

Psychosocial correlates of suicidal behaviour in alcohol dependent persons. A pilot study *

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Suicidality among alcohol dependents is a crucial problem as viewed from the diagnostic, therapeutic, and especially preventive perspectives. The aim of the study was to find which of the selected psychosocial variables were correlates of suicidal behaviours in alcohol dependent people.

Three groups of 30 subjects each were compared: a) alcoholics who attempted suicide in the past 4 years, b) alcohol dependent people without previous suicidal attempts, and c) persons with no dependence or suicidal attempts. The two control groups (b and c) were pair matched for sex, age and education. All alcohol dependent subjects were patients of three outpatient clinics or an alcohol inpatient ward in Warsaw. Three instruments were used: a sociological SSS questionnaire (measuring the social support system), Beck's Depression Inventory, and the Orientation to Life Questionnaire SOC-29 developed by Antonovsky to measure the sense of coherence (SOC). Eleven hypotheses were verified in the study. Results of statistical analyses indicate the following 7 variables as correlates of suicidal behaviours: 1. more marked depressive symptoms, 2. weaker SOC, 3. longer history of alcohol abuse and more hospitalisations for alcohol problems, 4. unemployment or low status in the workplace, 5. more limited and weaker system of social support (quantitatively and qualitatively), 6. more negative life events, 7. more family problems (divorce, separation) and loneliness. Generalisation of these findings and their implementation in diagnostic, therapeutic and preventive terms would require replication of the study on large, representative random samples.

Key words: suicide attempts, alcohol dependence

Introduction

Poland is among the European countries with relatively low suicide rates in the years 1951-1999. Suicide rates in some European countries in the 1990s are given in Table 1 for comparison. Suicide rates in Poland ranged from 5 to 10 cases per 100 thousand population in the years 1951-1969, from 11.0 to 14.1 (in 1977, being the highest rate before 1992) in the 1970s, and in the 1980s – from 9.1 (in 1981) and 11.3

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(in 1989) to 13.9 (in 1984). In 1990 the suicide rate was 13.0 per 100.000, rising to 13.9 in 1991 and then to 14.9 in 1992 (the highest level noted so far). This rate gradually declined to 14.2 in the years 1993-1996 and to 13.1 per 100.000 population between 1997 and 1998.

However, according to the Main Statistical Office the data on suicides committed in the years 1997-1998 are underestimated by at least 10%, due – among other reasons – to the introduction of a new revision of the international classification of diseases (ICD 10). Thus, it can be cautiously assumed that in the period in question suicide rates in Poland attained the range between 14 and 15 cases per 100.000 population. This fact might be confirmed by data from 1999 and 2000 when suicide rates again ranged 14.9 and 15.1 respectively.

The magnitude of suicide rates was most strongly related to gender, as in Poland suicides are four to five times more frequent among males than females. In the 1990s suicide rates ranged from 20 to 25 cases per 100.000 for men, and 4 to 5 cases per 100.000 population for women.

This regularity pertains to committed suicides only, as cases of attempted suicide are more frequent in women than in men, their frequency is similar in both sexes, or may be slightly lower in women – depending on the age group [2].

A review of the literature [3] indicates that the estimated lifetime risk of committing suicide among alcohol dependent persons ranges from 2.2% for those with a history of outpatient alcohol treatment to 3.4% for those treated for alcoholism on the inpatient basis.

Studies on suicide prevalence in general populations in many countries indicate that 15 to 27% of the victims are those with alcohol problems [see Roy –3].

Incomplete data (missing in many cases) of the Police Headquarters show that also in Poland in the average suicide number estimated to range from 5 to 5.5 thousand annually in the 1990s, between 18 and 22% suicides are those committed by people with alcohol problems (not equivalent to alcohol dependence).

