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Three Different Types of Clinical Suicide

Jiří Modestin

Psychiatrische Universitätsklinik, Bolligenstrasse 111, CH-3072 Bern, Switzerland

Summary. A total of 149 inpatients were identified who had committed suicide in two Swiss psychiatric institutions in the years 1960–1981. Using Research Diagnostic Criteria, 49 were diagnosed as schizophrenics, 75 as depressives, and 9 as alcoholics. The first two groups were significantly overrepresented and the third one underrepresented when compared with a control sample. There were considerable differences between the individual diagnostic groups of clinical suicides: (1) schizophrenic suicides were characterized by a disturbed early social adjustment, a high degree of later disability and an unfavorable course of their illness, (2) depressive suicides were much less handicapped, although they presented a much higher long-term suicidal potential, and (3) alcoholic suicides demonstrated no signs of suicidal behavior in the clinic and committed suicide unexpectedly after experiencing negative life events. These findings have therapeutic implications.

Key words: Suicide – Psychiatric inpatients – Schizophrenia – Depression – Alcoholism – Therapy

Introduction

The suicide rate of psychiatric inpatients exceeds that of the general population (Temoche et al. 1964; Modestin et al. 1985). Moreover, a considerable increase in clinical suicides has been registered over the last few years, predominantly in Scandinavia and Central Europe (Lönnqvist et al. 1974; Retterstøl 1978; Ernst et al. 1980). This has led to the designation of psychiatric hospital inpatients as a special group meriting particular attention in terms of improving or developing methods of care to prevent suicide (WHO Working Group 1982). To accomplish this task a more profound knowledge of factors contributing to clinical suicide is needed. Improved knowledge of more specific characteristics of certain groups of clinical suicides and of the differences between them is desirable as it could enable more specific therapeutic action to be taken.

Methods

The present investigation was performed as part of an extended study on institutional suicide; some results have already been published (Modestin 1984, 1985). In Switzerland, the official death certificate has to be completed by a physician in every case of death. All medical personnel are obliged to report every suspicions death, including cases of suicide, to the police authorities in order that they may initiate their investigations. The criteria for such notification include all cases of death that occur unexpectedly, and that are not obviously due to medical illness. The investigating judge conducts the subsequent assessment, based on the medical report, the results of the police investigation, and, in the majority of cases, the results of the medicolegal investigation. Data concerning psychiatric treatment and hospitalizations are regularly collected to elucidate suicidal motives. All these data are contained in police files, which thus represent an important tool for investigating suicide. The police authorities of the Canton of Berne gave us permission to investigate police files containing reports on individual suicides. Names of those individuals who committed suicide in the years 1960–1981 and had a history of previous psychiatric treatment were noted and compared with the patient files of two different Swiss psychiatric institutions. In this way, a total of 149 inpatients were identified who killed themselves while on the hospital roll. In all cases registered as suicides in the police files of the Canton of Berne included in the investigation, the criterion of a deliberate act of self-killing by some external means – as evidenced by the circumstances of the act, the suicide note when available, and the global situation of the victim – was fulfilled and the definition of suicide was subsequently confirmed by the clinical records. It is highly improbable, therefore, that nonsuicides were included in this population of suicides. On the other hand, it cannot be excluded with certainty that some suicides, not having been recognized as such, were overlooked. The procedure described above was chosen, as the identification of suicides within the institution itself is known to be unreliable (Petri 1970).

The clinical notes of these inpatient suicides were thoroughly examined and the relevant data extracted. Clinical notes give information of sufficient reliability and validity if they are properly recorded (Csernansky et al. 1983). For many patients, psychiatric expert opinions and clinical records from other psychiatric institutions were also available. In some recent suicides the therapists were asked for information, and, exceptionally, family members were contacted.

The following demographic and psychosocial variables were examined: sex, age, marital status, existence of children, "foreign born" status, religion, place of residence, educational level, social class of the patient and his family of origin, broken home before 16 years of age, early adjustment before 25 years of age (judged as disturbed in case of delinquency

and/or vocational difficulties and/or disability for reliable, lasting relationships), living and vocational situation at the time of the index admission, chronic disability, placement under tutelage, and life events in the last year. The psychiatric and medical variables examined included the following: diagnosis, age at first symptoms, duration of psychiatric illness (defined as time span between the first contact with a mental health care system and the suicide), number and duration of psychiatric hospitalizations, length of the last (index) hospitalization, psychiatric disorder in first degree relatives and suicide in a family, previous suicide attempts, reason for index admission, suicidal behavior (suicidal thoughts/suicide attempts) immediately before and during the index hospitalization, judging the patient suicidal and his regime (privileges) at the time of the suicide, and physical problems at index hospitalization. All variables investigated were either primarily clearly determinable (such as sex and age) or defined and operationalized as exactly as possible (e.g., the patient was judged as chronically disabled if he spent more than a half of the previous 5 years in some institution and/or was unable to work). The last episode of illness was diagnosed with the help of the Research Diagnostic Criteria for a selected group of functional disorders (Spitzer et al. 1980). Social class was determined using the classification by Moore and Kleining (1960). Suicide attempts were evaluated using the classification by Motto (1965). Life events were investigated and classified according to Paykel et al. (1971, 1975).

