

Does Drug Abuse Lead to Criminal Behavior? An Analysis Based on Criminal Registers of 117 Drug-Related Deaths, Examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria

REFERENCE: Risser, D., Bönsch, A., and Schneider, B., "Does Drug Abuse Lead to Criminal Behavior? An Analysis Based on Criminal Registers of 117 Drug-Related Deaths, Examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria," *Journal of Forensic Sciences*, JFSCA, Vol. 40, No. 3, May 1995, pp. 378–381.

ABSTRACT: That there is a link between drug abuse and criminal behavior has been established. However, explaining the nature of this relationship has proven difficult. The purpose of this study was to investigate whether the traditional view that drug abuse leads to future criminal behavior holds true in case of the drug-related deaths examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria. For this purpose postmortem reports and criminal registers of 117 drug-related deaths were analyzed. A total of 43% of the examined sample had no criminal register. Regarding age at time of death there was no difference between those with or without a criminal register. A total of 57% had at least one conviction. A minority committed about one third of offenses. Property offenses were the most frequent type. Those who started their criminal history with a property offense were younger at time of first conviction and committed more offenses during their life. In summary, the traditional view that drug abuse leads to future criminal behavior does not seem to hold true in case of the drug-related deaths examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria. The results of this retrospective study speak in favor of a view that drug abuse may be a part of contemporary delinquent behavior, rather than the cause of criminality.

KEYWORDS: forensic science, drug abuse, criminal behavior, drug-related deaths, criminal register

Drug abuse, an increasing problem all over the world has not even spared Austria, a politically neutral country in Central Europe with about 7.9 million inhabitants (1.6 million of whom live in Vienna, the capital of Austria). In Austria the production, possession and trafficking of illicit substances, according to the Single Convention on Narcotic Drugs, is forbidden by law [1]. In Vienna, offenses against drug law, registered by the police, increased from 1.38% a total of 123.122 offenses in 1985 to 1.93% of 178.723 offenses in 1992. Approximately 60% of these offenses were connected with cannabis. The amount of offenses related to drug

abuse, such as thefts, etc., is assumed to be very high, but reliable data regarding this connection is lacking [2].

That there is a link between drug abuse and criminal behavior has been established [3]. However, explaining the nature of this relationship has proven difficult [4]. The traditional view, which is the dominant lay and media explanation, is that drug abuse leads to future criminal behavior [5,6]. An alternative view, which is the major competing explanation, is that drug abuse may be a part of contemporary delinquent behavior, rather than the cause of criminality [7–9].

The main purpose of this study was to investigate whether the traditional and dominant lay explanation of the relationship between drug abuse and criminality, that drug abuse leads to future criminal behavior, holds true in case of drug related-deaths examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria. It was also of interest to compare deceased drug users with and without a criminal register as well as those who had and had not been imprisoned during their life at least once.

Materials and Methods

For these purposes actual postmortem reports of deaths, examined in 1992 at the Institute of Forensic Medicine in Vienna, were investigated. Drug-related deaths, defined according to the official definition issued by the Austrian Federal Ministry of Internal Affairs [10], were included in this retrospective study. We analyzed actual postmortem reports and the criminal registers—in Austria all offenses leading to conviction are recorded in a criminal register—of these drug-related deaths. Deceased drug users with and without a criminal register as well as those with and without an imprisonment during their life were compared regarding age, gender, and drug abuse pattern at the time of death. A multi-substance abuse pattern was assumed if more than one drug, including alcohol, could be determined in the corpse. Offenses recorded in the criminal registers were classified into 4 categories:

- 1) drug offenses
- 2) property offenses (for example, theft, fraud);
- 3) violent offenses (for example, assault, murder);
- 4) various offenses (for example, illegal use of arms).

Evidence of drug consumption was determined by means of fluorescence polarizations immuno assay (Abbott Diagnostics, Chicago, IL) and combined gas chromatography/mass spectrometry. Blood alcohol was detected by gas chromatography.

Received for publication 11 July 1994; revised manuscript received 21 Sept. 1994; accepted for publication 14 Oct. 1994.

