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Study of deaths related to drug abuse in France and Europe*

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ABSTRACT

A study of deaths related to drug abuse, based on information available in France and Europe, shows that data on such deaths are divergent and difficult to compare between countries because the definition of "death related to drug abuse" may vary from country to country. For this reason, the author attaches little importance to the use of such data as an indirect indicator for assessing the incidence and prevalence of drug abuse. The author carried out an in-depth study of 99 deaths of this type recorded by the police in the Paris area in 1983, which showed that 80 per cent of the cases involved heroin that had been injected intravenously. An analysis of the biographical background of persons who had died as a result of drug abuse revealed that, in addition to severe drug intoxication, the length of drug abuse and psychopathological disorders, a number of so-called "risk situations" were important factors contributing to their deaths. The risk situations included use of heroin for a long period of time, recent discontinuation of heroin use, regular and intensive use of psychotropic substances and alcohol, and injection of drugs in public places where there was no way of testing the drugs beforehand.

Introduction

Deaths related to drug abuse represent a considerable proportion of the deaths among persons under 30. However, there are no sufficient research data to permit an accurate assessment of the number of such deaths and a better understanding of their true causes. Various reasons can be adduced for the lack of data, such as the difficulty of defining drug-related death (which makes it hard to tackle the problem from a scientific point of view) and the difficulty of collecting clinical and biographical data in a predominantly illegal and marginal milieu. The social stigma attached to drug abuse is also an important reason.

* This article recapitulates information extracted from document P-PG/Epid (84)20, prepared by the author with J-J. Branchu for the Pompidou Group (Council of Europe).

This article summarizes research on drug-related deaths that was carried out in 1984 on the basis of the data available in France and in Europe, as well as the data from an in-depth study of 99 deaths related to drug abuse recorded in the Paris area in 1983. These data are presented from an epidemiological and clinical standpoint with a view to clarifying the concept of death related to drug abuse and determining the value of these data in studying the incidence and prevalence of drug abuse.

Data on deaths related to drug abuse in France

The first death from overdose was recorded in France in 1969, when a girl died as a result of heroin abuse. That death led to official recognition of the spread of drug abuse in France, which was supported by data showing that in 1969, 994 persons were charged for offences relating to drug abuse, whereas the total number of individuals charged for such offences during the previous four years had been approximately 500. The figure for people involved in such offences reached 23,615 in 1983.*

Data on deaths related to drug abuse in France are gathered by the Central Office for the Suppression of Illicit Drug Traffic, and only deaths from overdose are recorded. Those cases that do not fit in with the overdose diagnosis, such as suicides and homicides, are excluded. It should be emphasized that records of deaths related to drug abuse reflect only a proportion of these deaths because all such cases occurring in different circumstances are not necessarily brought to the attention of the police. The evidence shows that the number of deaths of this type increased steadily after 1975 to reach 237 in 1984. In practice, the police diagnosis is based on circumstantial evidence, such as traces of injection and whether the drug, a syringe or such items as a tourniquet, a glass of water, lemon, cotton wool or a small spoon were found nearby. A medico-legal investigation then confirms or refutes the overdose diagnosis.

In most instances the victims were young people. On average, 75 per cent of the drug-related deaths that occurred from 1975 to 1984 involved individuals under 25 years of age. The proportion of women was 14 per cent for Paris and 13 per cent for the country as a whole.

In general, there was a steady increase in the number of deaths in which heroin was involved; 80 per cent of the deaths related to drug abuse in Paris in 1983 were due to heroin abuse. The number of cases involving volatile solvents and cocaine also increased.

* According to data from the Central Office for the Suppression of Illicit Drug Traffic (OCRTIS).

Data on deaths related to drug abuse in Paris

Data collected in Paris in 1983 permit a more precise study of the deaths that were attributed directly to drug abuse, particularly with a view to defining death related to drug abuse, providing relevant clinical background information and describing the circumstances in which such deaths occurred. The data were collected by means of a detailed examination of the medico-legal records. Information was also gathered by means of a retrospective survey conducted at the five main public health institutions specialized in receiving and treating drug addicts in Paris and by obtaining data from the departmental directorates of Action sanitaire et sociale in Paris and the three surrounding *départements*.

Background information on drug-related deaths in Paris

The age of the individuals that died as a result of drug abuse ranged from 16 to 40 years; the average age was 23.8 years. On average, the victims were significantly older than the addicts charged with drug offences and distinctly younger than the addicts undergoing regular treatment [1]. Most of them (89 per cent) were French. It should be noted that 25 per cent of the drug addicts held in prison were foreigners [2]. For the majority of the cases, the place of residence was Paris (35 per cent) or its suburbs (45 per cent). The *département* that was most affected was Seine Saint-Denis, which accounted for 21 per cent of the drug-related deaths. Most victims were from working-class or underprivileged districts. Their social characteristics were strongly marked by an inability to integrate into society: 50 per cent were not trained in a profession or were unemployed. Among those who were employed, the largest proportion was made up of white-collar workers.

