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# Heroin Addiction and Related Clinical Problems



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**HEROIN ADDICTION  
AND  
RELATED  
CLINICAL PROBLEMS**

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**EUROPEAN OPIATE ADDICTION TREATMENT  
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EUROPAD formerly EUMA was founded in Geneva (Switzerland) on September 26, 1994. It shall remain independent of political parties and of any government.

The object of EUROPAD is to promote, in the EU and elsewhere, the effective treatment of drug addiction, especially heroin addiction, in particular, but without prejudice to the generality of the foregoing:

- (1) to promote the development and acceptance of treatment with methadone and other prescribed medicaments (buprenorphine, LAAM, heroin, naltrexone) including long-term prescribing;
- (2) to enhance the provision and quality of services to drug abusers and their families, especially heroin addicts;
- (3) to promote a better understanding of methadone treatment by the general public and its elected representatives and officials;
- (4) to promote collaborative research and to provide a European research centre;
- (5) to work with the American Methadone Treatment Association to promote support for methadone treatment worldwide;
- (6) to promote good will and cooperation among the staff of methadone and other medical treatment services in Europe and elsewhere,

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# HEROIN ADDICTION AND RELATED CLINICAL PROBLEMS

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## CONTENTS

<b>Alcohol, benzodiazepines and other drugs use in heroin addicts treated with methadone. Polyabuse or undermedication?</b> <b>I. MAREMMANI, M. SHINDERMAN</b>	<b>7-13</b>
<b>What tells us Switzerland's Drug Policy? Switzerland: Drug Policy of Mountain Dwellers?</b> <b>A. SEIDENBERG</b>	<b>15-18</b>
<b>Methadone Treatment and spread of AIDS in Europe in the 1987-1992 years</b> <b>M. REISINGER</b>	<b>19-26</b>
<b>Adolescent Narcotism in Russia</b> <b>N.R. DINEEVA</b>	<b>27-34</b>
<b>The treatment of viral hepatitis in drug addicts</b> <b>J.M. GUFFENS</b>	<b>35-38</b>
<b>General Practitioners and Heroin Addiction. Chronicle of a medical practice</b> <b>A. MICHELAZZI, F. VECCHIET, T. CIMOLINO</b>	<b>39-42</b>



## **Alcohol, benzodiazepines and other drugs use in heroin addicts treated with methadone. Polyabuse or undermedication?**

**Icro Maremmani<sup>1</sup> and Marc Shinderman<sup>2</sup>**

### *Summary*

The authors, on the basis of their clinical experience, suggest that polydrug abuse in heroin addicts could be correlated with condition of opiate dependence improperly compensated by street heroin or by substitutive treatment dosages. Thus the search for an appropriate methadone dosage is crucial not only because it enhances patients' retention rate within the treatment group, so allowing an improvement in social rehabilitation, but also because it reduces the risk of polydrug abuse.

Key words: Methadone Maintenance - Polyabuse - Undermedication - Adequate Dosage

Pure heroin dependence is considered by many authors to be a phenomenon limited in time, which will eventually disappear, only to be substituted almost entirely by new forms of abuse, either involving heroin or other substances consumed in various combinations (especially alcohol and benzodiazepines). Some experts already distinguish between old and new forms of drug addiction, the latter referring to the irregular consumption of heroin, associated with or substituted by other drugs or illegal substances (2, 5). There seems to be little doubt that new substances are becoming subject to abuse, and in some cases new modalities of consumption of old substances are being established. On the other hand, it can be stated that this phenomenon has spread less, and that it has less significance, than many have assumed.

Drug addiction has long been considered a multi-factorial phenomenon and as such has been described in various pertinent but distinct disciplines. Sociology, psychology, biology, medicine and philosophy still dispute over their share of the problem. Thus the drug addict is defined according to the various disciplines as frail, deviant, delinquent, sick, or a misfit. From a practical standpoint, these conflicting views have mainly resulted in confusion and a lack of concrete intervention for drug addicts.

These cultural judgments, whose final outcome is an incorrect evaluation of the real

nature of the drug addict's disease, are partly due to a poor understanding of the phenomenon and partly to a lack of consideration of factors which have certainly influenced some of the changes which have occurred in the realm of substance abuse (8; 9). Much of the confusion and indeterminateness already exists in the evaluation of, and the nosographic classification of substance abuse disorders. With regard to DSM IV, this is very clear. All behaviour modifications which derive from the more or less continued use of substances which act on the CNS are included in this diagnostic category. These modifications include an incapability to suspend or control the consumption of the drug, the appearance of symptoms of an abstinence syndrome with discontinuation or reduction in the consumption of the drug, and compromise in social and professional spheres. Pathologically, drug abuse is distinguished from drug dependence. The term "abuse" refers to a condition characterized by a pathologic modality of abuse (of a drug or toxic substance) lasting at least two months, and by social and professional consequent to this pathologic use. The term "dependence", besides abuse, implies a physical dependence demonstrated by the presence of tolerance and an abstinence syndrome when consumption of the drug is discontinued. In addition, there must be recidivist behavior especially with respect to heroin addiction (1).

In fact, if one takes note of the histories presented by drug addicts who attempt rehabilitation, one of the most frequent and recurrent facts is that once a cycle of therapy is completed and detoxification achieved, there is a return to the use of heroin after a more or less brief period of time that varies from as little as a few hours to as much as a year or more. This can be observed even after the drug addict has gone to great pain and sacrifice, such that their motivation to stop cannot be questioned. It is even true of those who have an apparently well-developed personality. This tendency to relapse cannot be completely explained, either by environmental stimuli, or by the nostalgia for a well-defined state of pleasure experienced in the past.

The majority of drug addicts have a desperate desire to recover that springs from a sincere motivation. For many, it is a vital need for survival, such that it can be claimed, without a shadow of doubt, that they are psychologically oriented towards achieving abstinence. Even so, all this often ends tragically in relapse. This psychological dependence, in individuals, who have traveled down this long, hard road sometimes with great personal suffering, appears strange. Nor is it comprehensible that they could relapse only for reasons of nostalgia or because they have broken personal relationships or situations, or have forged new relationships or friendships with fellow drug abusers or addicts.

The behavior of heroin addicts has suggested that drug addiction is a true disease which manifests itself naturally, through a series of symptoms. Some of these are very evident and last only few days, during which they assume the striking character of an abstinence syndrome if use of the substance is abruptly discontinued. However, once these physical symptoms are resolved (and any physician is able to accomplish this in a few days), drug addiction persists and takes the form of a more serious symptom, recidivist behaviour. Therefore, the drug addiction does not only consist of that which

is easily observable, i.e. the abstinence syndrome, which in itself only lasts only for a few days, but of a more subtle factor that endures over time, a factor which is presumably of a biological nature.

Only this reason can explain the limited success of intervention directed at the abstinence crisis, particularly in the failure to produce long-term results. It is during this later phase that it can be said that the real disease state becomes evident, and is referred to by some authors as the “post-abstinence” or “secondary abstinence syndrome”. Following detoxification, the suffering of the drug addict persists as a strange nervousness, a suspicious intolerance to pain and, above all, an inability to function, that is, to carry out tasks that require even a minimal commitment. In detoxified rats, Martin et al. (10) have already observed a series of effects that range from decreased corporeal growth, to polydipsia, hyperthermia, an increase in basal metabolism and motor hyperactivity, as long as six months from the last dose. Possibly equivalent findings have been observed in man, including anxiety, depression and an irrepressible desire for the substance. This psychophysical dependence is strictly related to the endorphinergic system.

The initial hypothesis of Dole and Nyswander (3) – of an alteration of the system of endogenous opiates at the basis of many of the phenomena observable in drug addiction – seems to be confirmed by data emerging from studies undertaken in this field. As far as tolerance, dependence and the abstinence syndrome are concerned, there is indisputable evidence which confirms the involvement of the endogenous opiate system (4).

Drug addiction can therefore be defined as a syndrome produced by the chronic use of particular substances, called “substances of abuse”. Being a drug addict does not mean, however, simply having developed a need for a substance foreign to our own organism following prolonged abuse. If this were the case disease states due to hormonal deficiencies would produce analogous, if not homologous behaviour to that induced by alcohol or heroin, but neither the insulin dependent diabetic nor the hypothyroid patient demonstrate a compulsion for insulin or T3. Drug addiction is produced only by a class of drug (i.e. drugs of abuse), that have the common effect of stimulating one or more of the gratification centres of the CNS, so producing an intense pleasurable sensation in those who use the drug, in proportion to the dose administered.

Since the animal organism is structurally and functionally organized so that it is induced to repeat those behavioural responses which result in gratification, then the initial, even casual, use of a drug is often destined to be repeated, and can sometimes become habitual. The repeated stimulation of these centres produce tolerance, that is, a decreased response to stimulation of these centers by the drug and this difficulty in producing pleasure is also generalized to other stimuli which usually produce sensations of gratification by means of the same central mechanism. Therefore, a functional alteration of the system of gratification is produced, whereby the stimulation threshold rises, and in this way both the perception of the sensation of pleasure and the physiological correlates of this function are altered. The functional alteration of these centres constitutes the psychopathologic basis of drug addiction. This “metabolic

hypothesis” of heroin addiction also influences conventional thought on judicial and legal questions, the sincerity of patients, and the adoption of valid means to combat the phenomenon of heroin addiction.

