Daniele Risser,[1] *M.D.; Anneliese Bönsch,*[1] *M.D.; and Barbara Schneider,*[2] *Ph.D.*

Family Background of Drug-Related Deaths: A Descriptive Study Based on Interviews with Relatives of Deceased Drug Users

REFERENCE: Risser D, Bönsch A, Schneider B. Family background of drug-related deaths: A descriptive study based on interviews with relatives of deceased drug users. J Forensic Sci 1996;41(6):960–962.

ABSTRACT: Drug abuse and problems arising from it are increasing all over the world. Most of the research concerning substance abuse has focused on three dimensions: sociocultural influences, personal characteristics, and interpersonal factors. The aim of this descriptive study was to describe family characteristics of drug-related deaths examined at the Viennese Institute of Forensic Medicine in 1993. Furthermore, it was of interest to analyze the onset of substance use as well as traumatic life events during childhood. For this purpose, relatives or partners for life of drug-related deaths, examined from 1 Jan. to 30 June 1993 at the Institute of Forensic Medicine in Vienna, were interviewed using a semistructured technique. Eighty percent of drug users were reported to have experienced a traumatic event during their childhood. In the majority, this was the parents' divorce or the death of a parent. Male drug users were significantly younger at time of this event than females. The first signs of smoking and alcohol drinking of examined drug users, as recognized by the interviewees, occurred at the age of about 15. Those who experienced a traumatic event during their childhood started to smoke at a significantly lower age. In $^3/_4$ of investigated cases, parents also were smokers, and more than one third of families had a problem drinker, mostly the father. In 16% of drug users, a mental disturbance concerning the mother was reported, and in 14%, prescribed psychoactive drugs were regularly used. Physical violence, generally by the father, was a common phenomenon in 20% of investigated families. About 45% of the victims were from families having more than one of these factors present.

KEYWORDS: forensic science, forensic medicine, drug-related death, family, interview, Vienna, Austria

Drug abuse and problems arising from it are increasing all over the world. Austria, a politically neutral country in Central Europe with about eight million inhabitants, is no exception (1). In 1984, 6% and 25% of Austrians aged 15 to 19 years and 25 to 29 years, respectively, were found to have experimented with cannabis (2). Based on a representative survey dated 1984, it is estimated that there are about 10,000 opiate addicts in Austria (3). Furthermore, the number of drug-related deaths examined at the Viennese Institute of Forensic Medicine increased from 22 cases in 1985 to 117 cases in 1992 (4).

Most of the research concerning substance abuse has focused on three dimensions: sociocultural influences, personal characteristics, and interpersonal factors (5). The first dimension is very important in the formation of dependency and drug-related problems. Turning to the contribution of personal characteristics, the possibility that genetic make-up may have a part to play is raised from time to time. In addition, there are a number of personal attributes, attitudes, and types of behavior in early adolescence which can be shown to predict future development. The third important dimension is the network of personal relationships which envelops every individual.

Thus, for example, there is evidence that drug-taking by offspring may have a connection to previous alcohol drinking habits of either parent (6). High frequencies of mental disturbances in the closest family of drug addicts are also reported (7,8). Many substance abusers described particularly their fathers as authoritarian and physically violent (9). Furthermore, drug users are told to have frequently experienced parental separation, divorce, and bereavement (10). A lot of data exist on the possible connection between such traumatic events during the course of people's lives, and the onset of addiction (11). Finally, alcohol use and cigarette smoking were found to be relative risk factors for drug abuse (12). Tobacco use is assumed to be involved, possibly more than by simple association, in the use of other substances containing psychoactive chemicals (13).

The aim of this descripive study was to describe family characteristics of drug-related deaths examined at the Viennese Institute of Forensic Medicine in 1993. Furthermore, it was also of interest to analyze the onset of substance use, such as cigarette smoking and alcohol consumption in relation to possible traumatic events during the childhood of examined drug users.

Methods

For this purpose, relatives or partners for life of drug-related deaths, examined from 1 Jan. to 30 June 1993 at the Institute of Forensic Medicine in Vienna, were interviewed in one of the authors' office using a semistructured technique. Based on the documentation standards for the treatment of addicts (14), about 20 questions regarding the family situation and patterns of behavior of drug victims were asked. Each interview lasted for approximately 40 min. For this descriptive study, we did not use a control group. Drug-related deaths were defined according to the official definition issued by the Austrian Federal Ministry of Internal

[1]University assistant and research assistant, respectively, Institute of Forensic Medicine, University of Vienna, Austria.

