derived from the evaluation of specific “programmes”, of which there can be many per interventions. For example, there are many programmes aiming at preventing drug use through the improvement of parenting skills (e.g. “Strengthening Families Program”, “Triple-P”, “Incredible Years”, etc.). These are different programmes delivering the same intervention. A policy refers to a regulatory approach either in a setting or in the general population. Examples include policies about substance use in schools or in the workplace or restrictions on the advertising of tobacco or alcohol. Finally, for the sake of summarizing, sometimes the Standards use the term “strategies” to refer to both interventions and policies together (i.e. a strategy can be either an intervention or a policy).

collected up to that point and a first draft of the document. The group advised UNODC regarding the development of methodology for the systematic assessment of the evidence collected. A full description of the methodology used to collect and assess the evidence is described in detail in an appendix to this document (Appendix II).[6] The following paragraphs provide a short summary of the methodology to frame the information contained in this document.

The evidence that forms the basis of this document has been contributed by the Group of Experts. Participants in the group provided key works in better researched areas, as well as research that was available on a more limited basis with regard to particular topics or geographical areas. Publications in all languages were accepted, both from academic journals and from reports of organizations. The list of all the 584 studies considered during this process is attached as Appendix I.

All received studies were screened to identify the research that reported the efficacy or effectiveness of an intervention or a policy with regard to preventing substance abuse (resulting in 225 studies). In the case of interventions targeting small children, papers reporting effects on important risk and protective factors were also included (31 studies). This is because not all interventions targeting this age group have had the opportunity to follow the participants later in life to see if the intervention had an effect on their subsequent substance abuse. Epidemiological studies discussing prevalence, incidence, vulnerabilities and resilience linked to substance abuse were not included in the process described below, but are included in the references together with studies exploring important issues on substance abuse prevention (268 studies).

Following the screening, studies were categorized according to their methodology: systematic reviews (137), randomized controlled trials (60), and other primary studies such as non-randomized control trials, longitudinal studies, etc. (60). A process of selection was undertaken to reduce the number of studies to be analysed to a more manageable number. All systematic reviews were included, but primary studies (randomized control trials, non-randomized control trials, longitudinal studies, and other primary studies) were included only if they provided additional evidence on a specific intervention or policy to that provided by the reviews, particularly with regard to drug use and geographical representation. This resulted in the selection of 16 randomized control trials and 8 other primary studies.

The quality of both the reviews and the selected primary studies was then assessed. The instruments utilised for the assessment are based on those considered to constitute best practice in the medical, social and behavioural field. Studies were assessed to be “good”, “acceptable” and “not acceptable”. Only studies assessed to be “good” or “acceptable” (70 systematic reviews, 10 randomized control trials and 1 other primary study) were analysed. Moreover, only interventions and policies supported by “good” or “acceptable” studies are presented in the International Standards.

However, it is important to note that the quality of the studies is not the same as the actual possible impact of the intervention or policy. There are cases for which “good” systematic reviews concluded that the studies available to them were few or

[6] All Appendixes and Annexes are available on the website of UNODC: www.unodc.org/unodc/en/prevention/prevention-standards.html.

with mixed results. This is indicated in the text by formulations such as “the intervention might or can prevent substance abuse”.

The document

Following this introduction, the document is comprised of three main sections. The first describes the interventions and policies that have been found to yield positive outcomes in preventing drug use and substance abuse. Interventions and policies are grouped by the age of the target group, representing a major developmental stage in the life of an individual: pregnancy, infancy and early childhood; middle childhood; early adolescence; adolescence and adulthood.[7]

Some interventions and policies can be targeted at (or are relevant for) more than one age group. In this case, the description is not repeated. They are included under the age for which they are most relevant with a reference to the other developmental stages for which there is also available evidence.

The description of each strategy includes, to the extent possible, the following details.

(a) A brief description;

(b) The available evidence; and,

(c) The characteristics that appear to be linked to positive, no or negative outcomes.

Brief description

This sub-section briefly describes the intervention or the policy, its main activities and theoretical basis. Moreover, it includes an indication of whether the strategy is appropriate for the population at large (universal prevention), or for groups that are particularly at risk (selective prevention), or for individuals that are particularly at risk (indicated prevention, which also includes individuals that might have started experimenting and are therefore at particular risk of progressing to disorders).

Available evidence

The text describes what is the available evidence and the findings reported in it, by substance. Moreover, wherever available, effect sizes are included, as provided in the original studies. The geographical source of the evidence is indicated to offer policy makers an indication of whether it is already known that a strategy is effective in different geographical settings. Finally, if there is an indication of cost-effectiveness, this is also included in these paragraphs. This part of the text is

[7] Every child is unique and his or her development will be also influenced by a range of socio-, economic and cultural factors. That is why, the ranges referred to by the different ages have not been defined numerically. However, as a general guide, the following could be considered: infancy and early childhood refer to pre-school children, mostly 0-5 years of age; middle childhood refers to primary school children, approximately 6-10 years of age; early adolescence refers to middle school or junior high school years, 11-14; adolescence refers to senior high school, late teen years: 15 to 18/19 years of age; adulthood refers to subsequent years. Although the range has not been used in the Standards for reasons of expediency, young adulthood (college or university years, 20-25 years of age) is also sometimes referred to, as a lot of scientific literature makes reference to it.

based exclusively on the studies included in the assessment of the evidence and assessed as “acceptable” or “good”, as described in Appendix II. In particular, a table summarising the characteristics and the findings of the studies has been attached as Annex V to Appendix II.

Characteristics linked to positive, no and negative outcomes

The document also provides an indication of characteristics that have been found by the Group of Experts to be linked to positive outcomes and, where available, to no or negative outcomes. These indications should not be taken to imply a relation of cause and effect. As noted above, there is not enough evidence to allow for this kind of analysis. Rather, the intention is to suggest the direction that is likely to bring more chances of success according to the collective research and practical experience of the Group of Experts.

Table 1, immediately following this section, summarizes the interventions and policies that have been found to yield positive results in preventing substance abuse by age of the target group and setting, as well as by level of risk and an indication of efficacy. Such indication combines the strength of the evidence assessed according to the methodology described above with the description of the achievable outcomes as described in Section II. It should be emphasised this is purely indicative and should not be taken to imply a prescriptive recommendation by any means.

A second section briefly describes prevention issues where further research is particularly required. This includes interventions and policies for which no acceptable quality evidence was found, but also emerging substance abuse problems, as well as particularly vulnerable groups. Wherever possible, a brief discussion of potential strategies is provided.

The third and final section describes the possible components for an effective national prevention system building on evidence-based interventions and policies and aiming at the healthy and safe development of children and youth. This is another area where further research is urgently needed, as investigations have traditionally focused more on the effectiveness of single interventions and policies. Therefore, the drafting of this Section benefited from the expertise and the consensus of the Group of Experts.

