

## DEMOGRAPHIC ASPECTS OF PSYCHOPATHOLOGICAL BEHAVIOUR IN THE CZECH REPUBLIC

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**Abstract:** The aim of this contribution is to present a demo-geographical analysis of both subjective information and objective evidence of the quality of mental health of persons aged 18-65 years, in order to obtain a new perspective on the structural linkages between the regionally differentiated levels of public health and the frequency of suicide. Our results reveal that the motivation of suicidal behaviour is different for men and women. Suicides of women are related to a higher prevalence of depressions and neuroses, and it can be therefore assumed that the key determinants of these phenomena lie in the "psychological" sphere, i.e. impaired interpersonal relationship, family crises, changes in lifestyles and social roles, etc. The fact that for each sex different statistically significant links were identified corresponds to differences between men and women in determinants of psychopathological behaviour and subjective perception of quality of life.

**Keywords:** mental diseases, CIDI survey, suicides

Studies examining population health have been increasingly focusing on issues such as longevity, quality of life, or chronic diseases that are not fatal but lead to physical and mental suffering. In developed countries, the question of mental health is becoming increasingly important for all age groups - for the elderly as a logical outcome of population ageing and increases in life expectancy; for younger persons as a result of changes in lifestyles. The importance and broader significance of the growing prevalence of mental diseases has been highlighted in the last report of the World Health Organization (The World Health Report, 1999). The negative consequences of this process should be seen not only from the perspective of the growing economic burden due to mental disorders, but also from the point of view of the social context of mental health. Studies analyzing the differences in mortality and morbidity between developed

countries are thus more and more relying on the psychological perspective. To monitor the actual situation in this area seems to be a task of primary importance.

The link between psychosocial burden and morbidity has been demonstrated in a number of studies. People who are less able to cope with more problematic life situations tend to experience more life crises and failures and are inclined to seek medical help even because of symptoms which others would ignore. Persons with mental disorders have typically a higher level of morbidity; need more time to recuperate even from common diseases; and their treatment is usually therapeutically more demanding. The probability of a mental disease increases if the quality of a person's environment is poor, and the number of environmental risk factors tends to grow as individuals age: in the perinatal period mental health is dependent mainly on the quality of one's familial and micro-regional climate; during childhood the factors of school environment are added, etc. As a result, with increasing age of individuals there is an increase of the strength of statistical association between the quality of mental health and the sum of determining factors of all levels, including the macro-regional level related to an inadequate standard of natural and social environment.

The characteristics of mental health of a population manifest themselves in all health status indicators, including overall levels of morbidity and mortality. Within the society, suicide is widely regarded as a particularly serious consequence of psychopathological behaviour. Suicidal deaths belong to those deaths that are in a sense unnecessary and can be affected through social conditions, but they are (unlike most other causes of deaths) poorly understood as regards their regional variation (Dzurová, D. and Dragomirecká, E., 1997). The aim of this paper is to present a demographic analysis of both subjective information ("soft" data from surveys) and objective evidence ("hard" data from routine statistical registration) in order to obtain a new perspective on the structural linkages between the regionally differentiated levels of public health and the frequency of suicide.

In order to increase reliability and improve comparability of estimates of the prevalence of mental disorders throughout the world, WHO in collaboration with the University of Michigan initiated work on the standardized, internationally applicable questionnaire called CIDI (Composite International Diagnostic Interview). Using the CIDI questionnaire, a survey of hidden lifetime psychopathology<sup>1</sup> of adults started in the Czech Republic in July 1998. Based on the algorithm of answers, preliminary results of the questionnaire survey<sup>2</sup> have shown that one or more mental diseases can be found in 27 percent of respondents. The most frequent mental disorders were as follows: neurotic, stress-related and somatoform disorders (30 percent); behavioural disorders

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<sup>1</sup> The term 'hidden psychopathology' denotes those mental diseases that commonly occur among randomly selected, supposedly healthy, individuals.