[2]University assistant, Institute of Medical Statistics and Documentation, University of Vienna, Austria.

Received for publication 6 July 1995; revised manuscript received 9 Nov. 1995 and 4 March 1996; accepted for publication 6 March 1996.

Affairs (4). Evidence of drug consumption was determined by means of fluorescence polarizations immunoassay (Abbott Diagnostics, Chicago, US) and combined gas chromatography/mass spectrometry. A multi substance abuse pattern was assumed if more than one drug, including alcohol, could be determined in the corpse. Blood alcohol was detected by gas chromatography.

Data were reported as mean and standard deviation (SD). For a two-tailed test, we considered differences significant at $p < 0.05$. SAS 6.08® (SAS Institute Inc., Cary, NC, US) was used for numerical analysis.

Results

Study Population

From 1 Jan. to 30 June 1993, a total of 80 drug-related deaths were examined at the Institute of Forensic Medicine in Vienna. In 64% of these cases, one relative or the partner for life could be interviewed when they personally collected the death certificate at the Institute. Fifty-one individuals agreed to interviews: 30 mothers, 5 fathers, 6 siblings, 6 grandparents, and 4 partners for life. In 10% of cases, an interview was refused, and in 26%, relatives were not available because the death certificate was collected by the undertaker.

Half of examined drug users were reported to have experienced at least one prior episode of drug overdose needing medical help (Table 1). About 53% had contact with therapeutical institutions during their drug career. However, a quarter of interviewed relatives did not recognize drug abuse until the user's death occurred.

The majority of interviewees mentioned a traumatic event during childhood of deceased drug users (Table 2).. This was either the parents/divorce ($n = 23$) or the death of a parent ($n = 6$). The remainder suffered a heavy illness ($n = 8$) or injury due to an accident ($n = 4$). Male drug users were younger at time of this event than females (7.0 years [SD 4.3] versus 11.2 years [SD 5.3]; Wilcoxon rank sum test: $p < 0.05$). In general, the first signs of smoking and alcohol consumption by examined drug users, as recognized by the interviewees, occurred at an age of about 15 years. Those who experienced a traumatic event during their childhood started to smoke at a significantly lower age (14.5 years [SD 1.6] versus 15.8 years [SD 1.7]; Wilcoxon rank sum test: $p < 0.05$). The type of event had no influence. There were no statistically significant differences regarding age, blood alcohol concentration, and substance abuse pattern at time of death between females and males.

TABLE 1—*Study population.*

Deaths	*n*	Overdose*	Therapy†	Recognition‡	Smoker§	BAC‖	Poly¶
Female	8	62.5	62.5	75.0	100	37.5	63
Male	43	47.6	51.2	76.7	93.0	44.2	91
Total	51	50.0	52.9	76.5	94.1	43.1	86

*Percent of drug users with at least one prior episode of drug overdose needing medical help as reported by interviewees.

†Percent of drug users who had contact with therapeutical institutions as reported by interviewees.

‡Percent of drug users whose substance abuse was recognized by parents before death.

§Percent of drug users who were smokers at time of death as reported by interviewees.

‖Percent of drug users with blood alcohol concentration beyond 0.1 mg/L at time of death.

¶Percent of drug users with multi substance abuse at time of death.

TABLE 2—*Study population.*

Deaths	*n*	Traumatic event*	Mean age at event	Onset of smoking†	Alcohol consumption‡	Mean age at death
Female	8	100	11.2	15.3	15.8	22.7
Male	43	76.7	7.0	14.7	15.2	25.0
Total	51	80.4	7.8	14.8	15.3	24.6

*Percent of drug users who experienced a traumatic event during childhood as reported by interviewees.

†Mean age at onset of cigarette smoking as reported by interviewees.

‡Mean age at onset of alcohol consumption as reported by interviewees.

Family Situation

Table 3 shows that in $^3/_4$ of investigated cases, parents were smokers, and more than $^1/_3$ of families had a problem drinker, usually the father. In 16%, a mental disturbance, such as depression, was reported. In 14%, prescribed psychoactive drugs were regularly used, predominantly by mothers. Physical violence against family members, mainly by the father, was a common phenomenon in 20% of the sample. About 45% of the victims were from families having more than one of these factors present. There was no statistically significant association between family habits (i.e., smoking, heavy drinking, mental disturbance, and psychoactive drug use by parents, physical violence) and recognized initiation of smoking or drinking, as well as age, blood alcohol concentration, and substance abuse pattern at time of death.