Table 1

Summary of interventions and policies that have been found to yield positive results in preventing substance abuse

	Prenatal & infancy	Early childhood	Middle childhood	Early adolescence	Adolescence	Adulthood
Family	*Selective* Prenatal and infancy visitation ★★					
	Selective Interventions targeting pregnant women with substance abuse disorders ★					
			Universal & selective Parenting skills ★★★★			
School		*Selective* Early childhood education ★★★★				
			Universal Personal & social skills ★★★			
			Universal Classroom management ★★★			
			Selective Policies to keep children in school ★★			
				Universal & selective Prevention education based on personal & social skills & social influences ★★★		

	Prenatal & infancy	Early childhood	Middle childhood	Early adolescence	Adolescence	Adulthood
					Universal School policies & culture ★★	
				Indicated Addressing individual vulnerabilities ★★		
Community					*Universal* Alcohol & tobacco policies ★★★★★	
			Universal & selective Community-based multi-component initiatives ★★★			
					Universal & selective Media campaigns ★	
					Selective Mentoring ★	
Workplace						*Universal* Entertainment venues ★★
						Universal, selective & indicated Workplace prevention ★★★
Health sector						*Indicated* Brief intervention ★★★★

II. Drug prevention interventions and policies

1. Infancy and early childhood

Children's earliest interactions occur in the family before they reach school. They may encounter risks when they experience interaction with parents or caregivers who fail to nurture; have ineffective parenting skills in a chaotic family setting; abuse substances, or suffer from mental health disorders. Sufficient evidence is available showing that the consequences of mothers' intake of alcohol, nicotine, and drugs during pregnancy negatively affect developing foetuses. Such deficiencies impede reaching significant developmental competencies and makes a child vulnerable and at risk for negative behaviours later on. By age 2 or 3 years, children can begin manifesting disruptive behaviours, temper tantrums, are disobedient or demonstrate destructive behaviours. If not properly addressed, these personality traits can become problematic later in life. The key developmental goals for early childhood are the development of safe attachment to the caregivers, age-appropriate language skills, and other executive cognitive functions such as self-regulation and pro-social attitudes and skills. The acquisition of these is best supported within the context of a supportive family and community.

Interventions targeting pregnant women with substance abuse disorders

Brief Description

Pregnancy and motherhood are periods of major and sometimes stressful changes that may make women receptive to address their dependence. Evidence-based and comprehensive treatment for substance dependence tailored to the needs of the patient can be accompanied by early parenting training. As substance abuse during pregnancy is dangerous for the mother and for the future child, treatment of pregnant women should be offered as a priority and must follow rigorous clinical guidelines based on scientific evidence.

Available evidence

Two good reviews reported findings with regard to this intervention.[8] According to these studies, that providing evidence-based integrated treatment to pregnant women can have a positive impact on child development and emotional and behavioural functioning and on parenting skills. The time frame for the sustainability of these results and the origin of the evidence are not clear.

In addition to this, a good review[9] reported findings with regard to prenatal and infancy visitation for women with alcohol and drug disorders in improving the health of the mother and of the baby, but found insufficient data.

Characteristics associated with positive prevention outcomes

Available evidence indicates that the following characteristics are associated with positive prevention outcomes:

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[8] Niccols, 2012a and Niccols 2012b.

[9] Turnbull, 2012.

(a) Provide integrated treatment services to pregnant women who suffer from substance disorders, including concurrent mental health disorders;

(b) Include attachment-based parenting interventions.

Prenatal and infancy visitation

Brief description

In these programmes, a trained nurse or social worker visits mothers-to-be and new mothers to provide them with parenting skills and support in addressing a range of issues (health, housing, employment, legal, etc.). Often, these programmes do not target all women, but only some specific groups considered at high risk.

Available evidence

One acceptable randomized control trial reported findings with regard to this intervention. According to this study, these programmes can prevent substance abuse later in life and that they can also be cost-effective in the terms of social welfare and medical costs.[10] The evidence originates from the USA.

Characteristics associated with positive prevention outcomes

The available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(a) Delivered by trained health workers;

(b) Regular visits up to two years of age of the baby, at first every two weeks, then every months and less towards the end;

(c) Provide basic parenting skills;

(d) Support mothers to address a range of socioeconomic issues (health, housing, employment, legal, etc.).

Early childhood education

Brief description

Early education supports the social and cognitive development of pre-school children (2 to 5 years of age) from deprived communities, and is therefore a selective level intervention.

Available evidence

Two good reviews reported findings with regard to this intervention.[11] According to these studies, offering early education services to the children growing in disadvantaged communities can reduce marijuana use at age 18 and can also decrease the use of other illicit drugs and smoking. Furthermore, early education can prevent other risky behaviours and support mental health, social inclusion and academic success. All evidence originates from the USA.

[10] Kitzman 2010 and Olds 2010 reporting on the same trial.

[11] D'Onise, 2010 and Jones 2006.

Characteristics associated with positive prevention outcomes

The available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(a) Improves the cognitive, social and language skills of children;

(b) Daily sessions;

(c) Delivered by trained teachers;

(d) Provide support to families on other socioeconomic issues.

2. Middle childhood

During middle childhood increasingly more time is spent away from the family most often in school and with same age peers. Family still remains to be the key socialization agent. However, as the role of day-care, school, and peer groups start to grow. In this respect, factors such as community norms, school culture and quality of education become increasingly important for safe and healthy emotional, cognitive, and social development. The role of social skills and prosocial attitudes grows in middle childhood and they become key protective factors, impacting also the extent to which the school-aged child will cope and bond with school and peers.

Among the main developmental goals in middle childhood are the continued development of age specific language and numeracy skills, and of impulse control and self-control. The development of goal directed behaviour, together with decision making and problem solving skills, starts. Mental disorders that have their onset during this time period (such as anxiety disorders, impulse control disorder and conduct disorders) may also impede the development of healthy attachment to school, cooperative play with peers, adaptive learning, and self-regulation. Children of dysfunctional families often start to affiliate at this time with deviant peers, thus putting themselves at increased risk for negative life choices, including substance abuse and involvement in illegal activities.

PLEASE NOTE. The same evidence that applies to addressing individual psychological vulnerabilities in early adolescence applies to the same intervention when targeting middle childhood and is not discussed in this section.

Parenting skills programmes

Short description

Parenting skills programmes support parents in being better parents, in very simple ways. A warm child-rearing style, where parents set rules for acceptable behaviours, closely monitor free time and friendship patterns, help to acquire skills to make informed decisions, and are role models has been shown to be one of the most powerful protective factors against substance abuse and other risky behaviours. These programmes can be delivered also for parents of early adolescents. As the reviews largely cover all ages together, and as principles are largely similar, the intervention is only discussed here. These interventions can be delivered both at the universal and at the selective level.

Available evidence

Nine good reviews and 4 acceptable reviews reported findings with regard to this intervention.[12] According to these studies, family-based universal programs prevent alcohol use in young people, the effect size being small but generally consistent and persistent into the medium and long term. There is also strong evidence that these kinds of programmes can prevent self-reported drug use at a follow up of 12 months or more.

Family focused work may be the most potentially effective for vulnerable young people and for young people exhibiting multiple risk factors in producing long term reductions in substance abuse. Finally, parent and family focused interventions also produce significant and long term improvements with regard to family functioning (including parenting skills and child behaviour), and may also improve the behaviour, and the emotional and behavioural adjustment of children under the age of 3 years. Furthermore, there is evidence on cost-effectiveness.

Parenting programmes have been implemented in Africa, Asia, the Middle East and Latin America, but only few of these are designed to prevent emotional and behavioural outcomes and/or have a strong methodological design.

Characteristics associated with positive prevention outcomes

Available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(a) Enhance family bonding, i.e. the attachment between parents and children;

(b) Support parents on how to take a more active role in their children's lives, e.g., monitoring their activities and friendships, and being involved in their learning and education;

(c) Support parents on how to provide positive and developmentally appropriate discipline;

(d) Support parents on how to be a role model for their children.

Moreover, the following characteristics also appear to be associated with positive prevention outcomes:

(a) Organised in a way to make it easy and appealing for parents to participate (e.g. out-of-office hours, meals, child care, transportation, small prize for completing the sessions, etc.);

(b) Typically include a series of sessions (often around 10 sessions, more in the case of work with parents from marginalised or deprived communities or in the context of a treatment programme where one or both parents suffer from substance dependence);

(c) Typically include activities for the parents, the children and the whole family;

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[12] Barlow, 2005; Bühler, 2008; Foxcroft, 2011; Furlong, 2012; Gates, 2006; Jones, 2006; Knerr, 2013; McGrath, 2006; Mejia, 2012; Miller, 2012; Petrie, 2007; Spoth, 2008; Thomas, 2007.