In the same way and using the same set of variables, an equal number of 149 clinical nonsuicides were investigated. The control patients were matched with the suicides for the date of the index admission and for their inpatient status, but otherwise they were chosen by a random procedure. Both psychiatric hospitals involved in the study provide primary inpatient care for all psychiatric patients of the area. In principle, no patient in need of psychiatric hospital treatment can be refused and patients of all diagnostic categories are admitted. The control patients were not matched for other variables (except the date of the admission) in order not to obscure potential differences between the groups. In the literature, even the dependency of suicide frequency upon such variables as sex and age has not been demonstrated reliably using adequately large samples of exclusively inpatient suicides (Beisser and Blanchette 1961; Kern 1973; Gale et al. 1980; Schlosser and Strehle-Jung 1982; Evenson et al. 1982). The control group was representative of the entire admitted inpatient population. In another study, Koch (1986) investigated a random sample of 1,100 admissions (50 admissions a year) that occurred in the same time period, with regard to sex, age, marital status, place of residence, vocational level, and clinical diagnosis. In none of these variables was a difference found between his patients and our controls admitted to the same hospital. The suicide and control groups were compared for the potential risk variables enumerated above. This report, however, focuses primarily on the mutual comparison of individual diagnostic groups of suicides within the inpatient suicide population.

Results

Of the 149 inpatient suicides, 49 (33%) were diagnosed as schizophrenic, 75 (50%) as depressive, and 9 (6%) as alcoholics. Compared with a control group of 149 clinical nonsuicides, schizophrenic and depressive patients were clearly overrepresented , whereas alcoholic patients were underrepresented in the suicide group (Table 1).

These three diagnostic groups of clinical suicides were compared with each other. The results are presented in Tables 2 and 3, demonstrating that there were many differences between the schizophrenic, depressive, and alcoholic clinical suicides.

Schizophrenic suicides were of a younger age, mostly single and childless. They frequently presented signs of a disturbed social adjustment before the age of 25 years in terms of delinquency, vocational difficulties, and difficulties in initiating and maintaining reliable, lasting relationships. At the time of the index admission, the majority lived either with their parents or in various kinds of institutions. They were thus in a more or less dependent state. Their job situation was much worse than that of depressed suicides. More than a half of them were under tutelage, and the majority of them was chronically disabled, i.e., they were unable to work and/or institutionalized for more than half of the previous 5 years. The vast majority had become ill before the age of 30 and experienced an illness career characterized by a long duration of illness and many long hospitalizations. At the time of their suicide, 59% were chronic hospital patients, their index hospitalization being of more than 1 year's duration. In the long term, schizophrenic suicides presented less suicidal behavior than depressed ones.

The majority of the depressed clinical suicides were married and had families, and their early social adjustment was much better than that of schizophrenic suicides. Their own social class and that of their family of origin was higher. At the time of the index admission they were much better socially adjusted and were much less frequently chronically disabled in the sense of the definition given above. The course of their illness was more favorable than that of schizophrenic suicides. On the other hand, they much more frequently presented previous suicidal behavior. Suicidal danger was the very cause of the index hospitalization in half of them, and 63% were suicidal at the index admission. As in schizophrenic suicides, their suicidal potential was frequently evident during the index hospitalization.

