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ORIGINAL ARTICLE

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A detailed study on suicides in Baranya County (Hungary)

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Abstract Suicidal deaths which occurred in Baranya County, Hungary between 1983 and 1987 were investigated with regard to biodemographical aspects. The number of suicidal deaths for this period was 1056 and the rate for this region was higher in villages than in towns. The male: female ratio was 3:1. The analysis of age groups showed that the rate increased with age and that the most frequent method was by hanging (50–55%). Moreover in 375 cases in-depth interviews were made with the relatives. The analysis of the interviews showed that 20% of elderly males could not cope with their losses and found no way out except through suicide. Suicide was less frequent among persons with intellectual occupations. Severe alcohol abuse was found in 165 cases. In 83% of the 1056 cases studied, pathological disorders of varying severity were observed. Toxicological analysis was performed in 810 cases but 17.9% of these cases should be isolated since they involved acute drug intoxication. Our data showed that most of the suicide victims contacted a doctor and received some treatment immediately before death or not long before. The present health and geriatric care systems in Hungary do not provide a level of psychotherapeutic care which could protect the population at risk from suicide. In our opinion, it would be reasonable to develop the knowledge of practitioners and health care personnel working in this field.

Key words Suicide · Baranya County, Hungary · Biodemographical aspect · "Psychological autopsies" · Pathological disorders · Prior medical treatment

Introduction

The suicide rate in Hungary – as in the other former states of the Austro-Hungarian Monarchy – has always been very high during the past one hundred years (Böszörményi 1976). However since the late 1950s, the number of suicides has more than doubled and, in 1987, it was 45.1 per 100,000 inhabitants. Hungary is at the top of the international suicide table (Table 1 from Kolozsi and Münnich 1988).

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Materials and methods

The Forensic Medicine Institute of the Medical University of Pécs, Hungary initiated an investigation on suicidal deaths in Baranya County over a 5-year period from January 1, 1983 to December 31, 1987. According to Hungarian law the body of a person who died a violent death or if such a death is suspected can only be buried after a medico-legal autopsy therefore our data comprises the complete material of suicidal deaths in Baranya County. In January 1983, the number of inhabitants in Baranya County was 433,030: its central town, Pécs had 174,379 inhabitants, the towns had 75,433, and the villages 183,218. The number of suicidal deaths in Baranya County during this period (5 years) was 1056, of which 1007 were residents of the county, the rest (49 persons) were residents from other counties (either they were referred to one of the health institutions or were staying there as visitors/tourists when they died).

Results and discussion

This region has a higher rate and absolute number of suicidal deaths in villages than in towns (Table 2). The male: female ratio in small towns and villages corresponded to the "traditional" and international 3:1 ratio (Pritchard 1990), however, the distribution for Pécs was lower (62%: 38%).

An analysis of the age groups showed that the rate of suicidal death increased with age. The data are not unfamiliar, however, it is an unfortunate social phenomenon that out of 100,000 males older than 70 years of age, the incidence of suicide was between 200–300 per year and was 300 over the age of 80 (Fig. 1).

The incidence for females over the age of 70 was somewhat less, however, it was 4–5 times more frequent than that for females of middle age (the age group 30–39). These phenomena result from more than one factor, such as loneliness, separation, being handicapped due to so-

Table 1 Suicide in different countries (No./100,000 pop.)

Country	1955	1960	1965	1970	1975	1980	1984
England and Wales	11.3	11.2	10.8	8.0	7.5	8.8	8.7
USA	10.2	10.6	11.0	11.1	12.7	11.8	12.1
Canada	7.0	7.6	8.8	11.3	12.4	14.0	13.7
West-Germany	19.3	18.8	20.0	21.5	20.9	20.9	20.5
Ireland	–	3.0	1.8	1.8	3.6	6.3	5.4
Nederland	6.0	6.6	6.9	8.1	8.9	10.1	12.4
Italy	6.7	6.1	5.4	5.7	5.6	7.3	–
Spain	–	5.5	4.7	4.2	3.9	4.4	–
Japan	25.3	21.6	14.7	15.0	18.0	17.6	20.4
Greece	–	–	3.2	3.0	2.8	3.3	3.3
Australia	10.3	10.6	14.9	12.4	11.1	11.0	11.0

Table 2 Suicidal deaths in Baranya County between 1983–1987

Settlement	1983		1984		1985		1986		1987	
	No. of cases	No./100,000 pop.	No. of cases	No./100,000 pop.	No. of cases	No./100,000 pop.	No. of cases	No./100,000 pop.	No. of cases	No./100,000 pop.
Pécs	58	33.30	91	52.20	62	34.50	79	46.80	68	40.30
Small towns	25	33.20	37	49.00	31	41.20	46	61.00	31	41.60
Villages	107	58.40	101	55.20	99	54.00	80	41.90	92	48.20
Total in Baranya County	190	43.90	229	52.90	192	44.20	205	47.30	191	44.20
Inhabitants of other counties	6		12		11		12		8	
Total no. of autopsies	196		241		203		217		199	

