The role of psychiatrists in prevention of psychoactive substance use and dependence: beyond clinical practice

VLADIMIR B. POZNYAK
Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland

Regrettably, psychoactive substance use and substance use disorders are still on the periphery of attention of psychiatrists and mental health professionals in many parts of the world. Separation of psychiatric and substance abuse treatment services and research institutions, existing, for example, in USA and Russian Federation, complicates the problem even further. And this is in contrast with the evidence of the burden associated with psychoactive substance use and the potential of psychiatrists and their professional associations to contribute to reduction of this burden.

According to the World Health Report 2002 (1), 8.9% of global disease burden expressed in disability adjusted life years lost (DALYs) is attributed to psychoactive substance use. Tobacco and alcohol are responsible for a major part (8.1%) of the disease burden, with alcohol being the top risk factor for health in low mortality developing countries. Tobacco, alcohol and illicit drugs are responsible for 12.4% of all deaths worldwide. In some countries of Europe, like Scotland and Spain, deaths related only to opioid use account for as many as 25-33% of deaths in young (15-39 years) males (2). Negative social consequences of alcohol and drug use, like crimes, violence or traffic accidents, make the total burden on the societies even higher. Injecting drug use, often associated with drug dependence and particularly opioid dependence, is a driving force of HIV/AIDS epidemics in many countries of Europe, Asia, the Middle East and Americas, with a number of injecting drug users worldwide estimated to be around 13.2 million (3). Between 1990 and 1998, injecting drug users were the largest group among diagnosed AIDS cases in Western Europe, and since 2001 by far the largest group in the Eastern European Region (4). Often epidemics of drug use were followed by HIV epidemics, and successful and timely prevention of drug use could possibly prevent dramatic developments with HIV/AIDS. Prevention of psychoactive substance use and associated disorders becomes one of the top public health priorities.

However, as Medina-Mora correctly points out, while nobody argues about the importance of prevention, it is not easy to find consensus on the prevention strategies, particularly when evidence for effectiveness of some most popular preventive approaches, like abstinence-oriented school-based interventions, is not very compelling (5), and some effective strategies, like regulation of physical and economic availability of alcohol, are not being widely implemented for different reasons (6).

Developing comprehensive, effective and sustainable strategies of prevention of substance use and dependence requires strong involvement of health care professionals. Psychiatrists, dealing with most severe health consequences of psychoactive substance use and co-occurring psychiatric disorders, by professional training know the effects of substance use and mechanisms of dependence and their prevention and management. That gives them an advantage among health care professionals and determines their potential in the area of prevention of substance use and dependence. The role of psychiatrists in secondary prevention, aiming at early identification and management of substance abuse and dependence, or tertiary prevention, aiming at rehabilitation of substance dependent individuals, is quite straightforward. Regarding primary prevention of substance use disorders, it is worthwhile to mention that prevention of acute intoxication is a legitimate objective, as acute intoxication is a diagnostic category included in both ICD-10 and DSM-IV. This is particularly relevant regarding alcohol, taking into account the burden associated with acute alcohol intoxication. Preventing of drinking to marked intoxication, i.e. changing patterns of drinking in the individuals and populations at large, is an important objective of primary prevention of alcohol use disorders.

With a limited number of trained psychiatrists in many less-resourced countries, it is imperative to go beyond clinical practice to achieve significant public health impact on the scope of substance-related problem. It is critical for psychiatrists to be strongly involved in education, training and support of other health professionals, and first of all in primary health care, to increase their ability to identify and manage substance use disorders among their clientele. Health care professionals have also an important role in communicating the risks associated with psychoactive substance use or its specific patterns to the population, and psychiatrists have an important role in that as well.

Medina-Mora underlines a crucial role of psychiatrists in rational use of dependence-producing medicines. There are other areas where psychiatrists and their professional associations can contribute to prevention of substance use and dependence. One of them is the promotion and development of evidence-based concepts of substance use disorders and effective preventive and treatment strategies, guided by research evidence, which are not limited to management of substance dependence, but incorporate

a wide range of preventive interventions, including those which are beyond the health care sector and those that aim at reduction of harm associated with continued substance use.

The role of psychiatrists and their professional associations in the reduction of the burden of substance use disorders has still to be realized.