If the first contact with heroin is almost always the result of an interaction between a possible consumer and a well-defined “market” mechanism (7), then, once the damage has been done, certain variables, on which the “common sense” or “will” of the individual have little influence come into play. Nearly always in the history of longstanding drug addicts, or when approaching youths who are in the “honeymoon” period with the substance, we hear them say that they are able to stop using the drug whenever they want. This is a very sad illusion, but, paradoxically, even the hardest consumers of opiates continue to believe this. Even public opinion continues to be convinced of this, and ends up by pushing these youths in the direction of short-term, resolute radical interventions based on the individual’s will-power. These persons, surely in good faith, do nothing more than encourage these youths to go around in circles like moths flying around a candle until their wings eventually burn.

Even concepts such as “polydrug addiction” and the “sporadic use” of substances influence judicial and legal evaluations of the phenomenon and the conditioning it causes. From the point of view of health services, the implementation of therapeutic programmes is characterized by a rapid detoxification and the use of drug antagonists of opiates.

Following a more or less prolonged period of dependence, the impossibility of obtaining the substance in sufficient quantities, or an awareness of his or her own psycho-physical conditions lead the drug addict to undertake attempts at detoxification, at first self-managed, and later by turning to social health organizations. At this point, the difficult path of recidivist behavior begins. The subject, who is often sincerely motivated, after expressing the sensation of “having reached rock bottom”, generally finds, in the response to his request for assistance, the adoption of rigid attitudes on the part of the personnel responsible for drug rehabilitation, which is oriented toward the rapid freeing of the individual from the drug and the initiation of psychological and social re-education programmes (Community or Psychotherapeutic Intervention).

Often, this leads to what is known as the “revolving door” phenomenon, a dramatic alternation of being on therapy, leaving it, relapsing, being arrested, hospital admission, return to therapy and so on. All of this does nothing but perpetuate the sensation of incurability that takes hold of the drug addict and produces a mistaken belief in others that he or she is incurable. It is in this period that the risk of death from overdose is greatest; in fact, in a drug-dependent subject during detoxification there is a progressive decrease in tolerance to opiates and, simultaneously, the appearance of an attraction to substances that lead very predictably to heroin use. Recourse to a dose equal to that taken during the period of tolerance can in this case lead to an overdose (6).

The importance of this phase may be dramatically underestimated if there is no therapeutic structure available to re-admit the patient to a new cycle of drug therapy. It is, in fact, diagnostic incompetence on the part of a clear majority of public service

employees, which, in an act taken in what is, in a certain sense, good faith, allows the perpetuation of the typical behaviour of the drug addict, leading straight to consequent relapse.

The patient, detoxified but not cured, will enter into a series of sporadic appearances at the centre, arrests, and successive but fruitless detoxification programmes, which make him seem like an irregular beneficiary of the services and, therefore, a disreputable individual who, if you like, deserves the therapy no more than the heroin. In most cases, therefore, that which is defined as the “new drug addiction”, is, in reality, the old dependence which has been incorrectly diagnosed; the outcome is that it is neither treated adequately nor for the appropriate length of time.

Inadequate treatment and responses occur, in fact, in the following situations:

- 1) When relapsing drug addicts are not accepted into therapy.
- 2) When drugs are prescribed to alleviate symptoms either alone, as happens for example, with benzodiazepines, neuroleptics and anti-depressives used in substitution, or in combination with more suitable programmes for chronic heroin addicts (metabolic drug addicts (6).
- 3) When low doses of methadone are utilized and/or in short-term programmes using methadone in decreasing doses in subjects who continue to use heroin sporadically.

The usual results of these therapeutic approaches is that the drug addict, who is accustomed to heroin, turns to the public health services, when he or she is already full of other substances used when heroin is not available, with veins that are already atrophied, suffering from viral hepatitis, in a nutritional state barely compatible with survival, HIV antibody positive, and, perhaps, with precursory symptoms of AIDS. Addicts usually find themselves talking to personnel who do not recognize that there is a medical problem, so that no treatment is offered.

This practice, which is not founded on objective findings, and negates scientific evidence, has determined the adoption of inefficient, short-term, low-dose programmes. It is almost as if the problem to be eliminated was not the abuse of illegal substances, but the treatment and the drugs used to help the addict break his habit.

The adoption of programmes using low dosages of methadone for short periods of time has not allowed us to take advantage of all of the pharmacological properties that this substance possesses. The outcome has been defective programmes that have to be continually supplemented with even more drugs, which, above all, fail to interrupt the subject's abuse of drugs.

The obsessive pursuit of complete abstinence, and, paradoxically, even of a cure, supported and favored by moralistic and political attitudes, have contributed to the spread of unusual practices among drug addicts, especially those involving the consumption of more than one drug simultaneously. The number of subjects under the care of public health services has been considered suitable for the recording of the course of the phenomenon of drug addiction. The fact that the lack of response to the needs of users has caused many of these to turn to the underground market as an alternative or

as an adjunct to health service programmes has not received due consideration. Thus many drug addicts, especially heroin addicts, do not go to centres, and this seems to be one plausible explanation for the discrepancy between official statistics on the increase in heroin abuse and deaths from overdose. Each aspect of drug addiction, if it is isolated from the context of the clinical syndrome as a whole, can be elaborated and magnified in such a way that it can mask the crucial point of the problem. An analysis of the asocial behaviours of the heroin addict demonstrates symptoms of a fragile, immature, insecure personality, tending towards narcissism or the confrontation of normal everyday reality in unreal terms. The many relapses in heroin abusers have resulted in the definition of the heroin addict as a person incapable of utilizing his own life experiences.

These symptoms, which are clearly related to the alteration of the centres of gratification and to the anguish associated with abstinence, can otherwise be interpreted as the traits of a personality that is becoming predisposed to the use of drugs. In this way, what actually happens is that the symptoms of addiction come to be regarded as its cause.

Likewise, sociological interpretations of these symptoms – that they are the reaction of a youth or immature adult to an alienating society, that the effects of this alienation are most evident on its weakest members, or that the manipulative and physically violent behaviour associated with drug addiction constitute traits of a violent and criminal nature that predispose to drug abuse – may be misleading. Thus what is apparently a purely medical problem assumes psycho-social, delinquent and criminal aspects which obfuscate the special nature of the drug addict's problem, which depends on a physician expert in drug abuse and the use of psychotherapeutic drugs. An analogous misconception can influence judgment on the affective disorders of the cocaine user, the anxiety and somatizations of those dependent on benzodiazepines, and the aggressiveness and/or liver cirrhosis of the alcoholic. The cultural aspects of abuse can, therefore, result in an incorrect clinical evaluation.

The poor application of treatment programmes could even lead to the belief that drug addiction itself is undergoing a process of transformation. The polydrug addict comes to be portrayed as a new type of drug addict, rather than the result of a self-therapeutic effort, in experiencing an already established heroin addiction, with an uncontrollable craving for opiates. But even in other European countries, and perhaps in the United States as well, where the treatment of chronic heroin addiction is at least considered a legal right, it may be that this same phenomenon is not so misunderstood, with the realisation that the great problem of cocaine use during methadone treatment depends, at least in part, on the situation described above.

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## **What tells us Switzerland's Drug Policy? Switzerland: Drug Policy of Mountain Dwellers?**

**André Seidenberg**

### *Summary*

Switzerland's drug problems became notorious, when 'needlepark' Platspitz and heroin trials made international headlines. Its mass of drug addicts and the dilemma they caused shook Swiss society. An overwhelming majority of the Swiss voted to make it legal to treat drug addicts with heroin. Drugs have threatened the independence and the liberal foundations of the Swiss federation. Drug problems still threaten all that.

Only in 1951 Switzerland did accept the international ban on psychoactive drugs, joining the US-inspired international war on drugs. Switzerland punished very large numbers of drug law offenders, and there are few other countries where more than 60 per cent of all prison inmates are drug cases.

In Switzerland offers of drug-free treatment can attract no more than a small proportion of its junkies, and even methadone only reaches a minority of heroin addicts. Nearly half of the opioid addicted Swiss are treated, mainly by means of methadone. Less than 3% are on a heroin-based treatment. Sustained treatment is the best way to reduce harm and risks through drugs. So, for instance, over the last 10 years, the HIV infection rate among drug addicts has dropped by over 80% in Switzerland. Heroin belongs to the medical palette comprising prescriptions of opioids.

Key words: Heroin Addiction - harm reduction - heroin as treatment - public health

Switzerland's drug problems became notorious, when 'needlepark' Platspitz and heroin-trials made international headlines. The mass of drug addicts and the dilemma they caused shook Swiss society. An overwhelming majority of the Swiss voted to make it legal to treat drug addicts with heroin. Heroin addicts who failed with other treatments could then satisfy their daily need for heroin without stealing, without becoming

prostitutes and without risking their lives. How come that this small, narrow country set among the central mountains of Europe should have sought a unique, innovative way to cope with an international problem?