Many authors estimate the number of attempted suicides to be from ten to twenty times higher than that of committed suicides. Pużyński [4, 5] reports this ratio to be on the average 15 to 1. Since gender is the variable most markedly affecting the number of suicides, it should be emphasised that in 1998 among outpatients of alcohol treatment centres in Poland, 17.2% were women [6]. Two decades ago the proportion of females treated for alcoholism on the outpatient basis was less than 10%.

Aims and hypotheses

The aim of the study was to analyse relationships between selected psychosocial variables in alcohol dependent persons after suicidal attempts, as compared to two control groups. Among the variables studied as hypothetical correlates of suicidal behaviours possibly increasing the risk of attempted suicide, the following were included: occupational status (unemployment), marital status (separation, divorce) and/or family problems, poor social support, negative life events, alcohol abuse (long history of drinking and alcohol treatment, also inpatient), depressive symptoms, and a weak sense of coherence.

The main research question: which of the psychosocial variables under study are

correlates of suicidal behaviours in alcohol dependent persons?

Detailed hypotheses of this pilot study will be presented in what follows.

Method

Three groups of 30 subjects each were pair-matched for gender, age and education: alcohol dependent persons after suicide attempt(s) in the past 4 years (group S), alcohol dependent persons without previous suicide attempts (group A), and those without either alcohol dependence or suicidal attempts (comparative group C). All alcohol dependent persons were patients of three outpatient clinics or an alcohol inpatient ward in Warsaw.

In the study, the interviewers were psychologists and psychiatrists. Three instruments were used: (1) a sociological SSS questionnaire (measuring the social support system, including 32 SES variables and 11 characteristics of suicide attempts and alcohol problems); (2) Beck's Depression Inventory (BDI-21 items measuring depressive symptoms severity on a 4-point rating scale, irrespectively of their aetiology); and (3) the Orientation to Life Questionnaire (SOC-29) by A. Antonovsky [7]. The author introduced an important variable to the research on psychological determinants of health, namely – the sense of coherence (SOC). This general life orientation has three components – comprehensibility, i.e. perceiving the world as comprehensible and predictable, manageability, or a feeling that one can control his/her life and have an influence on the world, and meaningfulness – an emotional-motivational dimension, a feeling that one has in life something worthy of engagement, involvement and making efforts.

Results

The socio-demographic characteristics of three groups are as following. By gender – 80% men and 20% women in each group. By age- group S – mean 42.1 years, group A – mean 42.5 and group C – mean 42.3. By education – at elementary and basic vocational level – about 45% in each group, at secondary level – about 45% and over secondary level – about 10% including only one person in each group who graduated from university or college.

Main characteristics of group S (with attempted suicide) are presented in details in Table 2.

The majority of persons (72%) were attempted suicide between 1 to 18 months to the study and mostly in summer and autumn. Also most of them (60%) committed two or more suicidal attempts. Suicide was attempted in majority cases (86%) at home (place of residence). Main method of attempting suicide was drug poisoning and also most of them were under influence of alcohol during attempted suicide.

Main reasons for attempting suicide reported by our alcohol dependent respondents may be divided into four broad categories. In about 50% of cases these were problems of emotional, adaptive, or existential nature (feelings that life makes no sense), in 20% – various family problems, in 20% – negative life events (unemployment,

death or suicide of a close relative or friend), and in 10% – the alcohol problem and its consequences.

Two non-parametric statistical tests were used: chi-square test and the Kruskal-Wallis rank test. Moreover, one-way analysis of variance (ANOVA) with the Duncan test was performed to assess significance of inter-group differences. Finally multivariate analysis of regression was applied.

Out of 11 hypotheses concerning selected psychosocial variables, 7 confirmed by the research findings will be presented.

In what follows group S denotes persons with attempted suicide, group A alcoholics with no previous suicidal attempts, and group C – persons without alcohol dependence and suicidal behaviours.

Hypothesis 1. Alcohol dependent persons with attempted suicide are more often unemployed, have more problems at the workplace, and less often have managerial/ supervisory or independent positions.