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Data were reported as mean \pm standard deviation (SD). We considered differences significant at $P < 0.05$. SAS 6.08[®] (SAS Institute Inc., Cary, NC) was used for numerical analysis.

Results

Study Subjects

In 1992, a total of 3203 corpses were examined at the Institute of Forensic Medicine in Vienna, Austria. In 117 cases (15% females and 85% males) a drug-related death according to the official definition was determined. 95 drug users died of accidental narcotic overdose and 10 persons killed themselves by use of drugs. Six users died because of accidents they had while under drug influence. The majority of these deaths was related to morphine abuse ($n = 103$). In 87 corpses, more than one drug, including alcohol, could be detected. The remainder ($n = 6$) died naturally (for example, of cerebral hemorrhage, myocarditis, bronchial asthma, etc.). These deceased persons were registered by law enforcement officials as drug users, but the actual cause of death was not directly related to drug use. Apart from a natural cause of death found in these six cases, no distinct alterations regarding the state of health could be determined in the examined subjects.

Criminal Register

A total of 43% of these 117 drug-related deaths had no criminal register (Table 1) and none of the examined subjects was engaged in otherwise criminal behavior at the time of death. Regarding the age at the time of death there was no statistically significant difference between those with and without a criminal register (27.3 ± 6.0 vs 26.8 ± 7.7 (SD) years). In both groups 44% were aged 16 to 25 years at the time of death (Table 2). There was a higher proportion of males in the group with a criminal register (90% vs 80%). In both groups the multi-substance abuse pattern at the time of death was the same (79% vs 78%).

TABLE 1—Sex and criminal records of drug-related deaths, 1992, Institute of Forensic Medicine, Vienna, Austria.

Sex	No criminal register	Criminal register		Total
		Imprisonment	No imprisonment	
Female	10	3	4	17
Male	40	33	27	100
Total	50	36	31	117

TABLE 2—Age and criminal records of drug-related deaths, 1992, Institute of Forensic Medicine, Vienna, Austria.

Age	No criminal register	Criminal register		Total
		Imprisonment	No imprisonment	
<21	12	2	5	19
21–25	10	10	13	33
26–30	14	9	7	30
31–35	9	11	3	23
36–40	2	4	3	9
>40	3	0	0	3
Total	50	36	31	117

Imprisonment

A total of 53% of those drug related-deaths with an entry in the criminal register ($n = 67$) were imprisoned at least once (Table 1). Examined drug users with imprisonment during their life were significantly older at time of death than those without detention (28.7 ± 5.7 vs 25.7 ± 6.0 (SD) years; Wilcoxon 2-sample test: $P < 0.05$). These former detainees were also significantly younger at the time of their first conviction than those without imprisonment (17.4 ± 3.8 vs 21.1 ± 4.6 (SD) years; Wilcoxon 2-sample test: $P < 0.001$). Furthermore, those with imprisonment survived significantly longer after their first conviction than those who were never imprisoned, even after subtracting time of imprisonment (104.6 ± 58.1 vs 52.5 ± 58.9 (SD) months; Wilcoxon 2-sample test: $P < 0.0001$) (Fig. 1). In both groups the proportion of males and multi-substance abuse pattern at the time of death was the same (92% vs 87% and 82% vs 76%, respectively).

Offenses

A total of 52% of 436 offenses recorded in the criminal registers of our sample were against property (Table 3). The remainder were offenses against various laws (21%) and against persons (15%). Only 12% were offenses against drug law. The younger the examined drug user at the time of first conviction, the more entries in the criminal register (regression analysis: $P < 0.001$). A total of 64% of first convictions were due to a property offense and 12% due to a drug law offense. Those whose first conviction was due to a property offense were significantly younger at the time of this conviction than those whose first conviction was due to a drug offense (18.2 ± 3.8 vs 23.9 ± 6.6 (SD) years; Wilcoxon 2-sample test: $P < 0.01$). The age range at first conviction was 14 to 27 years in case of a property offense ($n = 43$), and 19 to 37 years in case of a drug offense ($n = 8$). Those whose first conviction was due to a property offense committed many more crimes than those whose first conviction was due to a drug law offense (7.4 ± 4.4 vs 2.9 ± 4.2 (SD); Wilcoxon 2-sample test: $P < 0.01$). A total of 37% of all registered offenses were committed by drug users aged under 26 at the time of death. 16% of our sample committed 30% of all registered offenses.