For 150 years, although it is situated at the heart of unstable and belligerent Europe, Switzerland has been the only country whose democracy and liberty have had an uninterrupted history of peace and independence. Since 1848, when Switzerland copied many of the positive aspects of the United States constitution, it has withstood many sinister changes in nearby countries. Although a tiny country with only 7 million inhabitants, it has four official languages and many more profoundly different cultures. Even though good and bad foreign influences have reached the 25 federal cantons of Switzerland, they only become absorbed after scrupulous consideration. This prickly and tenacious country is not in the EU and is not even a member of the UN. All important public issues, laws and changes to the constitution are submitted to all its citizens for a popular vote. Switzerland moves at its own pace. Only in 1971, did it become the last European country to allow women to vote and be elected to office. Yet, conservative as this may seem, it was the only country which made this step by the democratic will of the people, by universal suffrage offered to all Swiss men and all 25 federal cantons. There was a bitter taste of defeat on the open field of the voting assembly for the mountain dwellers with their girded swords.

Drugs have threatened this independence and the liberal foundations of the Swiss federation. To protect and preserve itself against foreign threats and inner dismemberment, it has always been important for Switzerland to integrate all its inhabitants by accepting them and giving them a place in society. Swiss precision and high standards of organization allow very little tolerance towards outsiders. There are no niches with a low degree of order. Everywhere the application of the law is liberal but very strict. Drug problems threaten all that.

Only in 1951 did Switzerland accept the international ban on psychoactive drugs, joining the US-inspired international war on drugs. Switzerland adopted foreign standards of law enforcement against drugs and, serious as they are, the Swiss started to enforce what was probably the most stringent repression on drugs. Until the end of the sixties the battlefields burned far away. Illegal drugs were something exotic and hardly anybody knew a consumer.

Times changed and in the seventies the number of drug addicts grew steadily; terrible stories and the first death casualties horrified the public in newspapers and on TV. Despite all the prevention campaigns in schools and the media, despite a rapidly growing number of enforcement agents in the police forces and despite the rapidly growing number and range of therapeutic treatments being offered, problems with drugs could no longer be hidden and became a public sore point and a threat.

In the late eighties and early nineties, more than 2000 drug consumers gathered everyday in Platzspitz, the 'needlepark', a few metres away from the wealthy centre of Zurich. The drug scene was a place full of foul-smelling trash, crowded with hundreds of junkies moving around, shooting heroin, cocaine and speedball. Figures of misery,

their skin covered in coin-shaped lesions, mixed with well-dressed drug addicts on high salaries working in banks and hundreds of dealers originating from civil war countries further east. A horrible crowd pushed by the police back and forth from one side to the other. All of this spilled into the whole of the inner city.

The police used rubber bullet guns and gas to clear the public places and streets, while military forces helped to guard the dealers in jails. The Zurich police now run a specialized prison-clinic whose only aim is to displace suspected drug consumers who are not city residents. After its expulsion from the Platzspitz park, the horrible bazaar assembled on the Lettensteg bridge over an abandoned railway station located close to the inner city. Police forces and the capacity of all prisons were simply overwhelmed.

For many years Switzerland has spent more money on law enforcement against drugs than any other European country – per capita even more than the USA. Switzerland punished very high numbers of drug law offenders and there are few other countries where more than 60 per cent of all prison inmates are drug cases.

Finally Swiss society became exhausted and reached its limits. Its liberal foundations and common wealth seemed to be threatened. Legal guarantees to all citizens could no longer be maintained. The war on drugs was lost over and over again. No prevention was effective. Of all those born in one year, one or two per cent become long-term opioid addicts; in the free world there is no way to change this. Offers of drug free treatment can attract no more than a small proportion of the junkies and even methadone only reaches a minority of heroin addicts. This was no longer acceptable. Despite all efforts and all the measures taken, difficulties with drugs remained out of control. New methods and strategies became necessary. Heroin prescription could make an important contribution to this.

Along with the reinforcement of repressive measures Switzerland developed treatment and care without the obligation to become drug-free first. Since 1994, as requested by the Swiss Federal Office of Public Health, roughly 1000 heroin addicts were treated within the framework of a broad scientific trial in 16 clinics. The prescription of heroin improved the physical, psychological and social condition of most of the highly conspicuous patients. Although the average patient had been addicted for 10 years, each rejoined normal life in society. They started to pay off their debts and look after other legal matters. In cases where, before treatment, their occupation was hustling for drugs, they learned how to structure a normal day and existence. Only one third remained unemployed. Prostitution was no longer necessary. The criminality rate fell to one quarter of the previous level. Police officers and ordinary staff changed their minds as a result of the experience and became enthusiastic about the heroin-based treatment. Numerous pharmaceutical compounds have been investigated, but no one proved to be effective against human addiction to cocaine. Yet, with the prescription of heroin, most polydrug addicts stopped illegal cocaine consumption. One can now make a scientifically tenable statement: There is no better measure or treatment for reducing the criminality and cocaine consumption of heroin addicts than the medical prescription of heroin.

Nearly half the opioid-addicted Swiss are treated, mainly by means of methadone. Less than 3% are on heroin-based treatment. Sustained treatment is the best way of reducing harm and risks due to drugs. So, for instance, over the last 10 years, the HIV infection rate among drug addicts has dropped by over 80% in Switzerland. Annual death casualties caused by overdoses have fallen from 400 to 200 since 1994.

Several of the properties of heroin seem to make it the best medication for opioid addicts who cannot be treated by other measures. Heroin even lacks some of the side-effects of other opioids like methadone or morphine. For instance, methadone causes a steady state of feelings, whereas heroin allows a variation of sensibility during the course of the day; in addiction, heroin rarely causes a rash or edema through a histaminic reaction, which is often experienced with high doses of injected morphine. After the Swiss heroin trial it has become evident that, even if it is not the solution, it is certainly a promising means for change. Heroin belongs to the medical palette comprising the prescriptions of opioids.

We are not talking about a 'release of drugs'; hardly anything is as free as illegal drugs these days, anyway; state quality control covers practically all legal consumer goods. A medicalized marketing regulation for drugs has to guarantee that risks and problems will be kept to a minimum. Drugs under the supervision of doctors will help to achieve lower risks for addicts and adjustment to the needs of the whole of society.

André Seidenberg is a general practitioner in Zurich and a pioneer who was a moving spirit in Swiss drug policy. He guided the abolition of needle and syringe exchange prohibition in Switzerland in the mid-eighties. He built up the first low threshold methadone maintenance clinic in Switzerland, and began to meet the need for a methadone-based treatment. He proposed the Swiss heroin trial and was the head of the first clinic to be involved. He designed and developed computerized prescription and dosing systems for opioids. He is a member of the safety assurance group of the Swiss heroin trial (PROVE-Project). He is also the author of a manual for the day-hospital treatment of opioid addicts with methadone, heroin and other opioids, and has worked for the Swiss federal office of public health.

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## **Methadone Treatment and spread of AIDS in Europe in the 1987-1993 years**

**Marc Reisinger**

### *Summary*

All the data currently available seem to indicate that the fact that the availability of methadone treatment was limited may one day be seen as an inexcusable error of judgement, which will cost the lives of hundreds of thousands of people and wreak havoc on the health care budgets of several European countries

Key words: Methadone Maintenance - AIDS

### **More AIDS cases diagnosed among drug users than in any other group**

Since 1991, intravenous drug users (IDUs) constitute the most numerous category of new AIDS cases in Europe. More than 40 percent of the AIDS cases diagnosed in the twelve European Community countries during 1992 were IDUs. At this time, 31,000 AIDS cases had been diagnosed among the IDUs in the twelve EC countries. And this is only the tip of the iceberg. The actual extent of the AIDS epidemic depends on the number of people who are seropositive. Unlike the number of AIDS cases, this figure cannot be determined at present. However, it can be estimated that the number of HIV-positive drug users is between 300,000 and 500,000.

There is another essential fact to be taken into account: the most significant increase in numbers of AIDS cases is that among IDUs. For several years now, AIDS has been first and foremost an illness affecting drug users ; this tendency is bound to increase in the years to come.