Discussion

Regarding the adequacy of methodology, it is recognized that the main drawback of the presented research is the absence of any control or comparison group which renders the results less interpretable. Furthermore, only a single person was interviewed for each death although more than one source of information would have decreased the problem of subjectivity. Finally, in 36% of drug-related deaths examined at the Viennese Institute of Forensic Medicine in 1993, no interview partner was available, probably jeopardizing the findings.

However, the results of this descriptive study show that families of examined drug-related deaths are characterized by a lot of problems. Three quarters of parents were smokers, and in more than a third of these families, there was a problem drinker, mostly the father. Furthermore, in every seventh family, psychoactive medication, especially by mothers, was reported. In this context it must be considered that, in 1992, the Austrian average per capita consumption of pure alcohol was roughly 13 litres per annum. It is estimated that about 8% of the Austrian population are alcohol abusers or addicts (15). In the early 1980s, psychoactive drugs such as tranquillizers, antidepressants, and hypnotics were taken by approximately 5% of the Austrian population (16), and by about 6.8% of Viennese inhabitants (17). Social learning theory suggests that individuals learn through a vicarious process of observing the behaviors of role models. Parents are such role models (18). The children of an alcoholic father or a mother in receipt of a prescription for psychoactive drugs may learn from their parents that psychological stress requires a chemical solution. Moreover, problem drinking by a parent markedly increases health risks to children. Parents who drink excessively are also likely to have children who may suffer from long-term adverse consequences, such as psychoactive substance use (19). In particular, alcoholic parents

TABLE 3—*Drug-related deaths by gender and parental afflictions as reported by interviewees.*

Deaths	*n*	Smoking*	Alcohol consumption*	Mental disorders*	Psychoactive medication*	Violence*
Female	8	62.5	12.5	12.5	12.5	00.0
Male	43	78.6	40.5	16.7	14.3	23.8
Total	51	76.0	36.0	16.0	14.0	20.0

*Data refer to the percentage of reported parental afflictions.

appear to transmit a nonspecific tendency either for alcohol or drug abuse to their children (20).

Furthermore, every fifth family in our sample contained a physically violent father. On the other hand, about 50% of fathers were absent due to parental separation, divorce, or bereavement. In 1991, in Vienna, the capital of Austria, with more than 1.5 million inhabitants, there were 414,000 families with at least one child. About 20% of these families were missing one parent, mainly the father. In this year, there were more than 5,300 divorces against 10,200 marriages.

The age at which examined drug users started drinking alcohol and smoking, reported by the interviewees, was similar to that reported by living opiate addicts interviewed at the outpatient ward of the Viennese University Clinic of Psychiatry (21). In this context, it must be taken into account that substance use is said to follow a predictable developmental progression beginning with experimentation and recreational use of cigarettes and alcohol (22,23).

Rounsaville et al. found 31% of 384 opiate addicts having experienced at least two traumatic events in childhood (24). Thirty-seven percent of intravenous drug addicts recorded in the injection mark study in Sweden had divorced parents (8). In our study population, more than 80% experienced one traumatic event during childhood. This finding is consistent with the conjecture that what happens early on in childhood is likely to have marked and persistent effects on the sort of person the child eventually becomes (25).

The results of this descriptive study are in line with the assumption that drug abuse may be an indication of dysfunction within the family system. Addiction involves the family as a whole, so it is important to consider also "the family" as the therapeutic object (9,26).

Acknowledgment

The authors would like to thank Miss Joanne Lenney for her critical review of the manuscript.