Alcohol dependence may be both the cause and effect of being jobless. It may also decrease employees' efficiency. The most pronounced problems at work were found in group S (of alcohol dependent suicidal persons), as compared both to group A (alcohol dependence without suicide attempts) and especially group C (of the so-called healthy persons). Only 30% of respondents in group S had a full-time job, while the ratio was 60% in group A and 73% in group C. Both these inter-group differences are significant ($p < .001$).

None of group S respondents had a managerial position, while in group A there were 4 such persons (13%), and in group C – 6 (20%). Moreover, a majority of respondents in groups A and C had independent jobs. These inter-group differences were significant ($p < .02$).

Hypothesis 2. Alcohol dependent persons after attempted suicide have more family problems, more often are in concubine, in separation, divorced, or single.

In group S only 40% of respondents were married, while in group A – 60%, and in group C – 87%. On the other hand, 27% (N=8) of group S respondents were divorced or in separation, while respective ratio in group A was 13.5%, and in group C – none. As regards marital status, all inter-group differences (also between groups S and A) were statistically significant ($p < .01$).

One of basic indices of loneliness is a single-handed household. This was the case in 30% of group S respondents, 20% of group A, and 10% of group C. Differences are significant at the $p < .02$ level.

As regards the family situation, a majority of respondents in all three groups reported no changes in the past year as compared to the year before. However, in group S 33% (N=10) respondents assessed their family situation as worse than before, while in group C there were 10% (N=3) of such persons, and in group A – only one. Alcohol dependent suicidal persons were found to report significantly more family problems ($p < .01$).

Hypothesis 3. Alcohol dependent suicidal persons have a more limited and weaker system of social support, both quantitatively and qualitatively.

Social support system is defined in three ways, as: 1. A network of the individual's

social contacts important for his/her social functioning, 2. A network of social, religious, or self-help groups, associations and other communities constituting a non-governmental system of support and social assistance, and 3. A system of community-based management, rehabilitation and help provision within the framework of health care and social welfare. In this study the term “social support system” is used in the first meaning. A quantitative analysis of the social support system size indicated significantly fewer contacts with the family in group S ($p < .0001$ to $p < .03$, depending on the type of contacts). Moreover, respondents from this group less frequently feel they can count on financial support from their family or friends. They also have less family members they can trust and tell in confidence about their troubles. This of course may be due to alcohol problems, since the same regularity was noted in all alcohol dependent respondents. However, it seems to be more frequent in group S, even though the difference is not significant, at the level of a trend only ($p < .07$). On the other hand, the frequency of interpersonal contacts at work is significantly higher in groups A and C ($p < .002$) – probably due to higher unemployment rate in group S. Even though not all inter-group differences were significant, it was always in group S that both the extent and quality of social contacts were the lowest. The global number of social contacts and their quality are correlates of suicidal behaviours in alcohol dependent persons.

Hypothesis 4. Alcohol dependent suicidal persons more often experienced adverse life events in the past year.

The number of negative events experienced during the past year is an important measure of stress. People with suicidal tendencies may especially easily succumb to various difficulties and dramatic life events.

In the past year 20 respondents (66%) from group S experienced 38 serious negative life events, including their son's suicide, suicide of a family member and of a close friend, to say nothing of their own suicide attempts. Sixteen respondents (53%) in group A experienced 20 negative life events in the past year, including a husband's attempted suicide, while in group C ten respondents (33%) reported 13 negative life events (including suicide of a family member). These inter-group differences turned out to be significant ($p < .01$). A qualitative analysis indicated also significant inter-group differences in this respect. Negative life events are correlates of suicidal behaviours in alcohol dependent persons.

Hypothesis 5. Alcohol dependent suicidal persons have a longer history of alcohol abuse and alcohol treatment, as well as more hospitalisations for alcohol problems.