### **Differences between European Countries**

The extent to which AIDS has spread among drug users varies widely in the twelve European Community countries, as shown in Figure 1. The cumulative rates of

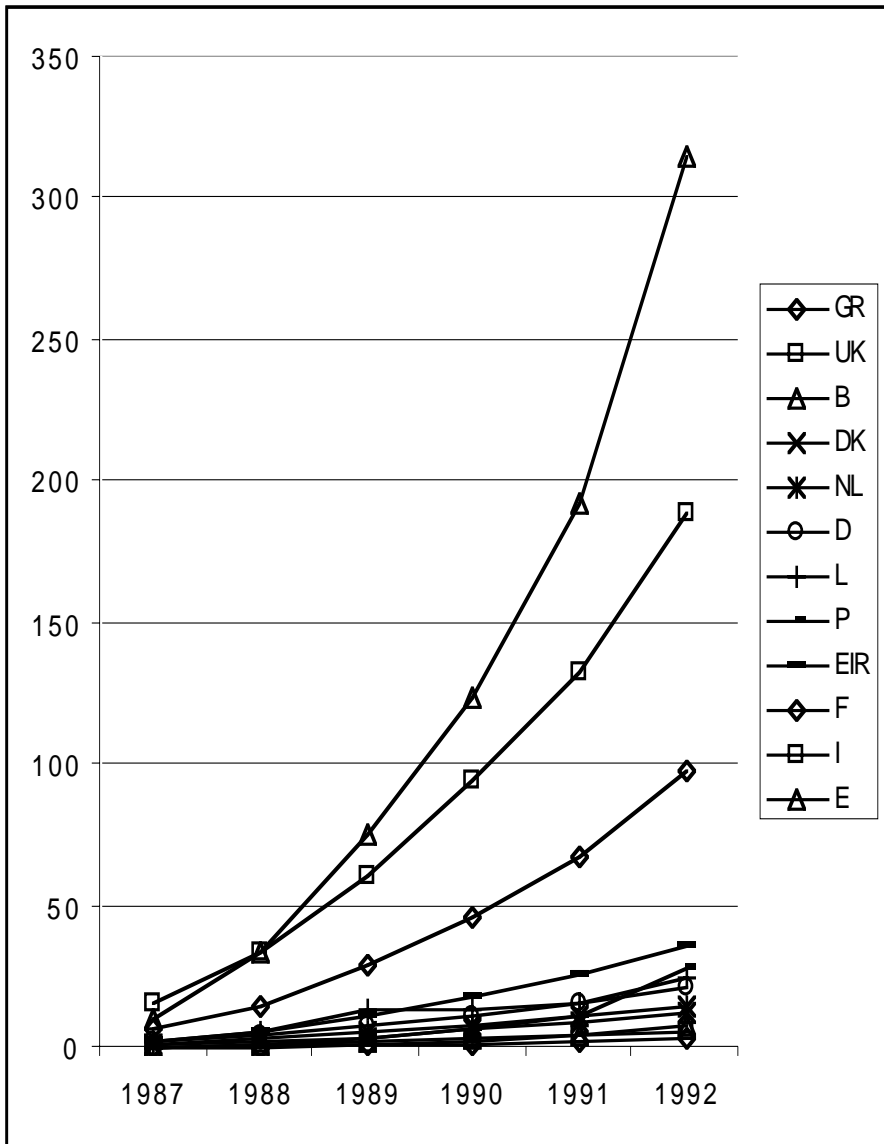


Fig. 1. AIDS cases in the IDU transmission group (rates per million population)

HIV-infected intravenous drug users ranges from 3 to 315 per million population, with a variation of 1:100 in the ratio.

In examining this diagram, one cannot but wonder what the causes of these variations in numbers of AIDS cases among IDUs in the EC countries might be. The differences in the numbers of IDUs in each country are not sufficient to account for the differences in the number of IDUs infected with AIDS. Moreover, the date when the AIDS epidemic emerged is about the same in all these countries. Thus, this factor alone fails to explain the divergencies in the evolution of HIV infection among drug users.

This leads one to wonder if these differences might not be due to the way in which drug users are treated within the various EC countries. This hypothesis has been advanced but not yet confirmed, perhaps because it has never been tested in a systematic way (7, 2, 3). Research in this field tends to concentrate on IDUs' behaviour rather than on the way they are treated. IDUs' reactions towards AIDS prevention campaigns, sterile syringes and treatments seem to be rather similar from one country to another. On the other hand, over 90 per cent of the AIDS cases among drug users are found in three countries: France, Italy and Spain, which account for just 45 per cent of the population of the European Community. Is this disproportionate share related to differences in the availability of methadone treatment in the twelve EC countries? That is the question that will be addressed in this paper.

Comparisons at national level reveal meaningful differences in the percentage of IDUs being treated with methadone in each EC country. In Italy, methadone treatments are for the most part extremely brief detoxification treatments, which cannot have a lasting influence on the behaviour of IDUs. That is why we only considered the number of patients in Italy who undergo methadone treatment for over 60 days (approximately 10% of the total number of patients receiving methadone).

An objection raised against efforts to establish a link between methadone treatment and AIDS among IDUs is the fact that the number of AIDS cases diagnosed does not give a true picture of the actual extent of the epidemic, which depends, rather, on the number of seropositives. Unfortunately, statistics on seropositivity are generally insufficient. This makes a valid comparison among countries impossible.

AIDS cases, on the other hand, are recorded much more systematically, so allowing a valid assessment of the extent of HIV infection after 7 to 10 years have elapsed. Thus, the prevalence and incidence of AIDS cases among IDUs in 1990, 1991 and 1992 illustrate the spread of the virus at the beginning of the period 1983-1990, which is the crucial period for the AIDS epidemic among IDUs in Europe.

It is possible to analyze the epidemiological data and to formulate hypotheses as to a possible link between the spread of AIDS and methadone treatment. Current statistics on the prevalence and incidence of AIDS among IDUs in the European Community make it possible to distinguish three groups of countries (see Table 1).

**GROUP I:** Countries with a high prevalence of AIDS among IDUs (over  $\pm$ 100 cases per million inhabitants): Spain, France and Italy.

**GROUP II:** Countries with a low prevalence (less than 50 cases per million inhabitants)

but a rising incidence (an increase of over 50 per cent in cases between 1990 and 1992): Ireland and Portugal.

**GROUP III:** Countries with a low prevalence and a stable incidence (an increase of less than 30 per cent in cases between 1990 and 1992): Belgium, Denmark, Netherlands and the United Kingdom. Greece and Germany also belong to this group. We will see later why they do not appear in the Table.

In 9 out of 11 countries (Luxemburg was not taken into account due to its very small population) the differences in the prevalence and incidence of AIDS among IDUs can be related to the percentage of IDUs undergoing methadone maintenance treatment. During the 1980's, the countries in GROUPS I and II – with a high prevalence or rising incidence – had a methadone maintenance treatment capacity sufficient for only 0.05 to 3 percent of the IDUs. The difference between the high prevalence in the GROUP I countries – France, Italy and Spain – and the low prevalence in the GROUP II countries – Ireland Portugal – could perhaps be accounted for by the fact that HIV penetrated the drug user communities of the latter countries later. Whatever the case may be, the situation in both groups of countries is alarming, in terms of the large number of drug users who are ill with AIDS, or in terms of the significant spread of the virus. The GROUP III countries – with low prevalence and stable incidence – had available methadone maintenance treatment for 15 to 30 percent of the IDUs. The situation in these countries in terms of the AIDS epidemic among IDUs can be said to be under control.

Thus it appears that, of these 9 countries, those having only limited methadone maintenance programmes have a serious problem in terms of AIDS among IDUs, while those who had well developed programmes for such treatment have succeeded in limiting the spread of AIDS among IDUs under control.

Two EC countries do not conform to this thesis. In Greece, the prevalence and

Table 1. Methadone Treatment and spread of AIDS

	AIDS Cases among IDU		% of IDU in Methadone Treatment	Country
Group 1	High Prevalence >100 cases per million inhabitants		.05-3%	FRANCE ITALY SPAIN
Group 2	Low Prevalence <50 cases per million inhabitants	High Incidence growth rate >50%		IRELAND PORTUGAL
Group 3		Low Incidence growth rate <30%	15-30%	BELGIUM DENMARK NETHERLANDS U.K.

incidence of AIDS among drug users is very low, yet there is no methadone treatment there. However, Dr. Malliori has shown that the very low percentage of HIV-infected drug users in Greece is probably due to the fact that the HIV virus has not yet penetrated the Greek drug user community, which is isolated from the rest of Europe (6). Indeed, Greece has no common borders with the other EC countries and Greek drug users, who are generally quite poor, travel abroad very little.

In the case of Germany, too, the low prevalence and stable incidence of AIDS among IDUs cannot be explained by the availability of methadone maintenance programmes. Such programmes were implemented only in 1987-88 and are still quite limited in terms of capacity. Yet the HIV virus appears to have penetrated in Germany at about the same time as in neighboring countries. The situation in Germany can perhaps be explained by a well-developed AIDS prevention campaign and programmes for syringe exchange. It could also be interesting to evaluate the influence of maintenance treatments using codeine, which is prescribed in certain regions of Germany, as well as the number of German IDUs who obtained methadone in the Netherlands.

In any case, in most of the EC countries, it is possible to observe an inverse relationship between the progression of AIDS among IDUs and the development of methadone maintenance treatment. While this is not sufficient to establish a cause-and-effect relationship, it does make it legitimate to wonder if such a relationship exists – all the more so because a growing number of clinical observations point to the preventive role of methadone maintenance treatment with regard to HIV infection among heroin users (1).

Syringe exchange programmes also play a role in preventing AIDS among IDUs. Indeed, the three EC countries that have the highest percentage of IDUs in methadone treatment – Denmark, Netherlands and the United Kingdom – are also those (besides Germany) where extensive syringe exchange programmes have been developed. Is it possible, then, to determine the respective impact of syringe exchange and methadone on the risk of HIV infection? In this perspective, it should be recalled that syringe exchange programmes were developed many years after methadone programs in those countries. The first syringe exchange programmes were implemented in the Netherlands at the end of 1984, and in Denmark and the United Kingdom in 1986-87. Given 7 to 10 years that elapse between infection with HIV and the appearance of AIDS symptoms, syringe exchange programmes can only have had a limited impact on the incidence of AIDS among IDUs. On the other hand, the widespread use of methadone treatment in Denmark, the Netherlands, and the United Kingdom dates back almost fifteen years back – to around 1978 – and has thus had the time to influence the incidence of AIDS.