References

1. World Health Organization. The world health report 2002. Reducing risks, promoting healthy life. Geneva: World Health Organization, 2002.
2. European Monitoring Centre for Drugs and Drug Addiction. National prevalence estimates of problem drug use in the European Union, 1995-2000. Final report. Lisbon: European Monitoring Centre for Drugs and Drug Addiction, 2003.
3. Aceijas C, Stimson G, Hickman M et al. Global overview of injecting drug use and HIV infection among injecting drug users. AIDS 2004;18:2295-303.
4. European Centre for the Epidemiological Monitoring of AIDS. HIV/AIDS surveillance in Europe. www.eurohiv.org.
5. Hawks D, Scott K, McBride N. Prevention of psychoactive substance use: a selected review of what works in the area of prevention. Geneva: World Health Organization, 2002.
6. World Health Organization. Global status report: alcohol policy. Geneva: World Health Organization, 2004.

Substance abuse prevention: practical strategies for psychiatrists in the 21st century

Peter Selby, Franco J. Vaccarino
Centre for Addiction and Mental Health and University of Toronto, Toronto, Ontario, Canada

Strategies for health promotion and prevention require both population and individual level interventions. There is general face validity of the concept that an ounce of prevention is better than a cure. However, evidence to date on the effectiveness of these strategies is mixed.

Emerging knowledge on the biology and genetics of substance use and substance use disorders may help in the development of innovative approaches to prevention in this century. There are several human experimental studies trying to establish the safety and efficacy of cocaine and nicotine vaccines. What role could these immunization strategies play in the prevention of addictive disorders? (1).

María Elena Medina-Mora highlights the importance of understanding the interplay of biopsychosocial determinants of addictive disorders and clarifies the scope of prevention efforts beyond pure primary prevention. Patients with co-morbid addiction and mental health problems pose a special challenge to the clinician who wishes to implement effective prevention strategies (2). Using a broader understanding of prevention, clinicians, including psychiatrists, can play a key role in prevention within the context of co-morbid problems. They can routinely screen their patients for sub-clinical problems and provide early interventions, practice safe prescribing of medications to prevent iatrogenic drug dependence, immunize patients at high risk for hepatitis A and B, counsel patients on safe injection practices, tobacco cessation, use of condoms and the avoidance of high risk sexual activity. They can also offer testing for HIV infection, tuberculosis and other sexually transmitted diseases.

The lessons learned from alcohol control strategies could be applied to other substances of abuse. Prohibition created more problems than it solved, but an integrated approach that includes a combination of re-evaluating social norms and context to prevent harmful consumption and abuse has led to reduced problems. Overall, the focus on problem drinkers is likely to reduce the burden of disease more than a focus on the severely dependent. In a study involving 42 family practices with a total of 15,686 patients, 105 problem drinkers were identified and randomly assigned to a total of three hours of counselling over a year or advice to stop drinking. Counselling led to 70% reduction in consumption with significant improvements in psychosocial functioning, liver damage and a reduction in health care utilization (3).

Psychiatrists should also be strong advocates for the adoption of effective prevention policies. For example, in Canada, laws that deterred drinking and driving were associated with an 18% reduction in drunk driving fatalities (4). Moreover, light or moderate drinkers were more likely to abstain from drinking before driving after the introduction of laws that led to 90 day suspensions of driver licenses for breath alcohol concentrations greater than 80 mg% (5). There is evidence that comprehensive interventions targeted towards special populations such as pregnant drinkers can also have an impact. In Washington State, the presence of comprehensive diagnostic and prevention strategies reduced the incidence of fetal alcohol spectrum disorder (FASD), with enormous implications for children and society at large (6).

The success of early interventions and secondary prevention is predicated on the ability and willingness of frontline providers to implement evidence-based interventions to reduce the burden of disease caused by substance use. Moreover, in this millennium, clinicians also need to be aware of the new strategies in substance abuse prevention and advocate for effective prevention policies.