(d) Delivered by trained individuals, in many cases without any other formal qualification.

Characteristics associated with no or negative prevention outcomes

(e) Undermine parents' authority;

(f) Use only lecturing as a means of delivery;

(g) Provide information to parents about drugs so that they can talk about it with their children;

(h) Focus exclusively on the child;

(i) Delivered by poorly trained staff.

Existing guidelines and tools for further information

UNODC (2010), Compilation of Evidence-Based Family Skills Training Programmes, United Nations Office on Drugs and Crime, Vienna, Austria.

UNODC (2009), Guide to implementing family skills training programmes for drug abuse prevention, United Nations Office on Drugs and Crime, Vienna, Austria.

CCSA (2011), Strengthening Our Skills: Canadian guidelines for youth substance abuse prevention family skills programs, Canadian Centre on Substance Abuse, Ottawa, ON, Canada.

Personal and social skills education

Description

During these programmes, trained teachers engage children in interactive activities to give them the opportunity to learn and practice a range of personal and social skills. These programmes are typically delivered to all children via series of structured sessions (i.e. this is a universal level intervention). The programmes provide opportunities to learn skills to be able to cope with difficult situations in the daily life in a safe and healthy way. They support the development of general social competencies, including mental and emotional wellbeing, and address also social norms and attitudes. These programmes do not typically include content with regard to specific substances, as in most communities children at this young age have not initiated use. This is not the case everywhere and programmes targeting children who have been exposed to substances (e.g. inhalants) at this very young age might want to refer to the substance specific guidance included for "Prevention education based on personal and social skills and social influence" under "Early adolescence".

Available evidence

Five good reviews and 8 acceptable reviews reported findings with regard to this intervention.[13] According to these studies, supporting the development of personal

[13] Bühler, 2008; Faggiano, 2005; Foxcroft, 2011; Jones, 2006; McGrath, 2006; Müller-Riemenschneider, 2008; Pan, 2009; Roe, 2005; Schröer-Günther, 2011; Skara, 2003; Soole, 2008; Spoth, 2008; Thomas, 2006.

and social skills in a classroom setting can prevent later drug use and alcohol abuse. Such programmes also influence substance abuse related risk factors, e.g. commitment to school, academic performance, self-esteem and mental wellbeing, resistance-skills, and other social skills. Moreover, programmes focusing on improving self-control delivered to children at the age of or fewer than 10 reduce general problem behaviours. Besides the Australia, Canada, Europe and the USA, the evidence reported above originates also from Africa, Latin-America and India.

Characteristics associated with positive prevention outcomes

Available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(a) Improves a range of personal and social skills;

(b) Delivered through a series of structured sessions, often providing boosters sessions over multiple years;

(c) Delivered by trained teachers or facilitators;

(d) Sessions are primarily interactive.

Characteristics associated with no or negative prevention outcomes

(a) Available evidence indicates, that the following characteristics are associated with no or negative prevention outcomes:

(b) Using non-interactive methods, such as lecturing, as main delivery method;

(c) Providing information on specific substances, including fear arousal.

Moreover, programmes with no or negative prevention outcomes appear to be linked to the following characteristics:

(a) Focus only on the building of self-esteem and on emotional education.

Existing guidelines and tools for further information

UNODC Guidelines on School Based Education on Drug Abuse Prevention

CICAD Hemispheric Guidelines on School Based Prevention

Canadian Standards for School-based Youth Substance Abuse Prevention

Classroom environment improvement programmes

Brief description

These programmes strengthen the classroom management abilities of teachers, and support children to socialize to their role as a student, whilst reducing early aggressive and disruptive behaviour. Teachers are typically supported to implement a collection of non-instructional classroom procedures in the day-to-day practices with all students for the purposes of teaching prosocial behaviour as well as preventing and reducing inappropriate behaviour. These programmes facilitate both academic and socio-emotional learning. They are universal as they target the whole class.

Available evidence

One good review reported findings with regard to this intervention.[14] According to this study, teachers' classroom management practices significantly decrease problem behaviour in the classroom, including disruptive and aggressive behaviour (strong classroom level effects size of .8) and strengthen the pro-social behaviour and the academic performance of the children. The time frame for the sustainability of these results is not clear. All evidence reported above originates from the USA and Europe.

Characteristics associated with positive prevention outcomes

Available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(b) Often delivered during the first school years;

(c) Include strategies to respond to inappropriate behaviour;

(d) Include strategies to acknowledge appropriate behaviour;

(e) Include feedback on expectations;

(f) Active engagement of students.

Policies to keep children in school

Brief description

School attendance, attachment to school, and the achievement of the age-appropriate language and numeracy skills are important protective factors for children of this age. A variety of policies have been tried in low- and middle-income countries to support the attendance of children and improve their educational outcomes.

Available evidence

Two good reviews[15] reported findings with regard to the following policies: building new schools, providing nutrition in schools and providing economic incentives of various natures to families. According to these studies, these policies increase the attendance of children in school, and improve their language and numeracy skills. Providing simple cash to families does not appear to result in significant outcomes, while conditional transfers do. All these evidence originates from low- and middle-income countries. The time frame for the sustainability of these results is not clear.

3. Early adolescence

Adolescence is a developmental period when youth are exposed to new ideas and behaviours through increased associations with people and organizations beyond those experienced in childhood. It is a time to "try out" adult roles and responsibilities. It is also a time when the "plasticity" and malleability of the

[14] Oliver, 2011.

[15] Lucas, 2008; Petrosino, 2012.

adolescent brain suggests that, like infancy, this period of development is a time when interventions can reinforce or alter earlier experiences.

The desire to assume adult roles and more independence at a time when significant changes are occurring in the adolescent brain also creates a potentially opportune time for poorly thought out decisions and involvement in potentially harmful behaviours, such as risky sexual behaviours, smoking and drinking, risky driving behaviours and drug use.

The substance abuse and deviant behaviours of peers, as well as rejection by peers, are important influences on healthy behaviour, although the influence of parents still remains significant. Healthy attitudes related to substances and safe social normative beliefs are also important protective factors against drug use. Good social skills, and resilient mental and emotional health remain a key protective factor throughout adolescence.

PLEASE NOTE. The same evidence that applies to parenting skills interventions in middle childhood apply to the same interventions and policies when developed for early adolescents and will not be discussed in this section again. Similarly, many of the interventions and policies of relevance to older adolescents can prevent substance abuse in early adolescence, but, for reasons of expediency, they are discussed only in the next session. This applies to: alcohol and tobacco policies, media campaigns, brief intervention and community-based multi-component initiatives.

Prevention education based on personal and social skills and social influence

Brief description

During skills based prevention programs, trained teachers engage students in interactive activities to give them the opportunity to learn and practice a range of personal and social skills. These programs focus on fostering substance and peer refusal abilities that allow young people to counter social pressures to use substances and in general cope with challenging life situations in a healthy way.

In addition, they provide the opportunity to discuss in an age appropriate way, the different social norms, attitudes and positive and negative expectations associated with substance abuse, including the consequences of substance abuse. They also aim to change normative beliefs on substance abuse addressing the typical prevalence and social acceptability of substance abuse among the peers. Prevention programs based on skills enhancement and social influences may also be relevant for adolescents.