In any case the relative importance of methadone treatment and syringe exchange in preventing AIDS among IDUs is a rather academic question. From the standpoint of public health, if these two measures prove effective, efforts should be made to develop both simultaneously, and to the maximum extent, rather than choosing between them, as is still often the case.

### **The supply of methadone treatment is inferior to the demand**

In all countries of the European Community in 1993, the percentage of IDUs receiving methadone treatment was relatively low: between 0 and 30 percent. Many countries increased the number of methadone treatments available. Nonetheless, the supply is less than the demand on the part of IDUs. There are still waiting lists to join programmes. In several countries, IDUs have submitted petitions and organised demonstrations – for example in Berlin, Paris and Porto – to demand the expansion of such programmes.

The limited supply of methadone treatment is due to many factors. The main obstacle is of a legislative nature. Greek law prohibits all treatment except detoxification and that provided by therapeutic communities. Until the referendum of April 1993, Italian law (as well as regional applicative measures) imposed strict conditions on the provision of methadone and prohibited doctors in private practice from using such treatments. The Spanish law of 1985 put a stop to methadone treatment, which was just beginning to be used there. Between 1985 and 1986, the number of drug users being treated with methadone decreased from 5000 to 1000, and it was not until five years later that the number of patients returned to its initial level.

The attitude of specialists in the field of drug abuse also plays an important role in limiting the availability of methadone treatment. For example, since 1987, a «drug-free philosophy» shaped Portugal's system for treating drug users (4); there had, however, been an alarming increase in the HIV seropositive rate among IDUs. The dominant philosophy of French specialists in the field has also prevented methadone from being considered a bona fide therapy, rather than a treatment still in the experimental stages.

In general, the medical profession is not very enthusiastic about treating drug users, who are difficult patients, especially if they have reached a point of advanced social marginalisation. Moreover, both law-makers and medical organisations have taken it upon themselves to impede those who seek to treat drug addicts with maintenance medication. This has occurred in Belgium, Italy, Germany, Ireland and other countries.

In addition to these obstacles, there is also the negative attitude of pharmacists who are sometimes responsible for the administration of methadone prescriptions, but who are often inadequately informed about it. Public hostility to the setting up of drug addiction treatment centres also impedes the use of methadone treatment, as is the case in Dublin, for example.

How is it that the availability of methadone treatment is kept systematically lower than the demand? The most radical means to achieve this end is to prohibit methadone, as is done in Greece. Another method used is to restrict methadone as an experimental treatment. This has been the case for 20 years in France, where the total number of patients being treated with methadone was 52 until 1993. There were strict quotas in several other countries, such as Luxemburg, where only 25 addicts were admitted to methadone treatment. In Germany methadone was reserved exclusively for HIV-positive addicts, as it was in Edinburgh before 1988, where there were cases of

IDUs infecting themselves voluntarily in order to be treated (Mordaunt J., Communication at the Fourth International Conference on the Reduction of Drug Related Harm, Rotterdam 14-18 March, 1993). Another means resorted to consists of imposing limits on the duration of the treatment and the doses supplied, as happens on a wide scale in Italy. Establishing rigid rules and regulations for methadone programs is another method used to limit the demand (and thus the supply) of such treatments. The waiting list, registration formalities, procedures for daily provision of methadone doses, the fact that one must turn to an institution instead of one's own doctor, the imposition of urinalysis under surveillance, the exclusion from treatment in the case of a relapse – all these measures have the effect of putting off those who would otherwise seek treatment.

### **Conclusion**

Can this situation be considered acceptable ; more precisely, should it be denounced as an inadmissible refusal to provide treatment to people who need it? Are we to await definitive proof of methadone's positive role in preventing AIDS among IDUs, before increasing the availability of that treatment until there is enough to satisfy the demand? It should not be forgotten that scientific «truths», unlike religions ones, must, by their very nature, be considered temporary; it is therefore senseless to wait for some «ultimate truth» to be revealed before taking action.

Is it not the duty of public health officials to place their bets on what appears to be the most reasonable and humane course of action, based on existing knowledge? The question today is: what is riskier, to treat drug users with methadone or not? All the data currently available seem to indicate that the fact that the availability of methadone treatment was limited may one day be seen as an inexcusable error of judgement, which will cost the lives of hundreds of thousands of peoples and wreak havoc on the health care budgets of several European countries (5).

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## **Adolescent Narcotism in Russia**

**Nelly Rod Dineeva**

### *Summary*

Part I. In Russia, units of narcological dispensaries for adolescents are the basic organizational structure conducting treatment and prophylactic work with adolescents who consume alcohol, drugs and toxic substances. Over a five-year period, the incidence of drug-addicted adolescents rose to 13 times the 1992 level, when 4.5 per 100 thousand adolescents were registered. In 1996, 3891 adolescent drug addicts were counted, corresponding to 59.8 per 100 thousand adolescents. The group of adolescents using spirits is the largest – 4067 people, The group using toxic substances is the second largest, comprising 1118 patients. The third largest group, with 914 subjects, consists of drug addicts and patients who consume drugs. Their number is 914 subjects. Consumers of “strong” drugs are adolescents in the 16-18 age who have been hospitalized with a non-remissional history of drug addiction, or with only short-term periods of abstinence from using drugs.

Part II. In order to set away from settled conceptions, an attempt has been made to treat the assessment of the prevalence of narcomanias and toxicomanias from the point of view of social rather than exclusively medical factors connected with them. As predictors of narcomanias we considered medical, socio-economic, demographic, cultural, physical training and sports indices. As a result, it was established that the prevalence of narcotism depends on 4 basic indices, as follows: (1) the specific gravity of group B production (i.e. the production of means of consumption); (2) wages per family member per month; (3) average number of square meters in the dwelling-place per inhabitant; (4) the number of those working in the non-production field.

**Key Words:** Epidemiology/ Narcological dispensaries for adolescents/Indices of prevalence of narcotism

## **PART I**

In a modern, swiftly changing social and economic reality, there is a growing request for the adaptational abilities of psychology. An increasing frequency of usage, especially by adolescents, of alcohol and psychoactive substances producing a stress-protective effect is observed; this is associated with a desire to make it easier to adapt to a pathogenic reality. Adolescents have turned out to be the most vulnerable link in the population, partly due to an unstable, developing personality structure. Beside this, they can do anything they like, they have access to videoproduction, and they imitate; there is a change in value orientation and a lack of ideals, which are the reasons and conditions that attract adolescents to addictive groups.

Units of narcological dispensaries for adolescents are the basic organizational structure conducting treatment and prophylactic work with adolescents who use alcohol, drugs and toxic substances.

In Russia, according to the data reported, over a five-year period, the incidence of drug-addicted adolescents rose to 13 times the 1992 level, when 4.5 per 100.000 adolescents were on the books. In 1996, 3891 adolescent drug addicts were counted, corresponding to 59.8 per 100 thousand adolescents.

The number of children with an initial report of drug addiction grew by 60%, while those with a first report of toxicomania rose by 73% (Y.A. Koshkina, 1998).

According to the questionnaires received from 26 regions of Russia in 1995, 6099 adolescents in the 8-18 age group of were on the books; 5358 (87.85%) of them were males and 741 (12.15%) females. The male/female ratio was 7.2:1.

The clinical-nosological characteristics of the group were as follows:

- single episode, episodic and systematic forms of alcohol usage and alcoholism – 66.7%;
- various forms of toxic substance use and toxicomania – 18.3%;
- all forms of drugs usage and drug addiction – 15.0%.

The following specific gravities of the channels by which adolescents are sent to narcological units were detected (Table 1).

In accordance with the data presented in Table 1, the basic efforts of experts in adolescent narcology are directed at cooperation with Inspection and Commission for the Underaged. Thus, experts in adolescent narcology have prophylactic surgery hours at militia offices on fixed days and participate in sessions of Commissions for the Underaged. Besides, on their own initiative district militia officers send adolescents with addictive behaviour to narcological units for examination and interview. In all, 18.6% of adolescent patients come from the Inspection for the Underaged and 16.4% are sent by the Commission for the Underaged. The proportion of adolescents who see a doctor at their parents' request in connection with uncontrolled behaviour, i.e. absence from lessons, disobedience and idle pastimes involving the use of psychoactive substances, makes up 15.7%. Taking medical advice at his/her own request is observed in only 14.2% of cases, including referrals from schools. These are mainly adolescents from successful families with a socially high orientation, involved in the causal use of alcohol, drugs, or toxic substances. The percentage of adolescents coming from vocational training schools is a little lower – 13.4%. They are usually sent to narcological

Table 1. Channels of Revealing Adolescents

	N	%
Inspection for the underaged	25	18.6
Commission for the underaged	22	16.4
At the Parent's Request	21	15.7
At His/Her Own Will	19	14.2
Schools	19	14.2
Vocational Training Schools	18	13.4
Colleges	10	7.5
In All	134	100.0

units after prophylactic discussions and examinations on the spot. As a rule, individuals attending colleges consider themselves grown-up, and are characterized by doing anything they like in all forms of conduct, including the use of drugs and alcohol. Therefore, the specific gravity of the above-mentioned channel is the lowest – 7.5%, but adolescents from colleges consult a doctor when they already have a formed drug addiction to be seen. Another way of identifying adolescent users of alcohol, drugs and toxic substances are therapeutic-prophylactic institutions – general and specialized, sobering-up and traumatic stations, military registration and enlistment offices.