Discussion

The traditional and dominant lay explanation of the relationship between drug abuse and criminality, that drug abuse leads to future criminal behavior, does not seem to hold true in case of drug-related deaths, examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria.

On one hand, 43% of 117 examined drug-related deaths had no criminal register. These drug users were nearly as old at the time of death as those with a criminal register. Thus, provided a similar drug using career and drug induced criminal behavior, they would have had the same opportunity of being convicted. Furthermore, there were no substantial differences between drug-related deaths with and without a criminal register regarding gender and drug use pattern at the time of death.

On the other hand, 57% of 117 examined drug-related deaths had at least one conviction. A total of 16% of these deceased drug users committed about one third of offenses analyzed for this study. Property offenses were the most frequent type. Convictions due to offenses against drug law only played a minor role. Those who started their criminal history with a property offense were significantly younger at time of first conviction than the remainder.

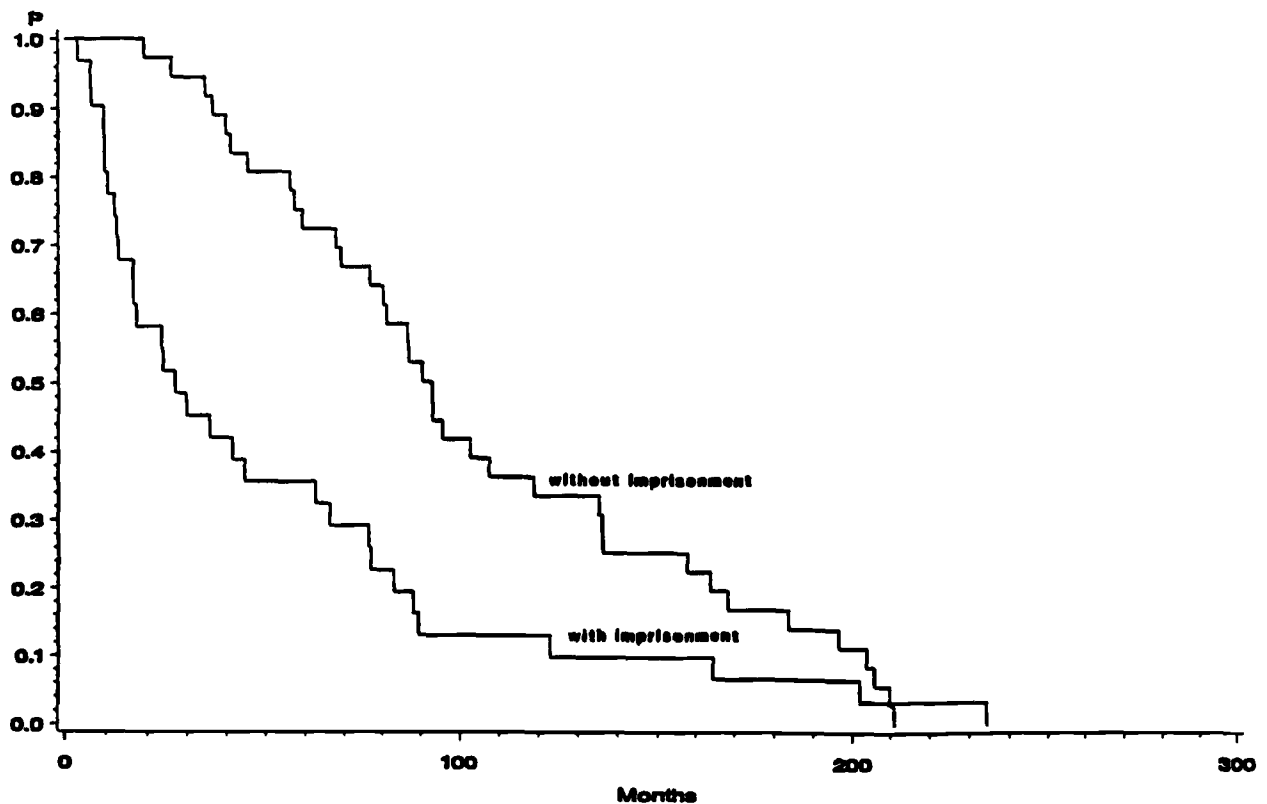


FIG. 1—Survival distribution function of deceased drug users with ($n = 36$) and without imprisonment ($n = 31$) after first conviction.

A total of 64% of first convictions were due to property offenses. These offenses occurred at an age lower than that of initial regular heroin abuse by Viennese drug addicts, examined at the outpatient ward of the Psychiatric University Clinic of Vienna in 1991 (19.1 ± 3.9 (SD) years) [11]. In this context it must be taken into account that a substantial proportion of addicts receive criminal convictions before the onset of their addiction [12].

A further finding in this study is that the younger the exposure to the justice system, the more embroiled the individual is likely to be, as described by Hall [13]. Those whose first conviction was due to a property offense committed significantly more crimes. Probably the reason why property offenders had more extensive criminal careers is, in part, attributable to the fact that this type of law violation attracts the attention of the police and courts much more readily than drug offenses.

More than half of those drug-related deaths with a criminal register were imprisoned at least once during their life. Former detainees lived significantly longer after their first conviction, than

those who were never imprisoned. This is a finding in contrast to a study by Hammersley [14]. The reason why imprisoned subjects lived longer is not clear and should be investigated further.