To verify this hypothesis two groups were compared, S and A. Over 57% of respondents in group S have been drinking alcohol for at least 20 years, while in group A there were 36% of such persons. Since the mean age in both groups is the same (pair matching), this means that in group S more individuals started alcohol abuse in younger age. The inter-group difference is significant ($p < .03$), so it can be concluded that those after attempted suicide had a longer history of alcohol abuse.

As regards the history of alcohol treatment in an outpatient clinic the two groups did not differ significantly.

Alcohol dependent suicidal persons were hospitalised over four times as often as those with alcohol dependence only (104 and 23 hospital stays, respectively). More-

over, in group S there were only 5 respondents who had not been hospitalised for their alcohol problems yet, while in group A there were as many as 19 such persons (63%). These differences were statistically significant ($p < .001$). It can be concluded then that alcohol abuse started in younger age, longer history of excessive drinking and more frequent inpatient alcohol treatment are correlates of suicidal behaviours in alcohol dependence.

Hypothesis 6. *Alcohol dependent suicidal persons have more severe depressive symptoms.*

Beck's Depression Inventory (BDI) was administered in all the three groups, S, A, and C. In group S the mean BDI score was 19, which denotes the presence of pronounced depressive symptoms implying a very frequent occurrence of depressive syndromes (classified by the ICD-10 as a nosological unit) in this group. In group A the mean BDI score was only 8.76, while in group C – 6.4. The findings show a relatively low level of depressive symptoms in both these groups, below the normal range of 9 points. ANOVA with the Duncan test indicated that these differences are highly significant ($p < .0001$). Severe depressive symptoms belong to significant correlates of suicidal behaviours in alcohol dependent persons.

Hypothesis 7. *Alcohol dependent persons after attempted suicide have a weaker sense of coherence (SOC), as indicated both by the global score and by each of its three components – comprehensibility, manageability and meaningfulness.*

SOC as a general life orientation seems to be particularly important for diagnosing and predicting suicidal behaviours. In group S the global SOC score was 108.66, while in groups A and C respective mean scores were 135.03 and 144.53. Analysis of variance indicated that differences between group S and each of the two other groups, A and C, were highly significant ($p < .0001$). As regards the dimension of comprehensibility, the following mean scores were obtained: in group S – 35.36, group A – 44.2, and group C – 50.56. The dimension of manageability yielded the following mean scores: group S – 37.76, group A – 47.5, group C – 50.13. A similar distribution of mean scores was found also in meaningfulness, the third component of SOC (35.53, 43.33, and 43.83, respectively). ANOVA with the Duncan test indicated in all the three component dimensions of SOC highly significant differences between group S and the remaining two groups. In the comprehensibility dimension all inter-group differences were significant. Weaker sense of coherence is an important correlate of suicidal behaviours in alcohol dependent persons.

A comparison of statistically significant levels shows that among the major factors influencing the risk of suicidal behaviour in alcohol dependent persons are **firstly**; severe depressive symptoms, **secondly**; weaker SOC, **thirdly**; longer history of alcohol abuse and more hospitalisations, **fourthly** social support in its qualitative dimension and **finally** more negative life events.

A stepwise analysis of regression indicates that the most important factors are: 1. A sense of coherence (SOC) – especially in the manageability dimension, 2. Social support in its qualitative dimension and 3. Number of alcohol hospitalisations, which together have explained the 35.3% variance – $R^2 = 0.353$, $F = 10.17$, $p < .0001$

Discussion

Suicidal behaviours among alcohol dependent persons are a crucial problem as viewed from the diagnostic, therapeutic, and especially preventive perspective.

They are listed among important social problems, which is confirmed by the fact that the World Health Organisation (WHO) launched in 1999 an extensive international research programme SUPRE (suicide prevention), called the WHO World-wide Initiative for the Prevention of Suicide. A series of five booklets have been already published under the programme, to disseminate basic knowledge about suicidal behaviours as well as practical recommendations of primary care practitioners, all the health care staff, teachers, prison workers, and journalists.