According to the data collected, the group of adolescents using spirits is the largest – 4067 people, the number of males being 3504 (86.2%) and females 563 (13.8%). The male/female ratio among adolescent consumers of alcohol is 6.2:1.

Out of the total number of individuals with single episode, situational, episodic and systematic forms of using alcohol of various degrees of strength, 98.4% (4003) are on the books in the prophylactic registration group. The dispensary group contains 64 (1.6%) adolescents.

Adolescents in the prophylactic group are characterized by having first tried alcohol in the form of beer, champagne, liqueur and, later, wine and vodka in the referential group. Frequently, having no knowledge of life, adolescents are arrested in a state of intoxication by militia officers near stalls, in basements, porches, garrets or forest belts. Such adolescents behave like hooligans, stealing citizens' personal property or manufactured goods and foodstuffs from counters in market-places, after which later criminal proceedings may be initiated against them.

Adolescents who have entered the dispensary group chiefly use strong spirits – vodka or cognac. Their behaviour is more brutal, showing the symptomatology of chronic alcoholism of the 1st and 2nd stage. Such patients have already undergone an in-patient course of treatment. They may commit grave crimes, such as assault and battery, murders or highjacking.

The group of adolescents using toxic substances has gained the second place in absolute terms – 1118 patients. The number of males amounts to 1015 subjects (90.8%), females – 103 subjects (9.2%). The male/female ratio is 9.8:1.

Among adolescents using toxic substances, the largest group is the group of those registered at the dispensary (14.9%), i.e. individuals who have been hospitalized repeatedly, and who have an already formed structure of mental and physical dependence on a toxic substance. In them, alongside a preference for a particular toxic substance, a situational usage of alcohol, medicines, and marijuana smoking can be observed.

The prophylactic group consists of 951 subjects (85.1%). They are adolescents with single episode, episodic and systematic forms of substance usage. This group contains males as young as 8; their first negative experience started with the use of a toxic substance.

Of all the substances used by patients with toxicomania 76.8% are technical liquids and household chemical goods. As to the frequency of usage, “Moment” glue occupies first place – 32%. Then comes toluol and solvents NC-646 and NC-647 – 30.2%. The share of other substances is much smaller: benzine – 17.0%, acetone – 9.4%, nitro-varnishes and nitro-paints – 3.8% each, tar and floor-polish – 1.9% each accordingly.

57.8% of all the possible ways of usage fall on those who sniff household chemical goods.

The non-medical use of medicines by adolescents makes up 23.2%. Half of the medicines are tranquillizers (relanium, reladorm, elenium, tazepam, nozepam, mezapam). 12.5% are cholinolytics (parkopan, cyclodol), 12.5% are barbitals and soporifics of other chemical groups. This leaves dimedrolum, nitrous oxide, haloperidol and atropine, each of which is taken by 6.25% of the group. In 22.5% of cases medicines are administered per os (among of possible ways of usage).

In other words, the spectrum of the employed substances with non-medical aid is extremely wide. The choice of the substance depends not only on the group involved, and its leader, but also on the accessibility and price of the substance itself and the financial resources of adolescents.

In absolute terms, the third-ranking group comprises 914 drug addicts and drug consumers. Among them 839 (91.8%) are males and 75 (8.2%) are females. The male/female ratio is 11.2:1.

The prophylactic group consists of 826 people (90.4%) and the dispensary group includes 88 subjects (9.6%).

In the prophylactic group there are adolescents with single episode, episodic and systematic forms of drugs usage. Irregular, mixed, unstable, and polydrug forms of use male up 1.3% out of the total number of drug users. Adolescents' use of drugs starts with “mild” cannabis, marijuana in the form of inhaling “Pionerik” cigarettes (cigarette-paper filled with marijuana), rarer “Kosyak” cigarettes (emptied “Belomorcanal” cigarette is then filled with a mixture of tobacco and marijuana).

At a later age adolescents situationally move on to “strong” drugs – hashish, opium, morphine and ephedron.

Out of the total number of drugs used, 67.0% involve hemp derivatives. Opium drugs are in second place – 20.3%, of which 16.5% is home-made *ex tempore* “*chernukha*”. The share of morphine is substantially smaller – 3.8%.

The psychostimulators ephedron and pervityn made from medicines are used by 11.4% of drug addicts.

Consumers of “strong” drugs are adolescents in the 16-18 year age group who have been hospitalized with a non-remissional history of drug addiction, or with short-term periods of abstinence from using drugs (2 weeks – 1 month). They belong to group that has registered at the dispensary.

During the questioning of adolescents in April, 1998, each of them named between 38 and 58 adolescents who use drugs. In other words, there is currently an epidemic of adolescent narcotism.

The primary form of cannabis usage is smoking, sometimes with the addition of medicines (13.4%). The opium group of drugs comprising morphine, “*chernukha*” and ephedrin derivatives – *vint*, *pervityn* and ephedron – is administered *i.v.* (6.3%).

In accordance with the regulatory documents, all the drug addicts and drug consumers are examined for HIV and their blood is tested for RW. In this connection, positive RW was found in two adolescents. All of them showed a negative HIV-reaction. During individual questioning adolescents reported, that they used disposable syringes.

The present paper specifies the general characteristics of the contingent of adolescents who have registered with the narcological units of 26 regions in the Russian Federation. The ways in which the contingent is formed, and the basic clinical-nosological spectrum of diseases connected with the dependence syndrome are both shown, as well as the spirits, toxic substances, and drugs preferred by adolescents and the main methods of usage.

## **PART II**

In order to get away from settled conceptions, an attempt has been made to treat the assessment of the prevalence of narcomanias and toxicomanias from the point of view of social rather than exclusively medical factors connected with them.

Out of a large number of indices characteristic of the prevalence of narcomanias and toxicomanias, 26 were chosen according to expert criteria; 7 of these were attributed to the medical group (I). Socio-economic (II), demographic (III), cultural (IV), physical training and sports (V) subgroups were identified on the basis of paramedical indices. Subgroup I – Medical indices: Budget funding dedicated to public health care. The number of experts in narcology per 10.000 inhabitants. The number of narcological beds per 10.000 inhabitants. The number of registered drug addicts per 100.000 inhabitants. The number of registered patients with toxicomania per 100.000 inhabitants. The number of patients with first registered narcomania and toxicomania per 100.000 inhabitants.

Subgroup II – Socio-economic indices: Percentage growth rates for the national with respect to the previous year. Wages per family member per month. The number of

square metres in the dwelling-space per inhabitant. Specific gravity of group A production (i.e. production of means of production) and group B production (i.e. production of means of consumption). Specific gravity of those who work in production and non-production fields.

Subgroup III – Demographic indices: The death ratio per 1000 inhabitants. The number of marriages per 1000 inhabitants. The number of divorces per 1000 inhabitants.

Subgroup IV – Cultural indices – Cultural services requiring payment per inhabitant per annum. The number of public libraries per 10.000 inhabitants. The number of books in the libraries per 1000 inhabitants. The number of club institutions per 1000 inhabitants. The number of cinema units per 1000 inhabitants. The average number of visits to the cinema per inhabitant per annum. The average annual number of visits to the theatre and to the museums per 1000 inhabitants.

Subgroup V – Physical training and Sports indices: Budget funding dedicated to physical training. Physical training and sports services requiring payment per inhabitant per annum.

The indices listed above were analyzed for 1976, 1980, 1985 and 1991. During this period departmental data reported to the Russian Information Centre of the Russian Federation reliably reflected the given complex of problems.

The objective of this work was not only to detect the basic indices in order to monitor the narcologic situation, but also to make them contribute to the final formula.

Statistical information was processed in IBM-286 in STATGRAPHICS program applying the method of step regression by means of which the least indicative indices were rejected one after another and were not used in further calculations.

As a result of this it was established that the prevalence of narcotism depends on the 4 basic indices as follows.

- 1) specific gravity of group B production (i.e. production of means of consumption);
- 2) average wages per family member per month;
- 3) the number of square metres in the dwelling-place per inhabitant;
- 4) the number of those working in the non-production field.

The numerical expressions of the indices listed above allow the following formula to be deduced; it makes it possible to detect the number of patients with narcomania (N) and toxicomania (T) in the population:

$$N + T = -235 + 17.2 (\text{square metres in the dwelling-place}) - 0.42 \times (\text{wages}) + 1.27 (\text{specific gravity of group B}),$$

where:

- N + T is the real number of patients with narcomanias and toxicomanias in the population,
- 235 is a constant
- 17.2; 0.42; 1.27 are coefficients
- group B is the number of those working in the non-production field.