Available evidence

Thirteen good reviews, 13 acceptable reviews and 1 acceptable randomized control trial reported findings with regard to this intervention.[16] According to these studies, certain interactive school-based programs can prevent substance abuse also in the

[16] Bühler, 2008; Champion, 2012; Dobbins, 2008; Faggiano, 2005; Faggiano, 2008; Fletcher, 2008; Foxcroft, 2011; Gates, 2006; Jackson, 2012; Jones, 2006; Lemstra, 2010; McGrath, 2006; Moreira, 2009; Müller-Riemenschneider, 2008; Pan, 2009; Porath-Waller, 2010; Ranney, 2006; Reavley, 2010; Roe, 2005; Schröer-Günther, 2011; Skara, 2003; Soole, 2008; Spoth, 2008; Thomas, 2006; Thomas, 2008; West, 2004; Wiehe, 2005.

long term (reporting a strong effect size (RR .82) for cannabis use). Such interactive programs develop personal and social skills and discuss social influences (social norms, expectations, normative beliefs) related to drug use. They generally yield positive results for all substances, as well as for preventing other problem behaviours such as dropping out of school and truancy.

In this context, there are some indications that programs targeting early adolescents might yield more positive results in preventing substance abuse than programs targeting younger or older children.

Most evidence is on universal programs, but there is evidence that universal skills based education can be preventive also among high risk groups.

These programmes are typically delivered by trained facilitators, mostly teachers. However, also programs delivered through computers or the internet can reduce substance abuse.

Most evidence is from USA, Europe and Australia. Skills based prevention programs have also some evidence on transferability, but as the evidence from low- and middle income countries in Africa, Asia and Latin America is mixed, great caution should be applied at the stage of adaptation and implementation.

Characteristics associated with positive prevention outcomes

Available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(a) Use interactive methods;

(b) Delivered through a series of structured sessions (typically 10-15) once a week, often providing boosters sessions over multiple years;

(c) Delivered by trained facilitator (including also trained peers);

(d) Provide opportunity to practice and learn a wide array of personal and social skills, including particularly coping, decision making and resistance skills, and particularly in relation to substance abuse;

(e) Impact perceptions of risks associated with substance abuse, emphasizing immediate consequences;

(f) Dispel misconceptions regarding the normative nature and the expectations linked to substance abuse.

Characteristics associated with no or negative prevention outcomes

(a) Available evidence indicates that the following characteristics are associated with no or negative prevention outcomes:

(b) Utilise non-interactive methods, such as lecturing, as a primary delivery strategy;

(c) Information-giving alone, particularly fear arousal.

Moreover, programmes with no or negative prevention outcomes appear to be linked to the following characteristics:

(d) Based on unstructured dialogue sessions;

(e) Focus only on the building of self-esteem and emotional education;

(f) Address only ethical/moral decision making or values;

(g) Use ex-drug users as testimonials;

(h) Using police officers to deliver the programme.

Existing guidelines and tools for further information

UNODC Guidelines on School Based Education on Drug Abuse Prevention

CICAD Hemispheric Guidelines on School Based Prevention

Canadian Standards for School-based Youth Substance Abuse Prevention

School policies and culture

Brief description

School policies on substance abuse mandate that substances should not be used on school premises and during school functions and activities by both students and staff. Policies also create transparent and non-punitive mechanisms to address incidents of use transforming it into an educational and health promoting opportunity. Furthermore school policies and school practices may enhance student participation, positive bonding and commitment to school. These interventions and policies are universal, but may include also selective components such as cessation support and referral. They are typically implemented jointly with other prevention interventions, such as skills based education or supporting parenting skills and parental involvement.

Available evidence

Three good reviews and 1 acceptable review reported findings with regard to these policies.[17] According to these studies, substance abuse policies in schools may prevent smoking. Moreover, altering the school environment to increase commitment to school, student participation, and positive social relationships and discourage negative behaviours may reduce drug use and other risky behaviours. In college and universities, addressing school policies and culture among older students during adolescence and adulthood can reduce alcohol abuse, especially when including brief intervention (moderate effect size (SMD .38) in reducing drinking quantities). The time frame for the sustainability of these results is not clear.

School policies have been known to include random drug testing. One acceptable randomized control trial reported findings with regard to this component and reported no significant reductions in drug and alcohol use.[18]

Although most evidence originates from USA, Europe and Australia, there is also evidence originating from Latin America, Africa and Asia.

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[17] Fletcher, 2008; Moreira, 2009; Reavley, 2010; Thomas, 2008.

[18] Goldberg, 2007.

Characteristics associated with positive prevention outcomes

Moreover, the following characteristics also appear to be associated with positive prevention outcomes:

(a) Support normal school functioning, not disruption;

(b) Support positive school ethos, commitment to school and student participation;

(c) Policies developed with the involvement of all stakeholders (students, teachers, staff, parents);

(d) Policies clearly specify the substances that are targeted, as well as the locations (school-premises) and/or occasions (school functions) the policy applies to;

(e) Apply to all in the school (student, teachers, staff, visitors, etc.);

(f) Reduce or eliminate access to and availability of tobacco, alcohol, or other drugs;

(g) Address infractions of policies with positive sanctions by providing or referring to counselling, treatment and other health care and psycho-social services rather than punishing;

(h) Enforce consistently and promptly, including positive reinforcement for policy compliance.

Characteristics associated with no or negative prevention outcomes

Available evidence indicates that the following characteristics are associated with no or negative prevention outcomes:

(a) Inclusion of random drug testing.

Addressing individual psychological vulnerabilities

Brief description

Some personality traits such as sensation-seeking, impulsivity, anxiety sensitivity or hopelessness, are associated with increased risk of substance abuse. These indicated prevention programmes help these adolescents that are particularly at-risk deal constructively with emotions arising from their personalities, instead of using negative coping strategies including harmful alcohol use.

Available evidence

Four acceptable randomized control trials reported findings with regard to this intervention in early adolescence and adolescence.[19] According to these studies, programmes addressing individual psychological vulnerabilities can lower the rates of drinking (reducing the odds by 29 per cent compared to high risk students in control schools) and binge-drinking (reducing the odds by 43 per cent) at a two-year follow-up.

[19] Conrod, 2008; Conrod, 2010; Conrod, 2011; Conrod 2013 and O'Leary-Barrett, 2010 reporting on the same trial.

One good review reported findings with regard to this intervention in middle childhood.[20] According to this study, this type of intervention can impact the individual mediating factors affecting substance abuse later in life, such as self-control.

Characteristics associated with positive prevention outcomes

The available evidence indicates that the following characteristics are associated with positive prevention outcomes:

(b) Delivered by trained professionals (e.g. psychologist, teacher);

(c) Participants have been identified as possessing specific personality traits on the basis of validated instruments;

(d) Provide participants with skills on how to positively cope with the emotions arising from their personality;

(e) Short series of sessions (2-5).

Mentoring

Brief description

"Natural" mentoring in the relationships and interactions between children/adolescents and non-related adults such as teachers, coaches and community leaders has been found to be linked to reduced rates for substance abuse and violence. These programmes match youth, especially from marginalised circumstances (selective prevention), with adults who commit to arrange for activities and spend some of their free time with the youth on a regular basis.

Available evidence

Two good reviews and one acceptable review reported findings with regard to this intervention.[21] According to these studies, mentoring may prevent alcohol and drug use among high risk youth with results sustained one year after intervention. All evidence is from the USA.

Characteristics associated with positive prevention outcomes

The following characteristics also appear to be associated with positive prevention outcomes:

(a) Provide adequate training and support to mentors;

(b) Based on a very structured programme of activities.