Table 1. Clinical suicides and clinical controls by diagnosis. Percentages in brackets

RDC Diagnosis	Schizophrenia ($n = 71$)	Depression[a] ($n = 125$)	Alcoholism ($n = 33$)	Others ($n = 69$)	Significance
Clinical suicides ($n = 149$)	49 (32.9)	75 (50.3)	9 (6.0)	16 (10.7)	$\chi^2 = 41.93$ $df = 3$ $P < 0{,}001$
Clinical controls ($n = 149$)	22 (14.8)	50 (33.6)	24 (16.1)	53 (35.6)	

[a] Includes categories of major depressive disorder (56 patients), minor depressive disorder (31 patients), intermittent depressive disorder (10 patients), schizoaffective disorder depressed type (10 patients), and bipolar depression with mania/hypomania (18 patients)

Table 2. Comparison of schizophrenic, depressive, and alcoholic inpatient suicides with regard to the demographic and psychosocial variables. Percentages in brackets

	Schizophrenic suicides ($n = 49$)	Depressive suicides ($n = 75$)	Alcoholic suicides ($n = 9$)	Significance ($df = 2$)
Sex: male	34 (69)*	52 (69)***	8 (89)	N.S.
Age < 30 years	16 (33)	11 (15)	0 (0)	$\chi^2 = 8.38$ $P = 0.015$
Marital status: single	42 (86)	28 (37)	4 (44)	$\chi^2 = 28.60$ $P < 0.001$
Childless	41 (84)	14 (19)	5 (54)	$\chi^2 = 51.01$ $P < 0.001$
"Foreign born" status	3 (6)	5 (7)	0 (0)	
Religion: protestant	42 (86)	64 (86)	7 (78)	N.S.
Place of residence: City of Berne	16 (33)	22 (29)	3 (33)	N.S.
Primary education or less	22 (45)	28 (37)(*)	6 (67)	N.S.
Low social class: patient	34 (69)	40 (53)	8 (89)	$\chi^2 = 6.26$ $P = 0.044$
family of origin	26 (58)	33 (49)**	8 (89)	$\chi^2 = 6.70$ $P = 0.035$
Broken home	17 (35)	26 (35)	0 (0)*	$\chi^2 = 4.61$ $P = 0.10$
Disturbed early social adjustment	32 (65)(*)	22 (29)	3 (33)	$\chi^2 = 16.02$ $P < 0.001$
— Delinquency	13 (27)*	4 (5)	1 (11)	$\chi^2 = 11.43$ $P = 0.003$
— Vocation difficulties	21 (43)	12 (16)	0 (0)	$\chi^2 = 16.64$ $P < 0.001$
— Relational difficulties	27 (55)	18 (24)	3 (33)	$\chi^2 = 12.46$ $P = 0.002$
Living situation at index admission: with parents/ in institution	31 (63)	28 (37)	2 (22)	$\chi^2 = 10.20$ $P = 0.006$
Job situation at index admission: under vocational level/unemployed	14 (29)	5 (7)	4 (44)	$\chi^2 = 14.92$ $P < 0.001$
Chronic disability	38 (78)*	21 (28)	0 (0)(*)	$\chi^2 = 37.19$ $P < 0.001$
Tutelage	26 (53)	10 (13)	3 (33)	$\chi^2 = 22.65$ $P < 0.001$
Undesirable life events	23 (47)	42 (56)	9 (100)*	$\chi^2 = 8.68$ $P = 0.013$
Stressful life events	21 (43)	35 (47)	8 (89)(*)	$\chi^2 = 6.60$ $P = 0.037$
Social exits	12 (24)	27 (36)	4 (44)	N.S.
Life events regarding work	16 (33)	24 (32)	7 (78)*	$\chi^2 = 7.61$ $P = 0.022$
health	9 (18)	20 (27)	2 (22)	N.S.
marriage	2 (4)	12 (16)	3 (33)	$\chi^2 = 7.43$ $P = 0.024$
criminality	5 (10)	2 (3)	2 (22)	
family	1 (2)	1 (1)	0 (0)	

Asterisks designate variables where there was a significant difference between suicides and controls within the same diagnostic category: (*) $P < 0.1$; * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Table 3. Comparison of schizophrenic, depressive, and alcoholic inpatient suicides with regard to the psychiatric and medical variables. Percentages in brackets