Although drug abusers are reported to be frequently arrested for violent crimes [15], in our study population conviction and imprisonment due to offenses against person was proportionally low. Furthermore, in our study group there was no conviction due to manslaughter or homicide, as in other countries [16,17].

However, it must be taken into account that this retrospective study is based on criminal registers of drug-related deaths. In these criminal registers only offenses leading to a conviction are registered. Offenses and arrests without a subsequent conviction are not contained. Moreover, in our sample criminal history information is only based on conviction data that leaves open a wide range of behavior by these deceased subjects that never came to the attention of the police or courts. Furthermore, arrest and conviction rates are only a very rough guide to the level of criminal activity, as most criminal acts do not result in conviction [18]. Because of lack of information about former drug abuse habits of these deceased drug users we cannot say anything about onset or extent of drug usage. Finally, it must be taken into account that there is no information available how aggressively the police of Vienna are arresting drug users or how likely the courts are in to convict them.

Although studying drug-related deaths and their criminal registers may, at first sight, be of limited value, the results of such investigations combined with those of other studies concerning substance abuse could give a more complete picture of drug-related problems in a population. Firstly, drug-related deaths represent the most serious form of drug abuse [19]. Furthermore, the Pompidou Group of the Council of Europe classified drug-related deaths and

TABLE 3—Age and type of offenses of drug-related deaths, 1992, Institute of Forensic Medicine, Vienna, Austria.

Age	Offenses				Total
	Drug	Property	Persons	Various	
<21	3	16	4	10	33
21–25	14	70	21	24	129
26–30	10	59	17	15	101
31–35	15	58	17	32	122
36–40	12	22	8	9	51
>40	0	0	0	0	0
Total	54	225	67	90	436

imprisonment of drug users as two of eight indicators useful in assessing the extent and nature of drug abuse in a community [20].

In summary, we have shown that the traditional and dominant lay explanation of the relationship between drug abuse and criminality, that drug abuse leads to future criminal behavior, does not seem to hold true in case of drug-related deaths, examined in 1992 at the Institute of Forensic Medicine in Vienna, Austria. Although the sample of drug-related deaths in this survey is not representative of the population of drug users at large, the results of this retrospective study also speak in favor of a view that drug abuse may be a part of contemporary delinquent behavior, rather than the cause of criminality [7-9].

Acknowledgments

The authors would like to thank Miss Joanne Lenney and the anonymous reviewers for their helpful assistance and comments.

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