<sup>2</sup> The CIDI survey was a sample survey of persons aged 18-65 years, conducted on the whole territory of the Czech Republic between 1 July 1998 and 31 July 1999. It was carried out by the Laboratory for Psychiatric Demography, Prague, in collaboration with the Department of Social Geography and Regional Development, Charles University, and the Institute of Health Information and Statistics. Addresses of respondents were obtained using a two-level selection process from the Registry of Inhabitants of the Interior Ministry of the Czech Republic. Diagnoses of mental diseases were determined by a computer programme on the basis of the algorithm of respondents' answers - the expert method system.

caused by abuse of psychoactive substances (15 percent); and mood (affective) disorders (9 percent). As far as gender differences are concerned, women appear to have on average a higher prevalence of mental disorders than men (30 percent and 24 percent, respectively; Table 1). While mental disorders related to stress (neurotic disorders) and mood disorders appear to be more prevalent among women, for men the dominant category are disorders associated with abuse of psychoactive substances, especially tobacco and alcohol.

Regarding educational attainment, mental disorders have been found to be more frequent among persons without education or with only incomplete basic education (Table 1). From the point of view of marital status, the groups that are more likely to show symptoms of mental ill-health are widows and divorced women (45 percent and 44 percent, respectively) and divorced men (38 percent); Table 1. One can therefore conclude that the high divorce rate in the Czech Republic (one of the highest in Europe) has negative implications for the quality of mental health of all age groups and that it increases the risk of mental disorders already in childhood. In view of the unfavourable trend of divorce rate in the Czech Republic, further increases in the prevalence of mental disorders can be expected.

**Table 1** Lifetime mental morbidity of CIDI respondents according to their demographic characteristics

	N of respondents			N of resp. with dg			% of resp. with dg.		
	F	M	Total	F	M	Total	F	M	Total
<b>Education</b>									
Without primary school	17	11	28	7	4	11	<b>41,2</b>	<b>36,4</b>	<b>39,3</b>
Basic school	152	91	243	50	22	72	32,9	24,2	29,6
Vocational	146	209	355	35	53	88	24	25,4	24,8
Secondary	221	179	400	68	43	111	30,8	24	27,8
Higher second.	21	27	48	5	3	8	23,8	11,1	16,7
University	39	64	103	11	17	28	28,2	26,6	27,2
<b>Marital status</b>									
Single	98	142	240	26	35	61	26,5	24,6	25,4
Married	384	379	763	99	86	185	25,8	22,7	24,2
Divorced	63	47	110	28	18	46	<b>44,4</b>	<b>38,3</b>	<b>41,8</b>
Widowed	51	13	64	23	3	26	<b>45,1</b>	23,1	<b>40,6</b>
<b>Size categories of localities</b>									
-1 999 inhab.	175	185	360	45	50	95	25,7	27	26,4
-4 999 inhab.	60	63	123	12	18	30	20	28,6	24,4
-9 999 inhab.	59	48	107	14	7	21	23,7	14,6	19,6
-19 999 inhab.	54	47	101	15	5	20	27,8	10,6	19,8
-49 999 inhab.	63	62	125	30	18	48	<b>47,6</b>	29	<b>38,4</b>
-99 999 inhab.	65	55	120	22	12	34	33,8	21,8	28,3
100 000+ inhab.	120	121	241	38	32	70	31,7	26,4	29
<b>Total</b>	596	581	1177	176	142	318	29,5	24,4	27

Data resources: CIDI Survey 1998-99

Note: bold values > average + 1 standard deviation

One of the aims of the CIDI survey was to assess the levels of psychopathology within various size categories of places of residence. The descriptive results have confirmed that the highest proportions of respondents with mental health problems could be found in middle-sized towns (20-50 thousand inhabitants) and larger cities (100 thousand inhabitants or more); Figure 1. In smaller localities among persons belonging to younger age groups, the dominant category consisted of disorders resulting from dependency on psychoactive substances such as alcohol and tobacco. In contrast, in larger towns the prevailing disorders were various forms of mood disorders and neuroses, especially among women.