In Table 2 indices of the number of patients actually registered with narcological institutions are compared with indices calculated according to the suggested formula.

Table 2. Actual and Calculated Indices of the Number of Patients with Narcomania and Toxicomania (N, T)

	<b>1980</b>	<b>1985</b>	<b>1991</b>
The n° of patients with N and T per 100ths inhabitants according to the reported data	12.5	11.4	25.07
The n° of patients with N and T per 100ths inhabitants calculated by means of the formula	75.32	54.28	92.13
Differences between the indices	62.82	42.88	67.06
Reliability of the difference between the indices	p<.05	p<.05	p<.05

It is possible to speak of a highly reliable difference between the registered indices and indices calculated according to the formula. The “calculated” number of patients with narco- and toxicomania in the population is 3.7-6 times higher than the registered number; this corresponds to the evaluation of the experts studying the prevalence of narcotism.

The most indicative of that is an obvious discrepancy between a reduction in the number of actually registered patients with narcomania and toxicomania, from 75.32 per 100.000 inhabitants in 1985 to 54.28 subjects in 1991 (which can be essentially explained by the campaign for striking off the register that was started in 1988), and a sharp rise in the number of patients calculated according to the formula – from 75.32 per 100.000 inhabitants in 1985 to 92,13 in 1991.

Thus, according to the data calculated in 1991 in Russia, patients with narcomania and toxicomania made up 0.1% of the total population, that is approximately 138,195 subjects.

According to the formula suggested by the authors, there appears to be an opportunity not only to control but also to model and forecast narcotic situations depending on the choice of the basic social indices (changes in the specific gravities of group B production, wages, dwelling-space per individual, the numbers of those working in the non-production sphere) and influencing the prevalence of narcotism – a social disease that affects the health and morale of the nation.

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## **The treatment of viral hepatitis in drug addicts**

**Jean Marie Guffens**

### *Summary*

The incidence of hepatitis C in intravenous drug addicts is widespread; while that of hepatitis B is frequent; the co-infection of both with the HIV virus is not rare. The identification of these infections must be systematic and their treatment must be rapidly initiated. If applied on a large scale, vaccination against hepatitis B should lead to the end of this disease. The new treatments suggested for hepatitis C (at present interferon and ribavirin) bring hope for the future, and can be offered to drug addicts as well as to other kinds of patient. Therapeutic progress with respect to HIV infection has meant that co-infection is no longer a contraindication to the treatment of type C viral hepatitis. These heavy treatments, however, should only be proposed to drug addicts stabilised by methadone or buprenorphine maintenance treatments, as these two medications do not damage the liver.

Key Words: Hepatitis B - Hepatitis C - HIV infection -  
Interferon - Ribavirin - Methadone and Buprenorphine  
Maintenance

A recent study (1997) on 380 intravenous drug addicts, in the South East of France, show that 90.78% of them are anti-HCV antibody carriers; of these, 80% have a significant amount of viral ARN circulating (quantitative research was not performed for all the patients, due to the high cost of the test). In this population, 59.13% are carriers of one of the hepatitis B markers and 9.47% are HbSAg+, which indicates infection by evolutive hepatitis B. Finally, 22.10% are HIV+.

The prevalence rate recorded for VHC viral infection was very high, and was in line with the figures found in other French studies. Anglo-Saxon studies has given lower rates. This North-South gradient has already been observed in the epidemiology of AIDS.

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Type C viral infections are the main causes of hepatopathy in drug users, but we must not forget that MDMA (ecstasy) has a direct hepatotoxicity and cocaine an indirect one, whereas cannabinoids and morphinics (and so also the drugs used in substitutive therapies) do not possess that toxicity. It should, however, be pointed out that when morphinics or opiate substitutive drugs are used, close medical surveillance, especially in a pre-existent hepatocellular insufficiency, becomes inevitable, because morphinics are known to cause spasms in the Oddi sphincter, leading to an expansion of the biliar channels; this situation is not a contraindication to the treatment.

### **Natural history of the treatment**

Besides the risk of fulminant hepatitis, evolution towards chronicity ranges between 2 and 5% with reference to VHB, 90% in cases of B-delta co-infection and between 70 and 80% with reference to VHC. Between 10 and 20% of these patients will develop cirrhosis with an annual risk of death between 1.5 and 3%, due to the complications of cirrhosis; from 2 to 5% of them will develop hepatocarcinoma (primitive liver cancer). In the study mentioned above, 100% of HbSAg carriers (evolutive hepatitis B) have anti-HCV antibodies.

Type VHB hepatites, whether superinfected or not by a Delta virus, should disappear, thanks to systematic vaccination, but their severity must be noted in drug users with alcohol problems or when they are superinfected by HIV virus; that is what happened to 67.28% of patients in the study just discussed.

The treatment for hepatitis B is interferon alfa, at a dose of 5 or 6 MU per subcutaneous auto-injection, three times a week for a period of 4-6 months. In this way it is possible to make 40% of VHB patientes ADN-negative, compared with 10% of non-treated subjects.

To stop viral replication means avoiding evolution towards cirrhosis.

Delta virus hepatites – which only occur in cases of type B infection – are similarly treated with interferon-alfa, at a dose of 9 MU, three times a week for about one year; in this way it is generally possible to make viraemia negative; unfortunately, viraemia tends to appear again at the end of the treatment. This problem should be solved by future medications, such as lamivudine or penciclovir. In the meantime, running the risk of repeating myself, I should stress that the only treatment for hepatitis B and Delta is prevention: it is mass vaccination against hepatitis B, if possible including all drug addicts.

Regarding the VHC virus, 21.48% of subjects are co-infected by the HIV virus; this phenomenon causes an increase of viral strength, related to immunodepression, a duplication of the frequency of evolution towards cirrhosis and a lower response to antivirals. It is therefore appropriate to treat HIV and HCV infections at the same time, after obtaining a reduction in alcohol consumption. As a result of its action on HCV multiplication, its immunodepressive effect, and/or its intrinsic effect, alcohol increases the cirrhotic effect of HCV by a factor of four. After undertaking tritherapy against HIV

and after verifying its effectiveness and tolerability by the patient, hepatitis C must be treated, whatever the HIV situation of the patient. Thanks to AIDS tritherapy, an increase in survival and a certain degree of control of viral infection are already possible, but this therapy involves risks, such as hepatitis due to medications and immunological problems, which can be fateful for hepatic parenchyma. The treatment of hepatitis C is interferon-alfa, which, at the standard dose of 3 MU a week, for a period ranging between 6 and 12 months, is effective in about half the patients. Of these, however, 50% tend to relapse in the 6 months following the end of the treatment; 25% tend to respond successfully in the long term. These results are encouraging, but insufficient and they have led to combination therapies. Of these, the only one that has given good results is the Ribavirin-Interferon association. The synergic effect of this combination is real: both in naive subjects and in those who have a relapse, the long-term response is duplicated or tripled. Viral eradication is 50%: the intention should be to try this treatment first, and the more precociously it is applied, the more effective it is. Afterwards, this kind of treatment will probably be supplanted by the use of anti-HCV antiprotease and antihelicase; in the meantime, it should be generalised, even if it is very expensive.

### **Viral hepatitis and drug addicts**

The treatment of viral hepatitis by ribavirin-interferon therapy causes a worsening in the quality of life during treatment, especially with mood disorders. When this therapy is associated with a trivalent therapy against HIV, it is very difficult to tolerate. Even so, the long-term benefits are greater, even if not automatic; this is why the patient and the physician must devote great care to the method of treatment.

In drug addicts, in particular, it is necessary to secure a good psycho-physical balance before and during treatment. It can be achieved by the multidisciplinary intervention of a gastroenterologist, an infectivologist and a general practitioner who is expert in drug addiction. This requires the personal, family, social and psychological assumption of responsibility towards the patient, who must recover the role of protagonist in his/her life (or right to citizenship, according to a term that has come into fashion).

No important studies has yet demonstrated the intrinsic hepatotoxicity of methadone and buprenorphine pharmacotherapies, which, besides affecting drug addictive behaviours positively, constitute the necessary and sufficient condition for the initiation and the conclusion of antiviral treatments.

Our personal experience tells us that methadone administration in specialised centres and buprenorphine administration in daily practice or in drug addict centres has allowed more than half the patients studied in the South East of France to receive an integrated therapy treatment, comprising the prescription of antiviral compounds. In this way drug addicts are treated and subjected to a pharmacological surveillance, like that of other patients, and they do not show less or more compliance than other sick persons, as Barbara Broers had already demonstrated in Geneva in 1994. The combination

of methadone or buprenorphine with ribavirin/interferon alpha, when integrated with the medical-social treatment, has become the treatment of choice for hepatitis C in drug addicts.