4. Adolescence and adulthood

As adolescents grow, interventions delivered in settings other than the family and the school, such as the workplace, the health sector, entertainment venues and the community, become more relevant.

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[20] Piquero, 2010.

[21] Bühler, 2008; Thomas, 2011; Tolan, 2008.

PLEASE NOTE. The same evidence that applies to interventions and policies in schools for early adolescents (i.e. class curriculum, addressing individual vulnerabilities, school policies on substance abuse) as well as to mentoring, apply to the same interventions and policies when developed for older adolescents and will not be discussed in this section again.

Brief intervention

Brief description

Brief intervention consists of one-to-one counselling sessions that can include follow up sessions or additional information to take home. They can be delivered by a variety of trained health and social workers to people who might be at risk because of their substance abuse, but who would not necessarily or seek treatment. The sessions first identify whether there is a substance abuse problem and provide immediate appropriate basic counselling and/or referral for additional treatment. The sessions are structured, and last typically from 5 to 15 minutes.

Brief intervention is typically delivered in the primary health care system or in emergency rooms, but it also has been found to yield positive results when delivered as part of school-based and workplace programs, and when delivered online or via computers.

Brief intervention sessions may also use motivational interviewing, which is a psycho-social intervention where the substance abuse of a person is discussed and the patient is supported in making decisions and setting goals about his/her substance abuse. In this case, brief intervention is normally delivered over the course of up to 4 1-hour sessions.

Available evidence

Ten good reviews, 13 acceptable reviews and 1 acceptable randomized control trial reported findings with regard to this intervention.[22] According to these studies, brief intervention and motivational interviewing can significantly reduce substance abuse also in the long term. The strength of this evidence is strong, and the effect sizes for alcohol and drug use are strong immediately after intervention (standardized mean difference = 0.79), sustaining substantially over time also one year after the intervention (standardized mean difference = 0.15).

Brief intervention and motivational interviewing benefit both adolescents and adults alike, but for women the evidence on long term impact on alcohol use is inconclusive suggesting larger effects for men. Even single session brief intervention or motivational interviewing can produce significant and lasting outcomes. A longer duration of counselling does not appear to add additional gains. Brief intervention has been found to be cost-effective and transferable. Besides evidence from USA, Europe and Australia/New Zealand and trials in Africa, ASSIST, the brief intervention package developed by WHO, has been tested also Latin America and Asia.

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[22] Ballesteros, 2004; Beich, 2003; Bertholet, 2005; Carney, 2012; Christakis, 2003; Dunn, 2001; Emmen, 2004; Fager, 2004; Gates, 2006; Humeniuk, 2012; Jensen, 2011; Jones, 2006; Kahan, 1995; Kaner, 2007; Khadjesari, 2010; McQueen, 2011; Nilsen, 2008; Riper, 2009; Smedslund, 2011; Tait, 2003; Vasilaki, 2006; Wachtel, 2010; White, 2010; Wilk, 1997.

Characteristics associated with positive prevention outcomes

One-to-one session identifies if there is a substance abuse problem and provides immediate basic counselling and/or referral.

Delivered by a trained professional.

Existing guidelines and tools for further information

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) package for primary health care professionals and their patients.

Workplace prevention programmes

Brief description

The vast majority of substance abuse occurs among working adults. Substance abuse disorders expose employees to health risks and difficulties in their relationship with fellow employees, friends and family, as well as, more specifically to the workplace, to safety risks. Young adults are at particularly high risk, as job strain has been found to significantly increase the risk of becoming drug dependent among young adults using drugs. Employers also bear a significant cost of substance abuse. Employees with substance abuse problems have higher absenteeism rate and lower productivity, are more likely to cause accidents, and have higher health care costs and turnover rates. Moreover, employers have a duty to provide and maintain a safe and healthy workplace in accordance with the applicable law and regulations.[23] Prevention programmes in the workplace are typically multi-component, including prevention elements and policies, as well as counselling and referral to treatment.

Available evidence

One good and one acceptable review reported findings with regard to this intervention. According to these studies, workplace prevention programmes can prevent tobacco and alcohol use. The time frame for the sustainability of these results is not clear. Although interesting experiences have been implemented in Latin America, Asia and Africa, evidence originates from the USA, Australia and Europe.

Characteristics associated with positive prevention outcomes

(a) Developed with the involvement of all stakeholders (employers, management, employees);

(b) Guarantee confidentiality to employees;

(c) Include and are based on a policy on substance abuse in the workplace that has been developed by all stakeholders and is non-punitive;

(d) Provide brief intervention (including web-based), as well as counselling, referral to treatment and reintegration services to employees who need them.

[23] ILO (1996). Management of alcohol- and drug-related issues in the workplace. An ILO code of practice, Geneva, International Labour Office.

(e) Include a clear communication component;

(f) Embedded in other health or wellness related programmes (e.g. for the prevention of cardiovascular diseases);

(g) Include stress management courses;

(h) Trains managers, employees and health workers in fulfilling their roles in the programme.

(i) Include alcohol and drug testing only as part of a comprehensive programme with the characteristics described in the above bullet points.

Existing guidelines and tools for further information

ILO (2012), SOLVE training package: Integrating health promotion into workplace OSH policies, Programme on Safety and Health at Work and the Environment (SAFEWORK), International Labour Organisation, Geneva, Switzerland.

UNODC in cooperation with ILO (forthcoming), Guidelines on workplace prevention programmes.

CICAD (2009), CICAD Hemispheric Guidelines In Workplace Prevention.

Tobacco and alcohol policies

Brief description

Tobacco and alcohol use, dependence and associated disorders, are much more prevalent than drug use disorders and the global burden of disease is much higher. Their use starting in early adolescence, when the brain is still developing, considerably increases the likelihood of developing substance use disorders and addiction later in life. Moreover, youth that use drugs, often also use alcohol in excessive quantities and/or in combination with other substances. That is why efforts to prevent and reduce tobacco and alcohol use by youth, including harmful patterns of use, are relevant to an overall drug prevention strategy, besides being crucial to any public health policy.

Available evidence

Six good reviews and 6 acceptable reviews reported findings with regard to alcohol policies,[24] while 5 good reviews and 4 acceptable reviews reported findings with regard to tobacco policies.[25] According to these studies, raising the price of alcohol and tobacco reduces their consumption in the general population. With regard to alcohol, the impact appears to affect both moderate and heavy drinkers and an increase of 10 per cent has been found to be associated with a 7.7 per cent decrease in alcohol consumption. With regard to tobacco, an increase by 10 per cent results in 3.7 per cent fewer smokers. Raising prices has also been found to reduce heavy

[24] Anderson, 2009; Bühler, 2008; Campbell, 2009; Elder, 2010; Hahn, 2010; Hahn, 2012; Middleton, 2010; Popova, 2009; Rammohan, 2011; Smith, 2009; Spoth, 2008, Wagenaar & Toomey, 2002.

[25] Bühler, 2008; Callinan, 2010; Hopkins, 2001; Lovato, 2011; NCI, 2008; Ranney, 2006; Richardson, 2009; Stead, 2005; Thomas, 2008.

drinking among college youth and tobacco consumption among adolescents and college students. Higher tobacco prices appear to impact lower-income populations as well. Finally, higher alcohol prices are associated with decreased violence.

Raising the minimum legal drinking age reduces alcohol consumption, while with regard to tobacco the available evidence is more mixed. Comprehensive interventions achieving high compliance by vendors might impact tobacco use by youth, especially girls and those who have passed the initial stages of tobacco uptake (the others more usually accessing tobacco through friends). The time frame for the sustainability of these results is not clear.

Inconclusive findings are reported with regard to increasing dram shop liability on the consumption of alcohol.