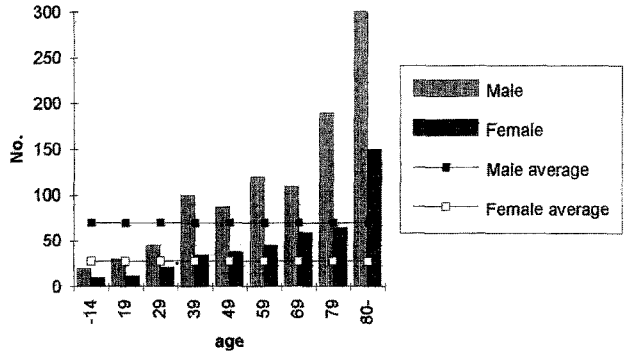

Fig. 1 Age and sex distribution of suicidal deaths in Baranya County between 1983–1987 (per 100,000 inhabitants)

matic diseases, pain, inability and general limitation of physical activity and psychological changes and disorders due to old age, which should often be taken as symptoms by themselves. The incidence of suicide was high for males in the age group between 40–59 (3–3.5 times higher than that for females). It was especially "outstanding" in 1984, when 130 out of 100,000 males aged between 40–49 died a suicidal death and 156 in the age group between 50–59. The most frequent method of suicide in Baranya County was by hanging, i. e. 50–55%. This method together with other violent methods was also frequent in females. However, the incidence of self-poisoning is increasing, especially among females. The incidence of violent methods was higher for males.

The authors tried to make the study of suicidal deaths as detailed as possible by using in-depth interviews with the relatives of the suicide victims. Schneidman was the first to give an account of such psychological autopsies with the relatives of suicidal victims (Schneidman et al. 1970). Out of the 1056 suicide victims, relatives of 375 were interviewed and this data was processed by computer and compared with the data from postmortem examinations. The age distribution in the 375 cases was similar to the total number (1056) of cases (68.9% for males: 31.1% for females). The analysis of the interviews showed that 20% of elderly males could nor cope with their losses (illness, physical or mental decay, loss of partner) and could not find a way out except through suicide. In females, personal loss as a factor inducing suicide was found in 32% of the cases.

The findings showed that suicides were higher among the undereducated: 80% of them only attended primary school (1st-8th grade) and a large proportion of these did not even complete this. More than half were employed and most were physical workers. The rate of undereducated elderly pensioners was also high, i. e. 35%. More than 50% of suicide victims were married, so our findings did not show the "protective" role of marriage. However, if divorcees and widows are considered a social "group", their suicide rate was higher than that of married persons. Suicidal death was less frequent among persons with intellectual occupations.

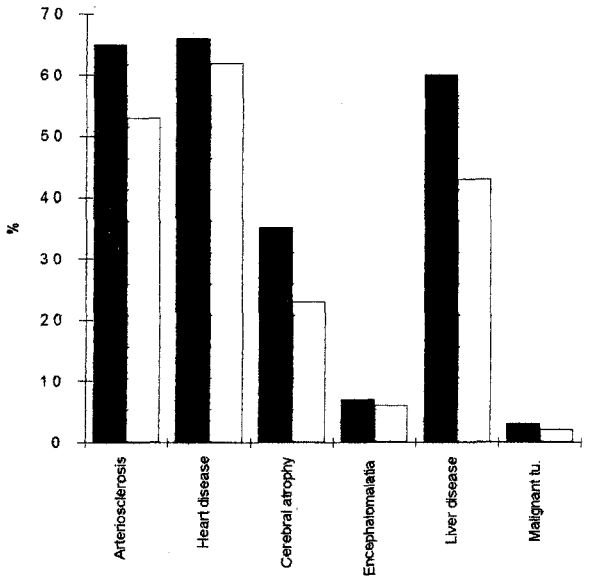

Fig. 2 Some major diseases diagnosed at autopsy among suicides (n) in Baranya County 1983–1987 compared to a sample group (q)

The authors compared the results of this study with some of the results from the first comprehensive Hungarian analysis (Harsányi et al. 1972) to furnish important data concerning the autopsy results of suicides and those of murdered and accident victims and to see if these findings coincide. Even in 1972, part of this study aimed at the morphological aspects, i. e. when compared to other persons of the same age group who did not die a suicidal death, were suicides as a specific "group" healthier or unhealthier from a pathological point of view? A group of 1050 persons of similar age and sex who died from other violent deaths (accident, murder) was used as a control sample. (Fig. 2.).

Of the suicides studied, 17% were found to be "healthy". So in 83% of our cases, pathological disorders of various severity were observed.