	Schizophrenic suicides ($n = 49$)	Depressive suicides ($n = 75$)	Alcoholic suicides ($n = 9$)	Significance ($df = 2$)
Falling ill before 30 years of age	41 (84)(*)	27 (36)	1 (11)	$\chi^2 = 33.41$ $P < 0.001$
Duration of illness > 5 years	39 (80)	39 (52)	3 (33)	$\chi^2 = 12.56$ $P = 0.002$
More than 5 hospitalizations	24 (49)***	18 (24)*	3 (33)	$\chi^2 = 8.76$ $P = 0.016$
Total time spent in psychiatric hospitals > 1 year	43 (88)**	31 (41)	4 (44)	$\chi^2 = 27.14$ $P < 0.001$
Duration of index hospitalization > 1 year	29 (59)***	13 (17)*	1 (11)	$\chi^2 = 25.71$ $P < 0.001$
Psychiatric illness in 1st degree relatives	15 (31)	28 (37)	0 (0)	$\chi^2 = 5.22$ $P = 0.073$
Alcoholism in 1st degree relatives	7 (14)	13 (17)	4 (44)	$\chi^2 = 4.74$ $P = 0.094$
Suicide in family	12 (24)	22 (29)	1 (11)	N.S.
Previous suicide attempts	21 (43)	51 (68)*	5 (56)(*)	$\chi^2 = 7.71$ $P = 0.021$
Previous most serious suicide attempts of grade 4	9 (18)	16 (21)(*)	1 (11)	N.S.
Index referral because of self-endangerment	7 (14)	38 (51)	3 (33)	$\chi^2 = 17.04$ $P < 0.001$
Suicidal behavior at index admission	10 (20)	47 (63)	4 (44)	$\chi^2 = 21.32$ $P < 0.001$
Suicidal behavior during index hospitalization	27 (55)***	42 (56)***	1 (11)	$\chi^2 = 6.68$ $P = 0.035$
Considered suicidal at the time of suicide	5 (10)	21 (28)	0 (0)	$\chi^2 = 8.31$ $P = 0.016$
"Closed regime" (no privileges)	8 (16)	26 (35)	1 (11)	$\chi^2 = 6.29$ $P = 0.043$
Physical problems at index hospitalization	5 (10)	21 (28)	6 (67)	$\chi^2 = 14.73$ $P < 0.001$

Asterisks designate variables where there was a significant difference between suicides and controls within the same diagnostic category: (*) $P < 0.1$; * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Alcoholic suicides much more resembled the depressive than the schizophrenic suicides as far as their marital status and early social adjustment were concerned. Their job situation was relatively poor at the index admission, however, none of the alcoholic suicides was chronically disabled. Alcoholic suicides apparently did not come in contact with psychiatric institutions until a later age, and again, as far as the characteristics of the course of their illness (in terms of the duration of the illness and the number and length of their hospitalizations) were concerned, they presented more similarities with depressed than with schizophrenic suicides. Alcoholic suicides manifested suicidal behavior in their past history more frequently than schizophrenic but less frequently than depressed suicides, and they seldom manifested suicidal behavior during their index hospitalization. Thus, none was considered as suicidal at the time of his suicide. All alcoholic suicides experienced undesirable life events during the last year of their lives. They also suffered significantly more stressful life events and life events concerning work and marriage than did schizophrenic or depressed suicides. They frequently had physical problems.

Discussion

The results confirm that the population of clinical suicides differed in a highly significant way from the population of other psychiatric inpatients represented by the control group as far as the diagnostic distribution of both groups was concerned. There were no admission restrictions in the hospitals involved in this study, and the control group was drawn from the population of admitted patients in a random manner, being matched with the suicides only for the date of the index admission. Thus, the diagnostic differences between both groups were not due to the hospital admission policies. Could the hospital retention policies generate the overrepresentation of schizophrenics and depressives in the suicide group? Suicidal behavior during the index hospitalization of suicide schizophrenics and depressives was very significantly more frequent than in nonsuicide schizophrenic and depressive patients. As suicidal behavior is well known to predict suicide, such patients with suicidal behavior may have been kept in hospital more than nonsuicidal patients. However, analysis of the data does not confirm this assumption. Approximately half of schizophrenic and depressive suicides only demonstrated suicidal behavior during their index hospitalization, and besides, no differences in the duration of index hospitalization were found between suicides who had and had not presented such a behavior (Mann-Whitney U test, $z = 0.54$; N.S. for schizophrenics and $z = 0.41$; N.S. for depressives).

The major proportion of suicides from the general population suffer from affective disorders and alcoholism (Dorpat and Ripley 1960; Barraclough et al. 1974; Robins 1981). In contradiction, the majority of clinical suicides have been reported to be committed by patients suffering from affective disorders and schizophrenia (Koester and Engels 1970; Farberow et al. 1971; Grandel 1978; Gale et al. 1980). With the help of an improved diagnostic procedure using operationalized diagnostic criteria (RDC), the results of the present investigation confirm these findings. An underrepresentation of alcoholics among institutional suicides has also been noted (Farberow et al. 1966; Grandel 1978; Schlosser and Strehle-Jung 1982).

Many common characteristics of suicide are applicable to almost every conceivable situation of self-destruction (Shneidman 1985). However, there are also considerable differences between individual suicides. In addition, the results presented here clearly demonstrate that there are many important differences between the clinical suicides on a group level, the groups in question being defined by the RDC. The current investigation was performed on suicides recruited from the inpatient population. Thus, all patients studied not only suffered from a recognizable psychiatric disorder but also from a psychiatric disorder of such a magnitude that hospitalization was necessary. Therefore, the results may not necessarily be generalizable to all patients of the corresponding diagnostic categories.