Increased exposure to alcohol advertising increases the probability of starting to drink among adolescents and can increase levels of consumption among existing drinkers. Similarly, tobacco advertising and promotion are linked to increased initiation of tobacco use. A long-term ban on the advertising of tobacco products prevents consumption.

Although most evidence reported above originates from the USA/Canada, Europe, Australia, some evidence for tobacco policies originates also from East Asia and Southern Africa.

Characteristics associated with positive prevention outcomes

(a) Increase in the price of tobacco and alcohol through taxation; in the case of alcohol policies, outcomes might be not as strong as in the case of countries where the vast majority of the production and consumption is unrecorded.

(b) Increase in the minimum age of sale of tobacco and alcohol products.

(c) Prevents the sale of tobacco and alcohol to young people under the legal age through comprehensive programmes including active and ongoing law enforcement and education of retailers through a variety of strategies (personal contact, media and information materials).

(d) Bans advertisement of tobacco and restrict advertisement of alcohol to youth.

Community-based multi-component initiatives

Brief description

At the community level, mobilization efforts to create partnerships, task forces, coalitions, action groups, etc. bring together different actors in a community to address substance abuse. Some community partnerships are spontaneous. However, the existence of community partnerships on a large scale is normally the product of a special programme providing financial and technical support to communities to deliver and sustain evidence based prevention interventions and policies over time. Community-based initiatives are normally multi-component, taking action in different settings (e.g. schools, families, media, enforcement etc.).

Available evidence

Seven good reviews and 6 acceptable reviews reported findings with regard to this intervention. According to these studies, community-based multi-component initiatives can prevent the use of drugs, alcohol and tobacco. Although most evidence reported above originates from the USA/Canada, Europe, Australia, some few studies on community-based multi-component initiatives, particularly with regard to tobacco, originate from Asia.

Characteristics associated with positive prevention outcomes

(a) Support the enforcement of tobacco and alcohol policies.

(b) Work in a range of community settings (families and schools, workplace, entertainment venues, etc.)

(c) Involve universities to support the implementation of evidence-based programmes and their monitoring and evaluation.

(d) Adequate training and resources are provided to the communities.

(e) Initiatives are sustained in the medium term (e.g. longer than a year).

Existing guidelines and tools for further information

CCSA (2010), *Community-Based Standards, Canadian Standards for Youth Substance Abuse Prevention*, Canadian Centre on Substance Abuse, Ottawa, Canada.

Media campaigns

Brief description

Media campaigns are often the first and/or only intervention delivered by policy makers concerned with preventing the use of drugs in a population, as they are visible and have the potential to reach a large number of people relatively easily.

Available evidence

Three good reviews and three acceptable reviews, reported findings with regard to this intervention.[26] According to these studies, media campaigns, in combination with other prevention components, can prevent tobacco use (reporting median reduction of 2.4 per cent). However, no significant findings were reported for alcohol abuse, and only weak findings with regard to drug use.

Characteristics associated with positive prevention outcomes

(a) Precisely identify the target group of the campaign.

(b) Based on a solid theoretical basis.

(c) Design messages on the basis of strong formative research.

(d) Strongly connect to other existing drug prevention programmes in the home, school, and community

[26] Bühler, 2008; Ferri, 2013, (in press); Hopkins, 2001; NCI, 2008; Ranney, 2006.

(e) Achieve adequate exposure of the target group for an adequate period of time.

(f) Systematically evaluated, including throughout the campaign to adjust messages for maximal effect.

(g) Target parents, as this appears to have an independent effect also on the children.

(h) Aim at changing cultural norms about substance abuse and/or educating about the consequences of substance abuse and/or suggesting strategies to resist substance abuse.

Characteristics associated with no or negative prevention outcomes

(a) Media campaigns that are badly designed or poorly resourced should be avoided as they can worsen the situation by making the target group resistant to or dismissive of other interventions and policies.

Entertainment venues

Brief description

Entertainment venues include bars, clubs, restaurants as well as outdoor or special settings where large scale events may occur. These venues can have both positive and negative impact on the health and wellbeing of citizens, as they provide social meeting spaces and support the local economy, but at the same time, they are identified as high risk settings for many risk behaviours, such as harmful alcohol use, drug use, drugged driving and aggression. Work in this setting is a rapidly emerging area of research.

Most prevention programmes utilizing entertainment venues have multiple components including different combinations of training of staff and managers on responsible beverage service (RBS) and management of intoxicated patrons; changes in laws and policies, e.g. with regard to serving alcohol to minors or to intoxicated persons, or with regard to drinking and driving; high visibility enforcement of existing laws and policies; communication to raise awareness and acceptance of the programme and to change attitudes and norms; and, offering treatment to managers and staff.

Available evidence

Two acceptable reviews reported findings with regard to this intervention.[27] According to these studies, training of staff, policy interventions and enforcement may reduce intoxication. It should be noted that evidence on the impact of these intervention on health and social consequences (e.g. car accidents or violence) was not reviewed, while it appears to be significant. The time frame for the sustainability of these results is also not clear. All evidence originates from USA/Canada, Europe and Australia.

[27] Bolier, 2011; Brennan, 2011.

Characteristics associated with positive prevention outcomes

(b) Trains staff and management on responsible serving and handling of intoxicated clients;

(c) Provides counselling and treatment for staff and management who need it;

(d) Includes a strong communication component to raise the awareness and the acceptance of the programme;

(e) Includes the active participation of the law enforcement, health and social sectors;

(f) Enforces existing laws and policies on substance abuse in the venues and in the community.

Existing guidelines and tools for further information

UNODC, ATS prevention guide for policy makers

CICAD report: insights for a drugged driving policy

III. Prevention issues requiring further research

Sports and other leisure time activities

In many countries and communities, it is popular to organize sports and other drug or substance free leisure time activities as a way to give adolescents prosocial and healthy pursuits, preventing them from engaging in risky behaviours including drug use. However, in fact, there is evidence that sports per se is not always associated with lower rates of substance abuse and that it has been linked to higher rates of smoking and binge drinking.

The review of literature could find 2 good and 1 acceptable review reporting that practically no studies are available assessing the impact of organising sports or other leisure time activities on substance abuse or on mediating factors among children. Promising studies are being reviewed with regard to positive experience in including a substance abuse prevention component in sports coaching. Policy makers should therefore exercise the outmost caution if choosing to implement this kind of intervention, including a strong research component to assess the impact.

Some additional indications on how sports could be used to pursue preventing objectives can be found at UNODCCP (2002), Sport - Using sport for drug abuse prevention, United Nations Office on Drug Control and Crime Prevention, Vienna, Austria and UNODC (2003), EVERYONE WINS! Helping coaches, teachers and youth leaders lead a module on fair play, United Nations Office on Drugs and Crime, Vienna, Austria.

Preventing the non-medical use of prescription drugs

The non-medical use of prescription drugs controlled under the Conventions is an increasing problem in many countries, so is the abuse of some drugs that are sold over-the-counter. In some countries, this challenge is second only to cannabis use. Although most notably visible in North America, there are reports of significant

treatment demand in Europe, Africa, South Asia and Latin America. Depending on the country and the kind of substance, some more vulnerable groups (such as youth, women, older adults, health care professionals, but also street children and civilians and armed forces in post conflict situations) appear to be particularly at risk. Moreover, the health and social consequences of the non-medical use of prescription drugs can be as serious as for the use of other illicit drugs.

The review of the scientific evidence could not find acceptable or good reviews. Much of the evidence presented in the previous section refers to interventions that address vulnerabilities and resiliencies that are not specific to a psychoactive substance. In this context, and as it is to be expected, a number of primary studies with regard to family and school based interventions is being assessed reporting positive outcomes also with regard to the non-medical use of prescription drugs.