It is well known that heart disease is accompained by dyspnoea, a limitation of motion and a decrease in normal activity, which are severe subjective burdens. Arteriosclerosis was a very frequent finding among suicides. Liver lesions, especially cirrhosis, liver adiposis as well as cerebral atrophy, were found far more frequently among suicides than in the control group. It can, unfortunately, easily be explained by the fact that in Baranya County, a high percentage of the population have gardens and vineyards. The production of wine and other alcoholic drinks is high and that is why the role of alcoholism as a cause of liver disease and lesions of the central nerve system can be easily understood.

Analysing the diseases, we found the same incidence of "heart diseases" (disorders of the endocardium and myocardium, etc. proven pathologically) among both the suicide victims and the sample group. This incidence corresponds to the morbidity rates found in Hungary with the exception of nutritional disorders of the myocardium, especially the fatty degeneration of the myocardium which was more frequently observed in suicide victims. This can be explained by the changes in metabolism resulting from alcohol abuse.

This primarily involves males since 144 males with severe alcohol abuse were found in the 375 cases and 92 showed adiposis of the liver and 53 myocardial degeneration. The same disorders were even found in one-third of those whose alcohol consumption was not excessive (Table 3.).

Coronary stenosis and associated malformations were more frequent in the sample group. It is well-known that there is a causal relationship between coronary disease and different stresses which result in disorders of the blood supply of the myocardium. This consequently causes a feeling of sickness (angina pectoris) and fear of death. However, this well-known state representing such a severe burden for the patient subjectively, does not seem to induce an increased number of suicides, at least not directly and in a statistically detectable way.

The relationship between menses and suicide has been known for a long time and in this study 26.2% of mature, menstruating females committed suicide during their periods.

In 810 out of 1056 persons examined, toxicological analysis and blood alcohol tests were performed. Out of the 810 persons, 17.9% should be isolated since they had acute drug intoxication. In 326 out of 810 cases (40.2%), no drugs could be detected. On the other hand, there were 339 cases (41.9%) in which a therapeutic dose of sedatives/sleeping pills could be detected in the blood although they committed suicide in a different way. If we add the 17.9% of victims with acute drug intoxication, we can see that almost 60% of the 810 persons was influenced by either sleeping pills or sedatives. It should be added

Table 3 Alcohol consumption and pathological diseases

Alcohol consumption	Cerebral atrophy		Myocardial degen.		Adiposis of liver		Gastritis		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
None	2	18	11	12	24	9	0	0	56	69
Used to drink excessively	2	1	5	1	8	2	0	2	13	6
Regular, but not abuse	3	3	12	3	11	3	0	0	8	3
Regular, chronic, abuse	22	4	53	7	92	8	21	2	144	21
Unknown	0	0	2	0	5	0	0	0	8	3
Total	29	26	83	23	140	22	21	4	258	117

Table 4 Previous medical treatment of suicide victims

Medical treatment	Male		Female	
	No.	%	No.	%
G.P.	47	18.2	24	20.5
Neurologist, psychiatrist	45	17.4	24	20.5
Specialist (somatic)	21	8.1	8	6.8
Hospital	12	4.6	6	5.1
Unknown	48	18.6	21	17.9
Not treated	85	32.9	34	29.1
Total	258	100	117	100

that each of the drugs examined can be obtained only with a medical prescription in accordance with the law.

The data showed that most of the suicide victims contacted a doctor and received some treatment, immediately before death or not long before. The interviewed relatives reported that 62 females (52.9%) and 125 males (48.4%) out of the 375 cases were treated prior to their death. In any case, it is remarkable that 20.5% of females and 17.4% of males were either treated by a neurologist or a psychiatrist (Table 4.). Accordingly the role of the general practitioner and specialist is also important (Mulder 1994).

It is also evident from the relatives interviewed that 35.9% of males and 32.0% of females had already attempted suicide before.

Conclusions

A biodemographic analysis of 1056 suicides led to the following conclusions, which corresponded to the international results.

1. Compared to the number of inhabitants, the rate of suicide was higher in villages and rural settlements than in towns.
2. The male to female ratio in towns is becoming more equalized, however, both in towns and, especially villages, suicides were more frequent among males (Kóczán et al. 1993).
3. The incidence of suicides in persons over 70 years of age was strikingly high, especially for males who live alone (Heeringen 1994).
4. The increase in the number of pathological changes due to chronic alcoholism indicates a close relationship between alcoholism and suicide (Elekes 1989).
5. High educational levels and an educated lifestyle serve, in part, as a defense network against the "threat" of suicide at a given age (Petronis et al. 1990).
6. A small or large community is an essential element for suicide prevention (Petronis et al. 1990).
7. There was a strikingly high number of regular drug users (especially sedatives and sleeping pills) among suicide victims (Harsányi 1972).
8. The present health care and geriatric care systems do not provide a level of psychotherapeutic care which could protect the population at risk from suicide. So, the authors think, it would be reasonable to develop the knowledge of practitioners and health care personnel working in this field.

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