References

1. Kantak KM. Vaccines against drugs of abuse: a viable treatment option? Drugs 2003;63:341-52.
2. Mueser KT, Drake RE, Wallach MA. Dual diagnosis: a review of etiological theories. Addict Behav 1998;23:717-34.
3. Israel Y, Hollander O, Sanchez-Craig M et al. Screening for problem drinking and

counseling by the primary care physician-nurse team. Alcohol Clin Exp Res 1996;20:1443-50.
4. Asbridge M, Mann RE, Flam-Zalcman R et al. The criminalization of impaired driving in Canada: assessing the deterrent impact of Canada's first per se law. J Stud Alcohol 2004;65:450-9.
5. Mann RE, Smart RG, Stoduto G et al. The effects of drinking-driving laws: a test of the differential deterrence hypothesis. Addiction 2003;98:1531-6.
6. Astley SJ. Fetal alcohol syndrome prevention in Washington State: evidence of success. Paediatr Perinat Epidemiol 2004;18: 344-51.

How effective is substance abuse prevention?

Ambros Uchtenhagen
Addiction Research Institute at University of Zürich, Switzerland

Two major phenomena can be observed in the field of prevention of substance use and abuse: on the one hand, a growing recognition of the need to systematically evaluate the effects of preventive interventions, and a growing body of knowledge on "what works"; on the other, a rather grim and disappointing picture of increasing substance use worldwide, with very significant negative social and health consequences. What is going wrong?

Research has provided insight into a vast range of risk factors for starting use, continuing use, developing harmful use and dependence. Increasingly, the search for protective factors has come to the forefront, and interventions have started to focus on reinforcing such protective factors. Concerted action at community level, prevention at the work place, working with multiproblem families are just a few of the key issues, complementing the formerly prevailing awareness campaigns and school programs that served more the need "to do something about prevention" than to do something based on evidence for effectiveness. Early recognition and intervention strategies, geared towards a reduction of hazardous and harmful consumption rather than towards abstinence, have generated manuals for practice and an increasing number of evaluation studies. In a broader sense, reducing risks and reducing negative consequences from substance use have become as important as preventing use or forestalling the start of use.

Evaluating preventive action has become part of an evidence-based policy; evaluation guidelines are produced; reviews have analyzed the accumulating knowledge. However, in spite of the growing body of evidence about how to avoid or reduce the negative consequences of substance use, the use and the related problems are on the increase in many countries. Hazardous and harmful alcohol use is especially on the rise, in developing countries as well as in Eastern Europe (1). Major increases in injecting drug use, with all associated health and social risks, are being recorded: opiate injecting is especially increasing in Eastern Europe and South and South-East Asia, which is leading to more blood-born HIV infection and hepatitis; amphetamine injecting is increasing in many regions worldwide (2).

The implementation of available preventive strategies in this area is largely deficient. Some factors can be mentioned which contribute to this "transfer gap". Most research evidence stems from Western style market economies, and their acceptability and applicability in the developing world has to be tested. Strategies must be culture specific and targeted. Regarding legal substances, the most cost-effective prevention strategies (taxation, conditioned availability, reduced promotion) are not high on political agendas and are not popular. The exception is tobacco smoking, some sort of a "success story" in substance abuse prevention, but only in countries with adequate levels of risk awareness, while cigarette marketing has shifted successfully to developing countries (3). It looks as if substance abuse prevention only has a chance as far as health promotion and consumer protection become relevant issues for health policy and the population at large.

Finally, there cannot be effective prevention without an understanding of why substances of abuse are so attractive and how most people manage to use them without losing control and without negative consequences. The recent results of brain research have demonstrated how stress increases the risk to develop substance dependence (4), and the "self-help" theoretical model (taking drugs for stress relief and enhanced emotional experience) is gaining from the insight that addictive behaviors are just one special form of a learning process. Prevention can profit from research on how people and especially young people learn to protect themselves against the risks of substance use (5). But, in the end, substance abuse prevention has limited chances in the presence of a growing economic inequity between and inside countries, and a widespread insecurity about the future (6).

References

1. World Health Organization. Global status report on alcohol. Geneva: World Health Organization, 1999.
2. United Nations Drug Control Programme. Global illicit drug trends. Vienna: United Nations Drug Control Programme, 2000.
3. World Health Organization. The world health report 2002. Geneva: World Health Organization, 2002.
4. Volkow N, Fowler JS, Wang GJ. The addicted human brain: insights from imaging studies. J Clin Invest 2003;111: 1444-51.
5. Calafat A (ed.). Risk and control in the recreational culture. Palma de Mallorca: Irefrea, 2001.
6. World Health Organization. The world health report 2001. Geneva: World Health Organization, 2001.