Sourcing of prescription drugs occurs through double doctoring, fraud, theft, internet and via family and friends. Therefore, in addition to these interventions, it may seem reasonable to assume that all of these sources present opportunities for prevention.

There are some indications that providing authoritative advice to physicians, as well as restricting and monitoring prescriptions and creating registers will change their prescribing behaviour and will limit the access of these medications only to the patients that needs them. Given the great influence of parents on youth, and given that many individuals report sourcing the substances from family, targeting parents to raise their awareness of the need to use prescription drugs only under medical supervision, both for themselves and their children, might be a promising approach. Practical steps in the community to safely dispose of prescription drugs that are out-dated or no longer being used by the intended recipient might be promising. Finally, health-care professionals might need to be trained on an ongoing basis on how to prevent, recognize and manage the non-medical use of prescription drugs and related consequences.

Some additional indications on possible interventions and policies to prevent the non-medical use of prescription drugs can be found at UNODC (2011), The non-medical use of prescription drugs, policy direction issues, United Nations Office on Drugs and Crime, Vienna, Austria and CICAD (2012), Guide to preventing prescription drug abuse, Inter-American Drug Abuse Control Commission, Washington D.C., USA.

Interventions and policies targeting children and youth particularly at risk

The review of literature could not find acceptable or good reviews or primary studies on how to prevent substance abuse among these children and youth particularly at risk, in spite of evidence indicating that they are often exposed to drugs at a very young age. This group includes, for example, out-of-school children and youth, street children, current and ex-child soldiers, children and youth of displaced or post-conflict populations, children and youth in foster care, in orphanages and in the juvenile justice system. UNODC is testing a protocol (available on demand) to provide indicated prevention to children exposed to drugs at a very young age in Afghanistan.

Prevention of the use of new psychoactive substances not controlled under the Conventions

Many countries have witnessed the recent rise of the use of new psychoactive substances that are not controlled under the Conventions (the so called "legal highs", or "smart drugs").[28] None of the studies reviewed reported outcomes with regard to the prevention of such substances. However, it should be noted that, as in the case of the non-medical use of prescription drugs, most prevention based on scientific evidence is not substance specific. This is particularly true of strategies that address vulnerabilities early in life or that strengthen positive coping skills to prevent the resort to negative coping skills, including substance abuse. Therefore, it appears to be reasonable to consider that such strategies might be also effective in preventing the use of these new psychoactive substances. However, this is another area were rigorous research would be appear to be necessary.

IV. Characteristics of an effective prevention system

An effective national drug prevention system delivers an integrated range of interventions and policies based on scientific evidence, in multiple settings, targeting relevant ages and levels of risk. This should come as no surprise given the complex interplay of factors that make children, youth and adults alike, vulnerable to substance abuse and other risky behaviours. It is not possible to address such vulnerabilities by simply implementing a single prevention intervention that is often isolated and limited in its timeframe and reach. Let us not forget that the overarching goal here is to support the healthy and safe development of individuals.

To deliver an integrated range of interventions and policies, a system requires strong structural foundations, which are briefly described in this section and include:[29]

(a) A supportive policy and legal framework;

(b) Scientific evidence and research

(c) Coordination of multiple sectors and levels (national, sub-national and municipal/local) involved;

(d) Training of policy makers and practitioners and most;

(e) Commitment to provide adequate resources and to sustain the system in the long term.

1. Range of interventions and policies based on evidence

The previous section has provided a comprehensive review of the interventions and policies that have been found to yield positive results in preventing substance abuse. Strategies differ in three main areas: the age of the target group, the level of risk of

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[28] UNODC (*in press, 2013*), World Drug Report, United Nations Office on Drugs and Crime, Vienna, Austria.

[29] The reader might also want to refer to the EMCDDA (2011), European drug prevention quality standards, European Monitoring Centre on Drugs and Drug Addiction, Lisbon, Portugal, that also contain a discussion of these issues.

the target group and the setting in which the strategy is delivered. An effective system delivers a range of evidence based interventions and policies in order to:

(a) Support children and youth throughout their development and particularly at critical transition periods where they are most vulnerable, e.g. infancy and early childhood, at the transition between childhood and adolescence.

(b) Target the population at large (universal prevention), but also support groups (selective prevention) and individuals (indicated prevention) that are particularly at risk.

(c) Address both individual and environmental factors of vulnerability and resilience.

(d) Reach the population through multiple settings (e.g. families, schools, communities, the workplace, etc.)

2. Supportive policy and regulatory framework

No programme, no policy can exist in a vacuum. As noted in the introduction, drug prevention is but one of the fundamental components of a health-centred system focused on ensuring that drugs are available for medical and research purposes whilst preventing diversion and drug use and that other psychoactive substances do not impact on the burden of health. In this respect, an effective national system would be:

(a) Embedded in comprehensive and health-centred system of drug control focused on ensuring the availability of drugs for medical and research purposes, whilst preventing diversion and drug use, thus including supply reduction, treatment, care and rehabilitation of drug dependence, and, prevention of the health and social consequences of drug use (e.g. HIV/AIDS, Hepatitis C, overdose, etc.).

(b) Based on the understanding of drug dependence as a chronic and relapsing disorder impacting the brain that is caused by the complex interaction of genetic, biological and psychological vulnerabilities with the environment and needs to be treated and not punished.

(c) Linked to a public health national strategy for the healthy and safe development of children, youth and adults, including the prevention, treatment and care substance abuse, as well as the prevention of other unhealthy or risky behaviours.

Moreover, the delivery of programmes by both governmental and non-governmental agencies can be greatly enhanced if it is mandated and supported at the national level by appropriate regulation, including:

(a) National standards for drug use and substance abuse prevention interventions and policies;

(b) National professional standards for drug and substance prevention practitioners;

(c) A policy requiring schools to implement substance abuse prevention education and policies in the context of health or personal/social education and promotion, including standards on how to do so;

(d) A policy requiring employers to implement substance abuse workplace prevention policies or programmes, including standards on how to do so;

(e) A policy requiring health, social and education services to support families to nurture the physical, cognitive and emotional development of their children;

(f) A strong local and national surveillance and monitoring data system to inform policy makers at all levels, practitioners and researchers about emerging substance abuse patterns (different substances being used, existing substances being used in new ways (e.g., injection of crack), or new population groups being involved) and a review process to inform both prevention and treatment programming.

3. A strong basis on research and scientific evidence

An effective national drug prevention system should both be based on scientific evidence and support research efforts to contribute to the evidence base. There are two dimensions to this. On the one hand, interventions and policies should be chosen on the basis of an accurate understanding of what the situation really is. This systemic approach will include identifying the population that is most vulnerable or starting to use substances, possible reason for why they are initiating use, and which interventions and policies most closely respond to this situation. On the other hand, the effectiveness and, whenever possible the cost effectiveness of delivered interventions and policies, needs to be rigorously evaluated. Results of this rigorous evaluation will allow decision-makers to know the impact on outcomes such as decrease initiation of drug use and to inform and expand the base of knowledge related to prevention interventions. It is also important that this research and its findings be peer-reviewed, published, and discussed to the extent possible.

Evidence-based planning

With regard to the first dimension, an information system should be in place to provide the necessary understanding of the situation, as well as opportunities to use this knowledge to plan. To address this dimension, an effective national prevention system would include:

(a) An information system regularly collecting and monitoring information:

(b) Prevalence: What percentages of people (by age, gender, and other important characteristic) are using which substance(s)? How often and how much? What are the health and social consequences?