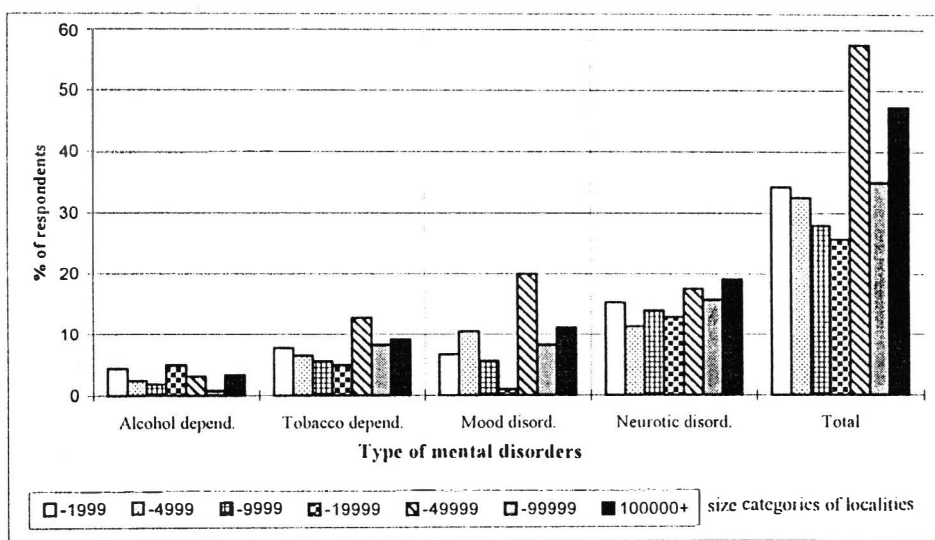


Fig. 1 Differences in lifetime hidden psychopathology according to size categories of localities

It can be concluded that in the Czech population as a whole, the population group most at risk of experiencing symptoms of psychopathology are persons who are divorced, have lower level of education, are middle-aged and jobless, and live in localities with 20-50 thousand inhabitants. Neurosis has been confirmed as the most frequent form of psychopathology, especially in women who are middle-aged and older, married, with low level of education; or on the contrary in women with tertiary education, engaged in private business, and living in localities with more than 20 thousand inhabitants.

In the Czech Republic, similarly as in other developed countries, the increasing significance of mental disorders among members of younger age groups is primarily related to excessive consumption of psychoactive substances: traditionally tobacco and alcohol, and newly drugs. In regard to drugs, in recent years the Czech Republic ceased to be a transit country and became a target country, a fact that has very negative implications for morbidity and mortality statistics. The number of young people who

either experiment with, or are already dependent on 'hard' drugs has been continually growing, and the number of lethal intoxication has been on an increase as well (Malá, 1997). On the basis of available statistics, it can be inferred that the role of drug overdose as a determinant of mortality and suicide is growing.

The reasons for suicidal behaviour are often multiple and a subjectively experienced burdensome situation is the most usual background. From the data covering the period until 1989, the year when statistical monitoring of suicidal attempts ended in the Czech Republic, it can be concluded that women exhibit a higher intensity of suicidal attempts; that men have a lower overall intensity but a higher rate of completed suicides; and that the suicide rate declines with increasing age (according to the 1989 data, the ratio of accomplished suicides to suicidal attempts in the age group 30 years and less was 1:6 for men and almost 1:40 for women, but in the age category 60 years and more it was 3:1 for men and 1:1 for women. Suicidal behaviour in children is usually associated with a kind of ultimatum: a younger child hopes to achieve love, whereas an older child wants to demonstrate its independence or punish the adults for their rejection or vanishing love); suicidal behaviour among children is typically not connected with a medical diagnosis, among young people it is often associated with mental disorders related to alcohol and drug abuse or schizophrenia, and among the elderly it is frequently the product of depression (Malá, E., 1997). International experience shows that most suicidal attempts of the elderly are signs of a genuine desire to die rather than being symbolical calls for help.

In view of the growing importance of the consequences of impaired mental health, our aim was to undertake a more detailed analysis of the CIDI respondents' answers as regards their negative thoughts about death and their possible experiences with suicidal attempts. Preliminary results of the survey of hidden psychopathology have shown that nearly one woman out of ten considers committing a suicide during her lifetime; 5 percent have suicidal thoughts; and 2 percent have already undergone a suicidal attempt (Table 2). Men have reported suicidal thoughts less often than women have, which is in line with the relatively lower level of hidden psychopathology among men (measured by lifetime incidence and prevalence rates). The survey results have confirmed the assumption that the incidence of suicidal thoughts differs according to the type of mental disease. From the point of view of suicidal attempts, depressions represent the most serious form of mental disorders for both men and women. Nearly every second man suffering a neurosis has considered suicide during his life, and every tenth such man has in fact attempted to commit a suicide (Table 2). As expected, psychopathological thoughts of respondents appear to depend on the regional level of religiosity. Whereas responses given by respondents who live in the most religious regions are highly differentiated (the rate of suicidal thoughts and attempts below the average, but the rate of thoughts about death above the average), in regions with the lowest proportions of religious persons, especially in larger towns, the frequency of suicidal thoughts and thoughts about death is well above the average.