Schizophrenic inpatient suicides were characterized by a disturbed early social adjustment, a high degree of later disability, and an unfavorable course of their psychiatric illness. Depressive suicides were socially much less handicapped and their illness career was less disadvantageous. In the long-term, however, they presented a much higher and a more persistent suicidal potential. Alcoholic suicides were socially well adjusted for long periods of time. They demonstrated no signs of suicidal behavior while in the clinic and committed suicide unexpectedly after suffering negative life events. However, the populations of schizophrenic, depressive, and alcoholic inpatients may generally differ from each other, and it might be argued that the differences between the suicides of these three diagnostic categories were only due to the differences between the corresponding populations at large. Even if this were true, the differences described would still be important regarding the choice of therapeutic approach in these patients. Our results, and those reported in the literature, however, do not confirm this assumption. There were indeed fewer differences between the suicides and controls within each of the three diagnostic categories. Those differences, however, that could be found concerned the very items, which were the most characteristic for the particular diagnostic group of suicides. There were some indications for schizophrenic suicides being less well early socially adjusted, becoming more handicapped, and having a much more unfavorable initial course of the illness than the schizophrenic controls. In agreement with this finding, schizophrenic suicides were shown more likely to have experienced a considerable period of psychiatric problems prior to their suicide (Sletten et al. 1972) and a course of illness characterized by many exacerbations (Roy 1982). It has been recently argued that schizophrenic patients with a history of good premorbid functioning may be predisposed to suicide (Drake et al. 1985). Our findings and those recently published by Nyman and Jonsson (1986) are not in agreement with this assumption which, in addition, does not seem to be sufficiently substantiated by the data currently available. In this study, schizophrenic inpatient suicides represented a highly chronic group with poor premorbid functioning and therefore a bad short-term prognosis (McGlashan 1986). Indeed, depressed clinical suicides more frequently manifested suicidal behavior in the past as well as during the index hospitalization than did depressive control patients; more frequent suicide attempts in depressive suicides have been found previously (Barraclough and Pallis 1975; Roy 1983). In spite of a very small sample of alcoholic inpatient suicides in this study, a significant difference could be demonstrated between alcoholic suicides and alcoholic controls as far as the life events experienced recently by them were concerned. Again, the importance of recent life

events, especially recent losses, in alcoholic suicides has also been demonstrated by other authors (Koester and Engels 1970; Murphy et al. 1979; Robins 1981).

The differences between the individual diagnostic groups of clinical suicides depicted above clearly have therapeutic implications. When evaluating the suicidal danger in schizophrenic patients, their global life situation and previous development, including their illness career, and the degree of ensuing disability, must be paid full attention. Proper evaluation of all these factors seems to be as important as the search for a specific psychopathological Gestalt indicating the suicidal danger directly. Experience indicates that presuicidal syndrome (Ringel 1969) is not frequently recognizable in schizophrenic inpatient suicides. Immediate suicide warnings were few or absent in schizophrenic suicides investigated by Nyman and Jonsson (1986). In the management and treatment of schizophrenic patients their handicaps have always to be taken into consideration. The importance of psychotherapy in preventing schizophrenic suicide has to be stressed. The patients must be helped to accept their disability and to develop adequate goals which are adapted to their reduced capacities, at the same time not allowing their self-image and self-esteem to be injured (Mundt 1984). General effort, however, has to be directed towards the amelioration of the very course of the schizophrenic illness. In depressive patients, the suicidal behavior represents a direct expression of their psychiatric illness to a much greater extent. Our therapeutic efforts have therefore to be directed towards intensive treatment of the depressive illness including, of course, intensive psychopharmacotherapy. Many depressed clinical suicides have not been treated pharmacotherapeutically in an optimal way and it seems that suicide might be a rare phenomenon in an adequately treated depressed patient (Beskow 1979; Modestin 1985). Alcoholic patients rarely manifest suicidal behavior while they are in hospital. They frequently undertake suicidal actions under the influence of alcohol (Mayfield and Montgomery 1972); whereas in hospital they are usually deprived of alcoholic drinks. In none of the other diagnostic categories was there such a close relationship between negative life events and suicide as was found in alcoholics. Thus, these patients must be helped to cope with negative life experiences. Identifying such experiences, evaluating the importance of them for the patient and improving his coping capacity make an active psychotherapeutic approach in these patients indispensable.

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