(c) Initiation of use and transition to disorders: At what age are people (especially young people) initiating to use drugs and/other substances? When are they transitioning to a substance abuse disorder?

(d) Vulnerabilities: Why are people, especially young people, initiating to use drugs and/or abuse other substances? What is the situation among children with regard to factors that are known to be linked to substance abuse (e.g. poor parenting, mental health problems, poor attachment to school, violence and abuse, etc.)? Why are people that have started to use transitioning to disorders (what are the factors that make them vulnerable to doing so)?

(e) A formal mechanism to regularly feed the data generated by the information system into a systemic planning process that will in turn consider:

(f) Strategies needed: which evidence-based interventions and policies have been effective to address the identified situation?

(g) Availability and coverage of existing strategies: Which of these interventions and policies are currently being implemented? What percentage of the population who need them are reached by these interventions and policies?

(h) Quality of existing strategies: Are ongoing interventions and policies based on scientific evidence (this refers to both the scientific understanding of the vulnerabilities addressed and/or the systematic adaptation of existing evidence-based programmes)?

(i) Effectiveness of existing strategies: Have the strategies been evaluated (see below) and, if so, what are the results? What do the data generated by the information system tell us with regard to the effectiveness of the prevention system as whole?

(j) Available infrastructures and resources that could be utilised as part of the national prevention system;

(k) What are the gaps between the strategies needed and the availability, coverage, quality and effectiveness of the existing systemic strategies, infrastructures and resources?

Research and planning

The second dimension pertains to the evaluation of specific prevention programmes and policies. As noted, evidence based strategies identified in the previous section are not necessarily appropriate to the target, to the level of resources, or to the cultural environment of reflected at the national level, although in many cases they will be. There may be other programmes or policies that more successfully address these issues. It is imperative that selected programmes and policies are:

(a) Based on a scientific understanding of the vulnerabilities addressed. In other words and as an example, it is strongly desirable that programmes and policies are created to address a risk factor or situation that has been found to be linked to increased initiation (or earlier onset or higher prevalence of substance abuse) *by scientific research and a needs assessment*, not by the feelings of an individual, however well-intentioned and concerned.

(b) Include a scientific monitoring and evaluation component in order to assess whether these interventions result in the desired outcome. This would suggest the importance of collaboration with academic and research institutions (including, but not limited to, universities), as well as the use of an experimental or quasi experimental design. In the field of medicine, no intervention would be used unless scientific research had found it to be effective and safe. The same should go for drug prevention interventions and policies.

It should be noted that in the Standards, the intention was to provide an indication of the effectiveness, or at least the efficacy, of kinds of interventions and policies, without referring to specific evidence-based programmes. However, the evidence originates in the evaluation of specific programmes and this means that it can never

be assumed that a strategy that is "basically similar" to an evidence-based one will be as effective. For example, while there may be evidence for "prenatal and infancy visitation programmes" overall, some particular ones of that type are quite effective and other particular ones of that type have been shown to be ineffective, even though they may have some of the "proven" characteristics of the type. This is another reason why evaluation becomes so crucial.

In this context, the reader is referred to the European drug prevention quality standards recently published by the EMCDDA and providing exhaustive guidance to the improvement of the quality of drug prevention programmes with regard to these, and other, phases of the programme cycle, as well as to the Canadian portfolio of standards.[30]

This is not to say that, in the case of implementation of an evidence-based programme belonging to the interventions described in the previous section, evaluation would be any less important. Indeed, in the case of adaptation of existing evidence-based programmes, it is suggested that the process includes:

(a) A careful and systematic process of adaptation that does not touch the core components of the programme, while making it more acceptable to the new socioeconomic/cultural context. Ideally, this would take place with the support of the developers of the programme. In this context, the UNODC Guide on family skills training contains a chapter solely devoted to adaptation.

(b) A scientific monitoring and evaluation component in order to assess whether the programme is actually effective in the new socioeconomic/cultural context.

4. Different sectors involved at different levels

National drug prevention systems are about ensuring children, youth and adults have the opportunity to lead healthy and safe lifestyles in multiple settings. Therefore, the national sectors to be involved in the delivery of systemic prevention interventions and policies are many and necessitate clear role definition and coordination.

A national drug prevention system would therefore involve relevant national sectors (e.g. education, health, social welfare, youth, labour, law enforcement, etc.) in the planning, delivery, monitoring and evaluation of its components:

(a) Integrated levels of consistent implementation: national (federal), sub-national (state/regional/district), and municipal, local).

(b) Full spectrum of key stakeholders. This could include, but is not limited to: national and sub-national administration, municipal or local, governmental service delivery agencies, non-governmental agencies, residents and community leaders, religious communities and leaders, universities and other research institutions, and the private sector.

(c) Structured and well-defined roles and responsibilities for all stakeholders: there is great value in a partnership and collaboration of various

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[30] EMCDDA (2011), European drug prevention quality standards, European Monitoring Centre on Drugs and Drug Addiction, Lisbon, Portugal.
Canadian Standards for Youth Substance Abuse Prevention

stakeholders working together and taking responsibility for different elements of policy development and implementation.

(d) A strong lead and coordinating agency.

It should be noted that there is not one single way of organising the delivery of evidence-based prevention strategies. For example, they need not necessarily be carried out in the form programmes, but can also be integrated into the everyday work of institutions and services such as the school, youth work and health and social services. In this case, strategies are planned, managed and coordinated centrally, while the implementation relies on local multi-professional co-ordination. Other possible examples of how different levels could interact would include:

(a) Policy makers at the national level coordinate the development of the national policies, set the quality standards and support the infrastructure for implementation through adequate funding for the delivery of strategies and for the training for relevant stakeholders.

(b) Policy makers and/or agencies at the local level deliver interventions and policies, feed data to the information system, and actively improve their knowledge and skills.

(c) NGOs, residents and community leaders (which could include religious communities and leaders) mobilize for changes in or acceptance of policies, influencing community norms, delivering evidence-based interventions and policies; it should be noted that community mobilization has been found to be an effective and participatory mechanism to realize evidence-based strategies.

(d) Universities and research institutions analysing data to feed a better understanding of the substance abuse situation and to monitor and evaluate the national policies, evaluating specific interventions and policies.

(e) Private sector actively supporting prevention in the workplace and contributing to evidence-based and innovative interventions, and operators in alcohol and tobacco industries and marketing taking effective measures to prevent and reduce harm in their practices, including self-regulatory actions.

5. Strong infrastructure of the delivery system

(a) To be delivered effectively, interventions and policies must be supported by adequate resources.

(b) Agencies delivering interventions and policies need to be adequately financed.

(c) Practitioners delivering intervention and policies need to be adequately trained on an ongoing basis.

(d) Policy makers at different levels planning and developing interventions and enforcing policies need to be adequately trained on an ongoing basis.

(e) Technical assistance should be provided on an on-going basis to support implementation and continuous quality improvements.

(f) Academic and research institutions need to be adequately financed.

6. Sustainability

Drug prevention is effective and cost-effective, but, as with all policies, there needs to be a visible medium- to long-term investment to realize its potential. In this respect, the following are ways in which the action of the components mentioned above should be sustained:

(a) A mechanism of review and adjustment of the national prevention system at regular intervals;

(b) Delivery of evidence-based interventions and policies planned and resourced to be active at least in the medium term;

(c) Regular collection of data through the information system, including feedback into the planning/review process;

(d) Continuous support to research for the rigorous evaluation of interventions and policies;

(e) Continuous support to the training of practitioners and policy makers involved in the planning, delivery, monitoring and evaluation of drug prevention strategies.

Figure 1
Schematic representation of a national drug prevention system