An examination of the drugs involved clearly reveals the predominant role of heroin (80 per cent). The small number of cases in this study does not permit an analysis of the role of other substances, particularly psychotropic substances and alcohol, in drug-related deaths [3]. The deaths occurred most frequently in public places, such as cafés and hotels, or in private dwellings, sometimes that of the victim's parents.

The medico-legal history of individuals who died as a result of drug abuse was difficult to establish. In 60 per cent of the cases, the individuals were known either to the public health authorities in Paris, in one of the three surrounding *départements* or to one or more public health centres. The majority of them were long-standing addicts. In nearly half of the cases, recourse to a public health institution occurred late, which implied that, despite the fact that most victims had used drugs for a long period of time, they had received little medical attention. Intervention by the

judicial authorities also came late: 46 per cent were summoned in either 1982 or 1983.

These last two facts fit in with the idea that most of the subjects found it difficult to integrate into society and were probably psychologically, physically and economically exhausted. This becomes more evident if one examines the length of heroin use among the subjects: in nearly half of the cases, heroin had been used for five years or longer.

This supports the view that death occurred mostly among long-standing or confirmed addicts, irrespective of age [4]. It should also be noted that 25 per cent of the persons concerned were, because of their drug problems, known to both the public health authorities and the police.

Data on deaths related to drug abuse in Europe: problems of definition

In most countries, records of deaths related to drug abuse are kept by either the public health authorities, the police or the judiciary, and such records yield an annual figure. It is, however, debatable whether these figures are comparable or whether they are indicative of the extent and pattern of drug-related deaths in each country.

To state that a death is related to the use of drugs implies that there is at least a partial cause-and-effect relationship between the consumption of illicit drugs and the death. This relationship is obvious in cases of "overdose", i.e. massive intoxication, but sometimes, even in such cases, mere drug use is not sufficient to explain the death [5], which may be attributed to several causes that may not be closely linked to drug use. This explains why the definitions of drug-related death that are adopted in various countries may differ. The criteria for such definitions are usually based on: *(a)* medical premises, such as the type of substance used and the way in which it was administered; *(b)* the circumstances surrounding the death; and *(c)* the identity of the individual, especially whether he or she had been known as a drug addict.

Medical aspects cover possible medical causes of drug-related deaths, such as massive intoxication, organic diseases among drug addicts and suicidal behaviour. Circumstantial aspects must be considered since such deaths may be linked to indirect consequences of intoxication, such as road accidents and fires. The individual's identity must also be considered inasmuch as central files make it possible to ascertain whether the death in question occurred to a known drug addict.

Emphasis may be placed on different aspects of the criteria in different countries. For example, in Ireland and Sweden the emphasis is placed more on the medical aspects; in France and Italy the emphasis is on the

law enforcement aspect; and in the Federal Republic of Germany, the Netherlands and the United Kingdom of Great Britain and Northern Ireland, on both of these aspects. This underlines the lack of consensus regarding the definition that should be applied to such deaths and the need to consider a provisional classification.

Collection of data and their epidemiological value

In the light of the foregoing, it is clear that the existence of different definitions of drug-related death largely explains why the numerical data available on such deaths differ so much. The diversity of definitions must be taken into account in interpreting the differences observed in the degree of severity of the problem.

Epidemiological assessment of drug-related deaths may even be difficult within a given European country because estimates based on death certificates or records of a ministry of health and a ministry of justice or the Home Office may differ. Because of the differences in definitions and in approaches to estimating drug-related deaths, it is difficult to compare the data on such deaths from one European country to another. It must also be stressed that most experts accord these figures little value as indirect trend indicators in estimating the prevalence and incidence of drug abuse.

Discussion

Clinical data

The data available in European countries were inadequate for a clinical classification or for a typology of the drug addicts who had died as a result of drug abuse. Nevertheless, the study of the cases recorded in Paris showed that the intoxication suffered by such individuals was generally very severe: they had been using drugs for a long time and had been seriously addicted and ill. In many cases, symptoms of depression had been observed in the victims by their acquaintances.

Clinical patterns

Three main clinical patterns were observed. The first pattern occurred in a small number of cases. These involved young persons who had died after having used drugs for less than a year. The deaths could be attributed to accidental overdoses taken by inexperienced persons, but it appeared that, in most cases, the victims had not been able to come to terms with

their use of drugs and had often suffered from severe psychical problems. It was difficult to distinguish these deaths from authentic suicidal behaviour.

The second pattern was the one most frequently observed: the deaths occurred among persons who had been long-term drug addicts, had often been involved in multiple drug abuse and had regularly consumed large quantities of alcohol and psychotropic substances. As a rule, such persons had been mentally and physically exhausted. It was as though a lethal threshold had been crossed, with death coming as an end to a whole process of unfavourable development. Here again, the possibility of suicide could not be entirely ruled out.

The third pattern was rare. Death occurred in no fixed relation to the period of addiction and, apparently, independently of the way in which drug dependence had been handled. The deaths of long-term drug addicts, as well as of sporadic drug users, fell under this category.