Substance abuse intervention in South Africa

Charles D.H. Parry
Alcohol and Drug Research Unit, Medical Research Council and Department of Psychology, University of Stellenbosch, South Africa

María Elena Medina-Mora highlights advances in psychosocial and neuroscience research that provide promising avenues for substance abuse intervention. She also reviews advances in thinking about individual vulnerabilities, risk and protective factors for substance abuse, mental health comorbidity and multi-component evidenced-based intervention programmes. This commentary comprises a reflection on these issues with reference to South Africa.

In the year 2000, a multi-sectoral coordinating body (the Central Drug Authority) was established in this country to oversee the implementation of the National Drug Master Plan (1). As part of ensuring an integrated approach to addressing substance abuse problems, the plan mandates government departments to formulate mini drug master plans and to establish provincial drug forums and local drug action committees. In line with United Nations recommendations (2), the plan also recognises the importance of research in directing policy and practice. In recent years, national surveys that included questions on substance use behavior (3,4) as well as surveillance systems on treatment demand and on alcohol-related mortality (5,6) have been funded. The Medical Research Council has also explored risk and protective factors for adolescent substance (ab)use (7,8). To further strengthen the research base underpinning substance abuse policy and practice in South Africa, various gaps need to be addressed, including intervention focused demonstration projects and regular audits of treatment services and prevention programmes.

Treatment services for substance abuse problems have not kept pace with the increase in demand, particularly by younger patients (5). The plan to reduce tertiary care services while increasing primary care services has not been implemented, and services remain insufficient to meet demand, poorly distributed geographically, and fragmented between health and social welfare sectors (9). Mental health and substance abuse problems are treated separately and services are not integrated. Gaps in the provision of aftercare services have also been noted (10). Apart from initiatives by some non-governmental organizations to educate young people about drug effects, and limited use of drug substitution for heroin patients, scant attention has been given to harm reduction. Many treatment programmes are not operating according to evidence-based treatment models. On the positive side, an initiative to develop norms and standards for inpatient treatment centres has recently been completed and steps have also been taken to institute protocols for managing the detoxification at secondary hospitals (9-11).

Progress has also been made in promoting 'good practice' in the prevention area. For example, with funding from the United Nations, guidelines on good practice for youth-focused prevention programmes have been developed (12). However, many initiatives still follow outdated practices such as once-off talks in schools that sometimes employ scare tactics. Furthermore, most initiatives focus on a single component. Specifically with regard to alcohol, initiatives have been implemented that focus on select populations (e.g. pregnant women) and the general public (e.g. via increasing taxes on alcohol) (9). New initiatives are being developed to restrict alcohol advertisements, to introduce warning labels on containers, and to institute a coherent liquor outlet policy at provincial level (9).

With regard to reducing the supply of illegal drugs, the South African government has recently implemented several changes in policy and practice, including setting up programmes to better monitor the importation and manufacturing of precursor chemicals, tightening up on banking procedures to make money laundering more difficult, and pursuing persons involved in organized crime more vigorously by using asset forfeiture provisions.

In conclusion, while some progress has been made in South Africa over the past decade, much more needs to be done to ensure that the advances described by Medina-Mora are reflected to a greater degree in policy and practice.

References

1. Drug Advisory Board. National drug master plan 1999-2004. Pretoria: Department of Welfare of South Africa, 1999.
2. United Nations International Drug Control Programme. Political declaration: guiding principles of drug demand reduction and measures to enhance international cooperation to counter the world drug problem. Vienna: United Nations International Drug Control Programme, 1998.
3. Parry CDH, Plüddemann A, Steyn K et al. Alcohol use in South Africa: findings from the first demographic and health survey (1998). J Stud Alcohol (in press).
4. Reddy SP, Panday S, Swart D et al. Umthenthe Uhlaba Usamila – The South African youth risk behaviour survey 2002. Cape Town: South African Medical Research Council, 2003.
5. Myers B, Parry CDH, Plüddemann A. Indicators of substance abuse treatment demand in Cape Town, South Africa (1997-2001). Curationis 2004;5:27-31.
6. Matzopoulos R, Seedat M, Marais S et al. A profile of fatal injuries in South Africa: a platform for safety promotion. MRC Policy Brief 2004;2:1-8.
7. Morojele NK, Flisher AJ, Muller M et al. Measurement of risk and protective factors for drug use and anti-social behaviour among high school students in South Africa. J Drug Educ 2002;32:25-39.
8. Parry CDH, Morojele NK, Flisher AJ et al. Social and neighbourhood correlates of adolescent drunkenness: a pilot study in Cape Town, South Africa. J Adolesc 2004; 27:369-74.
9. Parry CDH. South Africa: alcohol today.