References

(1) Federal Ministry of Internal Affairs. Austrian Drug Report 1994. Vienna: Ministry of Internal Affairs, 1995.
(2) Springer A, Uhl A, Maritsch F. The cannabis problem in Austria. Wien Zeitschr Suchtforsch 1987;1–2:3–33.
(3) Uhl A. (1992) A model for estimating illicit drug experience by age, sex, education and region based on a representative survey in 1984. Wien Zeitschr Suchtforsch 1992;4:11–7.
(4) Risser D, Schneider B. Drug-related deaths between 1985 and 1992 examined at the Institute of Forensic Medicine in Vienna, Austria. Addiction 1994;89:851–7.
(5) Robson P, editor. Forbidden drugs. Understanding drugs and why people take them. New York: Oxford University Press Inc., 1994.
(6) Orford J, Velleman R. Offsprings of parents with drinking problems: drinking and drug-taking as young adults. Br J Addict 1990;85(6):779–94.
(7) Tunving K. Fatal outcome in drug addiction. Acta psychiatr scand 1988;77:551–66.
(8) Stenbacka M, Allebeck P, Romelsjö A. Do cannabis drug abusers differ from intravenous drug abusers? The role of social and behavioural risk factors. Br J Addict 1992;87:259–66.
(9) D'Agnone OA, Basyk LD. Some familial dynamic aspects in drug abusers. Med Law 1989;8:431–2.
(10) Stoker A, Swadi H. Perceived family relationships in drug abusing adolescents. Drug, Alcohol Depend 1990;25(3):293–7.
(11) O'Doherty F, Davies JB. Life events and addition: a critical review. Br J Addict 1987;82:127–37.
(12) Swadi H. Relative risk factors in detecting adolescent drug abuse. Drug, Alcohol Depend 1992;29(3):253–4.
(13) Henningfield JE, Clayton R, Pollin W. Involvement of tobacco in alcoholism and illicit drug use. Br J Addict 1990;85:279–92.
(14) Deutsche Gesellschaft für Suchtforschung und Suchttherapie. Dokumentationsstandards für die Behandlung von Abhängigen. Freiburg im Breisgau: Lambertus, 1992.
(15) Mader R, Mittendorfer C, Pavlis L, Springer A. (1991) Austrian drinking habits. Consumption–attitudes–dangers. In: Schriftenreihe des Ludwig Boltzmann-Institutes für Suchtforschung 1991;4 (Wien, Brüder Hollinek).
(16) Lesch OM. (1986) Drug use and traffic safety (A study representative for Austria). Zeitschr Verkehrsrecht 1986;31:161–6.
(17) Pakesch G, Loimer N, Rasinger E, Tusch G, Katschnig H. (1989) The prevalence of psychoactive drug intake in a metropolitan population. Med Law 1989;8:63–72.
(18) Dusenbury L, Khuri E, Millman B. Adolescent substance abuse: A sociodevelopmental perspective. In: Lowinson JH, Ruiz P, Millman RB, editors. Substance abuse. A comprehensive textbook. Baltimore: Williams and Wilkins, 1992:832–42.
(19) Plant MA, Orford J, Grant M. The effects on children and adolescents of parents' excessive drinking: An international review. Public Health Rep 1989;104(5):433–42.
(20) Kosten TR, Rounsaville BJ, Kosten TA, Merinkangas K. Gender differences in the specifity of alcoholism transmission among the relatives of opioid addicts. J Nerv Ment Dis 1991;179(7):392–400.
(21) Loimer N, Vedovelli H, Presslich O, Werner E, Hollerer E, Pfersmann V, et al. Nicotine–drug–addiction– AIDS. Drug–taking characteristics of Viennese addicts. Wien Klin Wochenschr 1991; 103(20): 617–20.
(22) Kandel DB. Convergences in prospective longitudinal surveys of drug use in normal populations. In: Kandel DB, editor. Longitudinal research on drug use: Empirical findings and methodological issues. Washington, DC: Hemisphere (Halsted-Wiley), 1978:3–38.
(23) Hamburg BA, Braemer HC, Jahnke WA. Hierarchy of drug use in adolescence: Behavioral and attitudinal correlates of substantial drug use. Am J Psychiatry 1975;132:1155–67.
(24) Rounsaville BJ, Weisman MM, Wilber CH, Kleber HD. Pathways to opiate addiction: an evaluation of differing antecedents. Br J Psychiatry 1982;141:437–46.
(25) Newson J, Newson E, Adams M. The social origin of delinquency. Crim Behav Ment Health 1993;3:19–29.
(26) Crowley P. Family therapy approach to addiction. Bull Narc, 1988;XI(1):57–62.

Address requests for reprints or additional information to
Daniele Risser, M.D.
Institute of Forensic Medicine
University of Vienna, Sensengasse 2
A-1090 Vienna, Austria