**Table 2** Thoughts about deaths among CIDI respondents according to sex and type of mental disorder (in per cent)

Type of mental disorders	Alcohol Depend	Alcohol Depend	Tabacco Depend	Tabacco Depend	Mood Disord.	Mood Disord.	Neur. Disord	Neur. Disord	Total	Total
Sex	F	M	F	M	F	M	F	M	F	M
Thoughts about death	12,5	28,6	34,4	15,9	40,8	46,4	14,4	16	9,2	6
Thoughts about suicides	12,5	17,9	15,6	12,7	18,4	46,4	8,1	10	4,7	4
Suicidal attempts			6,3	1,6	10,2	10,7	3,6		2	0,9

Data resources: CIDI Survey 1998-99

**Table 3** Association between respondents' thought about death and their mental diseases (Pearson's correlation coefficient)

Type of mental disorders		Thoughts about death	Thoughts about suicides	Suicidal attempts
<b>Females (n=595)</b>				
Alcohol Dependence	Pearson Correl.	0,050	0,093	-0,016
	Sig. (2-tailed)	0,222	0,024	0,696
Tobacco Dependence	Pearson Correl.	<b>0,207</b>	<b>0,123</b>	0,072
	Sig. (2-tailed)	0,000	0,003	0,080
Mood disorders	Pearson Correl.	<b>0,290</b>	<b>0,226</b>	<b>0,191</b>
	Sig. (2-tailed)	0,000	0,000	0,000
Neurotic disorders	Pearson Correl.	<b>0,123</b>	<b>0,116</b>	0,085
	Sig. (2-tailed)	0,003	0,005	0,037
<b>Males (n=581)</b>				
Alcohol Dependence	Pearson Correl.	<b>0,190</b>	<b>0,142</b>	-0,020
	Sig. (2-tailed)	0,000	0,001	0,624
Tobacco Dependence	Pearson Correl.	<b>0,144</b>	<b>0,156</b>	0,027
	Sig. (2-tailed)	0,000	0,000	0,509
Mood disorders	Pearson Correl.	<b>0,344</b>	<b>0,471</b>	<b>0,282</b>
	Sig. (2-tailed)	0,000	0,000	0,000
Neurotic disorders	Pearson Correl.	<b>0,179</b>	<b>0,121</b>	-0,026
	Sig. (2-tailed)	0,000	0,003	0,525

Data resources: CIDI Survey 1998-99

The association between the type of mental disorder and the frequency of thoughts about death has been statistically tested by means of the correlation analysis. The most significant link was found between suicidal attempts and depressions (Pearson's correlation coefficient of 0.282 for men and 0.191 for women; Table 3). These results raise the questions to what extent are mental diseases and psychopathological thoughts associated with the respondents' living conditions; whether the regions with higher levels of mental disorders display also higher mortality rates; and which types of causes of

deaths are associated with psychopathological behaviour. Employing the SPSS Aggregate programme, we transferred individual data on hidden psychopathology to the district level and, by making use of the "Merge Files - Add Variables" facility, we added to them standardized, district-level indicators of mortality by age and causes of death as available in the DPS software databases. In order to preserve the statistical significance of our results, districts with insufficient numbers of respondents were excluded from the analysis.