Addiction (in press).
10. Myers B, Parry CDH. Access to substance abuse treatment services for Black South Africans: findings from audits of specialist treatment facilities in Cape Town and Gauteng. South African Psychiatry Review (in press).
11. Muller L, Fisher S, Myers B et al. Norms and standards for substance dependence inpatient centres in South Africa. Cape Town: Somerset West, 2003.
12. United Nations Office on Drugs and Crime. Conducting effective substance abuse prevention work among the youth in South Africa. Pretoria: United Nations Office on Drugs and Crime, 2004.

Prevention of substance abuse: the Indian experience

Hem Raj Pal
Department of Psychiatry and National Drug Dependence Treatment Centre,
All India Institute of Medical Sciences,
New Delhi 110029, India

In her review, María Elena Medina-Mora addresses the issue of prevention of substance abuse from various perspectives. As she points out, psychosocial interventions remain the cornerstone of this prevention. Recent years have seen developments both in primary and in early secondary prevention. The latter focuses on individuals who have developed minimal or no complications related to drug abuse. Brief interventions, many of which are based on the FRAMES (feedback, responsibility, advice, menu of strategies, empathy, and self-efficacy) model (1), have shown promise, and their easy administration make them particularly attractive for use in the third world, where trained manpower may not be available.

In India, there have been many steps taken by various governmental and non-governmental agencies in the area of prevention of substance abuse. A major achievement has been the recent inclusion of information on substance abuse as an obligatory component of the school curriculum. On the demand side, the Ministry of Health and Family Welfare has established several de-addiction centers which are mostly based at the district hospital level: there are about 130 such centers spread across the country now. A Narcotic Drugs and Psychotropic Substances (NDPS) Act was passed in 1985 and amended in 1989. In 1999-2000, the Ministry of Social Justice and Empowerment, along with the United Nations Office for Drugs and Crime, undertook for the first time a major national study on the extent, patterns and trends of substance abuse in the country, a major component of which was a national household survey (2). This seminal study has become the basis for planning of substance abuse prevention and treatment strategies. An inter-ministerial collaborative effort has already been initiated.

Harm reduction has been discussed as a primary preventive strategy and may well be considered as a tertiary preventive strategy to reduce disability and dysfunction. In India, buprenorphine has been available as 0.4 and 2 mg tablets for almost a decade now and is being used for the maintenance treatment of opioid dependent subjects.

Substance abuse can be addressed at the individual level, at the local level (societal, national, etc.) and at the cross-national level. At the individual level, there has to be a synthesis of biological understanding with the exploration of background socio-cultural factors. In spite of the availability of services, their utilization is poor and the role of stigma and anti-stigma measures needs emphasis. At the national and cross-national level, there has to be a concerted effort of all the countries in managing the issue of substance abuse, taking into account the local socio-cultural and political scenarios.

References

1. Miller WR, Sanchez VC. Motivating young adults for treatment and lifestyle change. In: Howard G (ed). Issues in alcohol use and misuse in young adults. Notre Dame: University of Notre Dame Press, 1993:55-82.
2. Srivastava A, Pal HR, Dwivedi SN et al. National household survey of drug abuse in India. Report submitted to the Indian Ministry of Social Justice and Empowerment and the United Nations Office for Drugs and Crime, 2003.