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## **General Practitioners and Heroin Addiction. Chronicle of a medical practice**

**Andrea Michelazzi, Franco Vecchiet, Tiziana Cimolino**

### *Summary*

In the summer of 1994, family doctors in Trieste (Italy) began to treat patients who had opiate drug-addiction problems by giving them methadone substitute therapy within therapeutic programmes decided in surgeries. The drug-addict became just a patient once again, often a chronic patient who could be treated in the family doctor's surgery. More than 50 doctors now prescribe substitute medicine in their surgeries, in Trieste.

In cooperation with the Health Authority and the Public Service, district surgeries have been opened, where five doctors of general medicine and a professional nurse work on weekdays, treating at most of fifteen patients each. The basic idea of a family doctor treating a drug-addict patient is that of acknowledging the patient's right to health and right to choose, as a sick person who is asking for help.

**Key Words:** General Practitioners, Heroin Addiction, Methadone Treatment

In the summer of 1994, family doctors in Trieste (Italy) began to treat patients who had opiate drug-addiction problems by giving them methadone substitute therapy within therapeutic programmes decided in surgeries. This practice has been made possible by the nationwide referendum in April 1993 repealing some parts of the "Consolidations Act on drugs and psychotropic substances", a law regulating all matters linked with drug addiction.

It specifically repealed some subsections, or parts of subsections, of several articles, as listed below:

Art. 2 subsection1, letter e, point 4: limits on the use of substitute drugs, and conditions for their use

Art. 72 subsections 1 and 2: illicit activities

Art .73 subsection 1: the production and illicit trading of drugs

Art. 75 subsections 1, 12 and 13: actions by the judicial authorities, sanctions for non-fulfilment

Art. 78 subsection 1, letters b and c: quantities of drugs

Art. 80 subsection 5: specific aggravating circumstances

Art. 120 subsection 5: voluntary therapy and anonymity

Art. 121 subsection 1: reports to the public service for drug-addiction

As the question was complex and delicate, it took some months for the Ministry of Health, in response to many requests for instructions, to issue a circular (No. 1110/1993) on how to interpret the remaining rules on drug-addiction.

The role of the family doctor with respect to clinical procedure has changed completely. Before the referendum almost the only duty of the family doctor was that of reporting the drug addicts in his care to the Public Service, which then took complete care of them (from the medical and welfare viewpoints).

After the referendum the family doctor has a role of great social importance, that is, he has the power to prescribe substitute medicines for opiates, but only in the form of methadone syrup, and he is no longer compelled to write a report, as cooperation with the Public Service is only recommended. He is therefore guaranteed an autonomy that enhances the value of the doctor-patient relationship, which is basic for any successful treatment.

The drug-addict became just a patient once again, often a chronic patient who could be treated in the family doctor's surgery. The relationship is based more on trust than on control. The circular also gave general instructions on distribution and the procedure to be used in prescribing substitute medicine.

In spite of this circular and others from the Italian Pharmacists' Association, pharmacies and storage depots were still without methadone. In July 1994, thanks to the cooperation of some political parties we were able to win the general public's interest by a number of articles pointing out the seriousness of the situation. Both doctors and the most committed politicians held lectures and talks on local television stations. At last, in July 1994, a substitute therapy could be initiated. Pharmacists were diffident at the beginning, but the ever-increasing number of prescriptions and responsive attitude of patients had a positive effect. Nowadays the presence of a drug addict in a pharmacy causes no embarrassment or problems. In that period on our initiative we formed the Organization of Family Doctors for Drug-addiction District Aid (Coordinamento Medici di Base per l'Assistenza Territoriale alle Tossicodipendenze - COMBATT), connected with the Italian Drug-addiction Society (Società Italiana Tossicodipendenze-SITD), which allowed doctors pioneering in this field to meet regularly in order to discuss results and work out a common procedure.

Following COMBATT's pressing requests, circulars from the Regional Health Office and the Ser.T. showed the importance of the obligation that pharmacists should always have medicine, at least enough to cover two days of therapy, as it was considered a life-saving medicine included in the class "A" list. As for the prescription, we followed the instructions of article 43 (CTU 309/90), using the prescription-book for drugs

marked by the Order of Doctors, and prescribing an amount of medicine large enough for at most eight days' therapy. No doctor took into consideration the administering procedure envisaged by article 42 (which considers it likely that the doctor will obtain methadone from a pharmacy after a request in triple copy, keep it in his or her surgery and have a proper register authenticated by the Local Health Authority) because it is less practical, and more complicated and risky (keeping methadone in a surgery increases the chances of a break-in).

In the same period the Organization took part in the activity of the County Agency for Drug-addiction and regularly held meetings with the Public Service, in order to coordinate the work of Family Doctors with the work of all the people employed working in this field, whose shared aim is damage reduction, though they have other aims as well.

On 30 September 1994 the Ministry of Health in its circular letter No. .20, published in the *Gazzetta Ufficiale* (No. 241, dated 14 October 1994), gives guidelines on the treatment of opiate drug addiction with substitute medicine. The document points out the importance of treatment with substitute medicine, especially for patients with deep-rooted addiction and little intention of permanently giving up heroin. This importance is stressed by the fact that it could bring a reduction of the incidence of infectious viral diseases (hepatitis, HIV), a reduction in the incidence of deaths from overdose, and a decrease in criminal actions connected with drug-addiction (thefts, selling drugs or prostitution are often the only means for getting the money necessary to buy heroin).

The Ministry's view was in accordance with our indications, even if some criteria of substitute medicine prescription, contained in the same circular, seemed too restrictive, appearing to contradict the law. The circular in fact requires the medicine to be entrusted to one of the patient's relatives – a close relative able to guarantee the proper use of the medicine. This procedure can take place for two days only, and is only allowed if the patient is undergoing a long treatment, if he has definitely given up heroin or any other drug, in the case of a clinical improvement, if he has resumed work, or if the patient is unable to leave his house for proven causes.

Conscious of this contradiction in the law, and wishing to follow the laws as strictly as possible, we tried to steer a middle course between the more restrictive regulation and the less restrictive one, bearing clearly in mind the purpose of our work. In our opinion, in fact, in reacquiring dignity, the drug-addict patient cooperated in progressively accepting greater responsibility and in acknowledging his or her right to autonomously take the medicine. In any case, we must take into account parameters such as the patient's age, the absence of physical and psychological symptoms of abstinence, concomitant pathologies and their seriousness, the absence of behavioural problems, the adequacy of the patient's social environment, and the recovery potential of this therapeutic choice with reference to each patient.

The principle that characterized and continues to characterize our decisions on family care is that of guaranteeing the patient a free and autonomous therapy on the basis of his compliance. The road to recovery can pass through a "relationship recovery" capable

of progressively getting the patient to give up drugs and dependence, and also capable of making him face the responsibility and autonomy that he had lost, been deprived of, or never possessed. This happens within the psychotherapeutic relationship with the specialist, especially as a result of his becoming a social subject again thanks to the structures and professional skills of the territory services. It is therefore clear how important the relationship between territory services, family doctors and public service is, partly in relieving the latter of some of the work which would otherwise burden it on some occasions to the detriment of the quality of the action. Not all drug-addicts are unemployed, or pressured by social marginalisation, poverty, or a crime-ridden environment; many become addicts as the result of an almost irrevocable decision. The problem of social recovery is very important, so we do try to limit as far as possible (as with patients who have psychic problems) seclusion and to combat prejudice.

After the circular had been issued, the doctors of the Organization held a refresher course on this subject, with the financial help of the County Agency for Drug-addiction and the National Society of General Medicine. Other courses have been organized with the cooperation of SITD and some doctors attended the "Master" course organized by the European Society for General Medicine (SEMG), so as to organize local courses. More than 50 doctors now prescribe substitute medicine in their surgeries. In cooperation with the Health Authority and the Public Service, district surgeries have been opened, where five doctors of general medicine and a professional nurse work on weekdays, treating at most fifteen patients each. At the moment four district surgeries are operational.

The basic idea of a family doctor treating a drug-addict patient is that of acknowledging the patient's right to health and the right to choose, as a sick person who is asking for help. The drug addict could give the SERT a negative value, feeling this structure to be a sort of "container" where specialists do not recognize him as a unique individual, and where he could risk contacts with other drug-addicts or a loss of identity. The possibility of choosing between treatment from the public service, a family doctor or a district surgery reinforces the idea of personal dignity and makes the individual feel more at home in to his social environment. A further goal achieved has been that of an economic reward for family doctors as an incentive, as stated in the agreement.

After these goals had been achieved, the decision was taken to end COMBATT and form a "monothematic supraregional group" working on the topic of family doctors and drug-addiction, within the Italian Drug-addiction Society in order to broaden experience and improve the organisation of scientific supervision.

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## INFORMATION FOR CONTRIBUTORS

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1. Dole V.P., Nyswander M.E., Warner A. (1968): Successful treatment of 750 criminal addicts. *JAMA* 206: 2708-2711.

Book:

1. Tagliamonte A., Maremmani I. (1995): *Drug Addiction and Related Clinical Problems*. Springer-Verlag, Wien, New York.

Book Chapter:

1. Dole V.P. (1995): Methadone Maintenance. Comes of Age. In A. Tagliamonte and I. Maremmani Eds: *Drug Addiction and Related Clinical Problems*. Springer-Verlag, Wien New York. pp. 45-49.

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