The risk of committing suicide is at least twice as high in alcohol dependent persons as in the general population and as much as 60 to 120 times higher than in patients suffering from non-psychiatric disorders [see Roy – 3].

According to many researchers [8, 9, 10, 11] in 47 to 64% of alcohol dependent persons who committed suicide, depressive syndromes were present.

One of the personality traits important for health-related behaviours is the sense of coherence (SOC). A decreased SOC level was reported by patients with physical illness, e.g. after myocardial infarction [12], suffering from cancer [13] or mental disorders, e.g. depression [14, 15, 16, 17]. It was found that a weak SOC was a predictor of suicide attempts. Lower SOC levels were noted also in persons with alcohol problems as compared to those without alcohol dependence [18, 19, 20, 21].

A number of reviews [2, 3, 22, 23, 24] suggest that the risk of suicide is on average 3 to 5 times higher among males and increases with age, being especially high in those above the age of 45. The at-risk group includes the unemployed, farmers and labourers, people living alone, in separation, divorced or widowed, those treated for a serious physical illness, as well as persons with mental disorders, particularly – with depressive syndromes and with alcohol dependence.

Conclusions

Statistical analyses of data obtained on 11 psychosocial variables confirmed the following seven hypotheses about alcohol dependent persons with attempted suicide: 1. They have more severe depressive symptoms; 2. Their sense of coherence is weaker (both the global SOC score, and each of the component scores – comprehensibility, manageability, and meaningfulness), 3. On the average, they have a longer history of alcohol abuse, more hospitalisations for alcohol, problems, and they started excessive alcohol drinking at a younger age; 4. They are more often unemployed, have more problems and lower status in the workplace; 5. Their system of social support is more limited and weaker, both quantitatively and qualitatively; 6. They experienced more adverse life events during the past year; 7. They have more family problems and more often live in concubine or in separation, are divorced, or single.

Generalisation of findings of this pilot study to the whole population of alcohol dependent suicidal persons, as well as practical application of the findings for diagnostic, therapeutic, and above all – preventive purposes would require further studies in various regions and various types of community, on large, representative random samples of alcohol dependent persons treated for alcoholism.

Table 1

Suicide rates per 100.000 population in Poland and other European countries [25]

Table 2

Characteristics of group S with suicidal behaviours (N=30). Frequencies of persons

Country	Year	Males	Females	Total
Lithuania	1996	79.3	17.1	48.2
Estonia	1996	64.3	14.1	39.2
Russian Federation	1998	62.2	11.6	35.3
Hungary	1997	49.2	15.8	32.4
Ukraine	1996	53.8	9.9	30.3
Byelorussia	1993	48.7	9.6	28.0
Finland	1995	43.4	11.8	27.2
Denmark	1996	24.3	9.8	17.5
Czech Republic	1996	24.0	6.8	15.4
Germany	1997	22.1	8.1	15.1
Poland	1996	24.1	4.6	14.3
Sweden	1996	20.0	8.5	14.2
Italy	1993	12.7	4.0	9.3
United Kingdom	1997	11.0	3.2	7.1

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1. Number of suicide attempts	1 (12)	2-3 (11)	4 (5)	5 or more (2)
2. Number of months from attempted suicide to the study	1-6 (12)	7-13 (10)	24-36 (7)	48 (1)
3. Season in which suicide was attempted	Spring (4)	Summer (12)	Autumn (8)	Winter (6)
4. Place in which suicide was attempted	Home (25)	Staircase (1)	Barn (1)	Garden (2)
5. Method of attempting suicide	Drug poisoning (15)	Hanging (6)	Slashing wrists (6)	Jumping out of window (4)
6. Status during attempted suicide	Under influence of alcohol (19)	Alcohol & withdrawal syndrome (2)	Withdrawal syndrome (9)	
7. Main self-reported cause of attempting suicide	Emotional, existential, adaptive (15)	Family problems (6)	Negative life events (6)	Alcohol problems & consequences (3)

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