Risk situations

In addition to the importance of the severity and length of drug abuse and of the frequently severe psychopathological disturbances in the occurrence of drug-related death, the study of the medico-legal records revealed a number of situations that could be classified as "risk situations". These included:

(a) Use of heroin over a long period of time, regardless of the periods of abstinence;

(b) Recent withdrawal: in almost 40 per cent of the cases, recent withdrawal in connection with admission to hospital, imprisonment or a home cure was ivolved;

(c) Regular and intensive use of psychotropic substances and alcohol: these two features were present in 30 per cent of the cases, the most frequently noted products being beer and benzodiazepine derivatives, which presumably enhanced the effects of the other drugs;

(d) The injection of drugs in public places where there was no way of testing the product beforehand: under such conditions, the drug would have to be injected quickly and without caution, and this would undeniably increase the risk of a toxic accident. The dose might be too large to start with or the victim, thinking that the dose was too small, might hastily administer a further, lethal, dose.

Suicidal behaviour

The question of suicide or suicidal behaviour should be discussed in connection with drug-related deaths, particularly since depressive symptoms have often been observed [6–8]. The author does not think

that the frequent occurrence of bouts of depression is sufficient reason to consider drug addiction suicidal behaviour. The living conditions associated with regular drug use, which are dominated by the economic aspect of dependence, must also be considered. Drug users are often living in precarious circumstances while craving a daily dose of drugs. Dependence inevitably leads drug users to adopt different ways of handling their drug use: some make efforts to decrease the use of drugs or are weaned away, either spontaneously or under medical supervision, while others turn to stratagems, which often prove ineffective, leading to imprisonment or repeated recourse to specialized institutions [9].

It is possible, then, that addicts, in the course of time, may find themselves in a number of confused states, which may prompt the first visit to a treatment institution or else may lead to a variety of impulsive actions; for example, addicts may drift into other types of delinquency, prostitution or drug trafficking. These confused states usually lead to other difficulties that are sometimes more debilitating. This is a situation with which clinical investigators are very familiar, particularly in connection with their efforts to wean drug addicts away from drug use, often at a time when the addicts are plagued by various problems, deprivations and psychosomatic disturbances [10, 11].

It is thus conceivable that these recurring problems in a rather miserable and demeaning environment may well lead the addict into a state in which he or she is unable to make any real distinction between drug-taking and suicide. The survey conducted in Paris showed that exhaustion was an important factor interacting with the length of heroin consumption, the late and possibly desperate recourse to the treatment institution and the high frequency of late intervention by the judicial authorities.

Overdose

A large number of overdoses correspond to a clinical phenomenon in which the victims are described as "forgetting to breathe". The condition can be corrected by stimulation. It occurs very frequently and tends to go unnoticed by the addicts themselves, partly because of the sensual pleasure they are experiencing and partly because it is reversible when it occurs in a mild clinical form or when quick and energetic action is taken by bystanders: "A few whiffs of oxygen and some vigorous stimulation are generally enough to wake up these patients. The only treatment needed is to give unco-operative patients [intoxicated by heroin] a Naloxone injection to stop them from falling asleep again" [12].

This medical complication of heroin use seems to occur either among recent users, as a classic case of accidental overdose, or among confirmed addicts, where it is a distress signal. In any event it is likely that such acute

intoxication is not the sole or principal cause of death in the cases examined, since the impaired general condition and lesions (for example, those affecting the liver and lungs) play such an important role that they alone may be the cause of death [13].

Epidemiological value of the data

It is not unusual for the number of deaths related to drug use to be generally viewed as a function of the severity, pattern and extent of drug use in a given region or country. This point of view assumes that such deaths could only be accidental, occurring haphazardly in the entire user population. The author, however, considers these deaths to be closely linked to a whole range of factors, which, taken together, point to a number of risk situations. Consequently, in the author's opinion, there is no direct link between the number of such deaths and the incidence of drug use.

The same line of reasoning can be adopted regarding the prevalence of drug use. There is a sort of logical connection between the number of drug users and the number of drug-related deaths; it is unthinkable that one should be completely independent of the other or that they should vary in a totally contradictory manner. All the same, there are several reasons for abandoning the search for a direct link between the prevalence of drug use and the number of deaths related to it, including: *(a)* ignorance of the true number of drug-related deaths; *(b)* lack of any rigorous definition of this type of death; *(c)* the likelihood that such deaths may indicate a certain type of morbid development in drug use among certain addicts.

These points lead to the assumption that, for any homogeneous collection of data, a variation in the figures is perhaps more indicative of the past than of the present situation.

With this in mind, it would be useful to have a classification of deaths related to drug use based not only on the data regarding overdoses, but also taking into account all possible causes of premature death among drug addicts, the main distinction being between deaths directly related to drug use and those indirectly related to it. Violent deaths of drug addicts should also be included in this group of possible causes, since it is quite probable that they occur frequently, mainly in connection with the illicit distribution of drugs, and that such deaths thus indicate the overall extent of the drug problem [14, 15].

The author believes that if not a common definition then at least a common classification can be adopted for European countries. A classification of this kind would distinguish as much as possible deaths directly related to drug abuse from those indirectly related to it. Such data can be

obtained only if information from different sources is used. For research purposes, information should include the results of the pathological and biological examinations, as well as biographical data.

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