Don't drink and drive: the successful message of Mothers Against Drunk Driving (MADD)

Nady el-Guebaly[1,2]
[1]WPA Section on Addiction Psychiatry
[2]University of Calgary Addiction Center, Foothills Hospital, 1403 29th Street, NW, Calgary, Alberta, Canada

Tremendous efforts are expanded to prevent the burden of psychoactive substance use on users, their families and society in general. Yet, globally substance use is growing due to changes in lifestyle, the erosion of powers of censure that have existed in traditional societies and an increased acceptance of such substances. In this commentary, I briefly analyze the ingredients of a successful targeted intervention in North America over the last 20 years against driving while under the influence of alcohol.

The high visibility of a focused consumer group. Since the late 1970s, one of the most visible grassroots organizations, Mothers Against Drunk Driving (MADD), had a significant influence in addressing the problems caused by drunk driving. Born from the grief of a mother, Candy Lightner, whose daughter was killed in broad daylight by a hit-and-run drunk driver whose record involved four prior drunk driving arrests, the organization started in California was soon to grow to several hundred chapters across North America (1). MADD not only fought for harsher penalties against drunk drivers, but developed a range of programs to assist victims in coping with their loss.

A legislative agenda. Since its inception, MADD has been successful in the enactment of more than 1000 new laws at both the local and national levels, including minimum drinking age, server liability laws and sobriety check points. A particularly effective measure was the production and dissemination of a widely published, annual comparative legislative "Rating of the States/Provinces". In fact, MADD appears to have exhibited a stronger influence than the Breathalyzer legislation in reducing drinking-driver fatalities. As an example, in Ontario, Canada, the formation of MADD was associated with a decrease in drinking-driving fatalities in the period between 1982 and 1996 ranging from 19% to 23% (2). While many changes have been introduced, a proposed reduction of the blood alcohol content (BAC) limit to 0.05 has not achieved a consensus so far.

Services for victims. Grief resulting from a drunk driving crash is not unlike that in which a family member is murdered. The loss is sudden and unanticipated, the death is violent, the crime is senseless. MADD membership fulfills the survivors' compelling desire "to do something", often after a draining courtroom experience. MADD chapters have also provided an opportunity to participate in a victim impact panel as part of driving while impaired (DWI) offenders programs with mixed published results (3). MADD membership reportedly results in a trend of gradually positive attitudes until approximately the 4th or 5th year of activism after which many members will cycle out of the organization.

Influencing social norms. Widespread youth and community programs have resulted in a modification of social norms, arguably the ultimate success in prevention. Drunk-driving "accidents" become "crashes caused by criminal negligence", altering a collective moral mentality. Random breath testing has also resulted in the promotion of "designated drivers" volunteers, whereby one person will elect not to drink to provide safe transportation for the remainder of the party. Free soft drinks will often be provided by the drinking establishment to this driver. This promotion acquires more mass media visibility around year end holidays. Introduction of these measures have had the uniform effect of reducing the incidence of offending drivers who drink over the prescribed limit. There also seems to be a dose effect, as the effect of the restriction appears to be sensitive to the number of random tests per licensed driver (2).

The availability of valid and reliable monitoring data. Alcohol being a legal substance in many countries allows for a degree of monitoring sophistication which is lacking in the study of most illegal psychoactive substances. Drunk-driving statistics provide an objective index of impact influenced by the changes in the availability of alcohol, particularly in countries where random breath testing is legislated and enforced. While clearly not every instance of intoxicated or disabled drinking is recorded, these statistics are a useful barometer of the influence of focused limits on the availability of alcohol on the drunk-driving environment (4).

In summary, the preventive efforts of MADD provide an opportunity to study the impact of a grassroots organization on improving targeted social norms for a licit substance.

References

1. Marshall M, Oleson A. MADDer than hell. Qualitative Health Research 1996;6: 6-22.
2. Asbridge M, Mann RE, Flam-Zalcman R et al. The criminalization of impaired driving in Canada: assessing the deterrent impact of Canada's first per se law. J Stud Alcohol 2004;65:450-9.
3. Polacsek M, Rogers EM, Woodall WG et al. MADD victim impact panels and stages-of-change in drunk-driving prevention. J Stud Alcohol 2001;62:344-50.
4. Hawks D, Scott K, McBride N. Prevention of psychoactive substance use: a selected review of what works in the area of prevention. Geneva: World Health Organization, 2002.