**Table 4** Association between standardized mortality rates by causes of death (1996-1998) and incidence rates by type of mental disorders (1998-1999) for 63 districts of the Czech Republic

Causes of death		Alcohol Dependence	Tobacco Dependence	Mood disorders	Neurotic disorders
<b>Females</b>					
Cancer	Pearson Correl.	0,047	0,147	0,075	0,234
	Sig. (2-tailed)	0,713	0,251	0,560	0,065
Circulatory d.	Pearson Correl.	-0,014	-0,090	0,041	0,110
	Sig. (2-tailed)	0,915	0,484	0,749	0,392
Suicide	Pearson Correl.	0,005	0,125	<b>0,345</b>	<b>0,467</b>
	Sig. (2-tailed)	0,971	0,328	0,006	0,000
Total	Pearson Correl.	-0,012	-0,056	0,120	<b>0,258</b>
	Sig. (2-tailed)	0,925	0,663	0,347	<b>0,042</b>
<b>Males</b>					
Cancer	Pearson Correl.	0,041	0,053	0,118	-0,067
	Sig. (2-tailed)	0,749	0,683	0,358	0,603
Circulatory d.	Pearson Correl.	-0,017	0,019	-0,244	0,082
	Sig. (2-tailed)	0,896	0,884	0,054	0,525
Suicide	Pearson Correl.	0,103	<b>0,370</b>	0,075	0,048
	Sig. (2-tailed)	0,422	0,003	0,561	0,709
Total	Pearson Correl.	0,043	0,101	-0,019	0,078
	Sig. (2-tailed)	0,738	0,429	0,882	0,541

Data resources: CIDI Survey 1998-99 and ÚZIS, Prague

The correlation matrix for a set of 63 Czech districts (Table 4) reveals that for women the regional variation of overall mortality levels is significantly associated with the variation of morbidity due to neurotic diseases (Pearson's correlation coefficient equal to 0.258). The strongest correlation found is that between the level of neurosis-related morbidity and the level of suicide among women (0.467). For men, a statistically significant association exists between the level of dependency on tobacco and the incidence of suicide (0.370). The fact that for each sex different statistically significant links were identified corresponds to differences between men and women in determinants of psychopathological behaviour and subjective perception of quality of life.

## CONCLUSION

In studies aimed at identifying the associations between the incidence of suicide and demographic, economic and other characteristics of societal systems, the intensity of inter-personal relationships is customarily singled out as the most important aspect of social environment. Our results reveal that the motivation of suicidal behaviour is different for men and women. Suicides of women are related to a higher prevalence of depressions and neuroses, and it can be therefore assumed that the key determinants of these phenomena lie in the "psychological" sphere, i.e. impaired interpersonal relationships, family crises, changes in lifestyles and social roles, etc. No such association was detected for men. In fact, the prevalence of male mortality due to suicide is significantly associated only with symptoms of tobacco dependency, indicating that psychopathological behaviour of men is related mainly to socio-economic characteristics of districts.

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### Resume

#### **Demografické aspekty psychopatologického chování obyvatel v České republice**

Na základě předběžných výsledků CIDI šetření skryté psychopatologie dospělého obyvatelstva České republiky lze považovat za nejrizikovější populační skupinu pro vznik psychopatologie osoby rozvedené, s nižším vzděláním, bez trvalého pracovního poměru, středního věku, žijící v obcích s 20-50 tisíci obyvateli. U žen byla potvrzena statisticky významná souvislost mezi územní variabilitou standardizovaných ukazatelů úmrtnosti (úmrtnosti celkem a na sebevraždu) a ukazatelů celoživotní nemocnosti na



duševní onemocnění (hlavně neurotická onemocnění). Vzhledem k vážnosti důsledků narušeného duševního zdraví byla naší snahou detailnější analýza odpovědí respondentů CIDI šetření zaměřená na negativní myšlenky respondentů související se smrtí, případně se zkušenostmi s již provedeným pokusem o sebevraždu. Předběžné výsledky šetření naznačily, že téměř každá desátá žena během svého života uvažuje o možném ukončení svého života, 5% žen má sebevražedné myšlenky a 2 % z dotázaných již měly za sebou dokonce sebevražedný pokus. Muži, v souladu s potvrzenou nižší úrovní skryté psychopatologie (na základě měr celoživotní incidence a prevalence), deklarovali méně často úvahy o smrti než ženy. Výsledky šetření korespondují s úvahami, že četnost výskytu myšlenek na smrt se odlišuje v závislosti na typu duševního onemocnění. V příspěvku diskutované vztahy, rozdílné pro obě pohlaví, asociují s rozdílnými determinanty psychopatologického chování a rozdílně subjektivně vnímanou kvalitou života mužů a žen.