

The Suicide Rate in Schizophrenia

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Summary: Three of 39 first-admission schizophrenics committed suicide during the 10 to 15 year follow-up period of a retrospective, case-register based inquiry. Schizophrenic patients often talk about, and attempt, suicide. However, there is little reliable knowledge about the clinical characteristics of those who are likely to kill themselves.

The problem of suicide in schizophrenic patients receives little attention in the literature. Although a recent estimate suggests that about 10 per cent of all schizophrenics kill themselves (Miles, 1977), there are large variations in the results which are reported from different centres (Wilkinson, 1981). The most likely reason for these discrepancies is that the authors of the relevant studies use a variety of dissimilar methodological approaches to the subject. Even so, there are reasons for suspecting that some schizophrenic groups have a specifically high potential for suicide: particularly, perhaps, patients with chronic schizophrenia (Wing *et al*, 1972), and those with persistent auditory hallucinations (Falloon and Talbot, 1981).

Because of the general lack of accurate information, the present investigation aims to obtain the rate of suicide in a sample of strictly diagnosed, first-admission schizophrenics from an area of known demographic and geographic characteristics.

Method

The inquiry was retrospective and was based upon a personal examination of the hospital and general practice case records, death certificates, and coroners' reports of a group of patients from South-East London. The Camberwell Psychiatric Case Register (CPCR) (Wing and Hailey, 1972) provided biographical and medical details about a consecutive series of Camberwell residents who were admitted to hospital and who received the diagnosis of schizophrenia there for the first time between 1 January 1965 and 31 December 1969. The patients' clinical outcomes were recorded up to 31 December 1979.

Initially the psychiatric case records were used to ascertain whether or not a patient had been in contact with a hospital after the end of 1979, and if so, what his current clinical condition was. Those who were no longer in contact with a hospital were traced with help

from the National Health Service (NHS) Central Register and Family Practitioner Committees. Then general practitioners were asked, firstly, for evidence to show that a patient was (or was not) still attending their surgery after the follow-up date, and secondly, for clinical information. Thereafter, the national Death Indexes at the General Register Office, London, were searched for entries on all patients who were lost to NHS agencies or who were known, from the above sources, to be dead.

Subjects were accepted for the suicide study if: (1) aged 15 to 60 years at first admission; (2) resident in Camberwell for at least three months before admission; (3) a Research Diagnostic Criteria (RDC) (Spitzer *et al*, 1975) diagnosis of definite or probable schizophrenia was made when these criteria were applied to the hospital case record for the index admission.

Suicide was defined by the coroner's verdict that the patient killed himself.

Results

The CPCR provided details about 126 patients. Eighty-three (41 male, 42 female) were excluded from consideration after scrutiny of the case records. Twenty-two did not receive a hospital or RDC diagnosis of schizophrenia, 18 were aged over 60 years at admission, and 13 did not meet RDC for schizophrenia. In 12 cases the hospital diagnosis was in doubt on account of associated mental retardation, drug abuse, or alcoholism; 9 had previous admissions for schizophrenic disorders; 5 were not Camberwell residents; and in 4 cases there were inadequate or no clinical records.

Therefore 43 patients (23 male, 20 female) were eligible for the suicide inquiry. Their mean age at admission was 32 years (range 18 to 56 years), and three-quarters of the sample were of British origin. The

clinical outcome for the group up to 31 December 1979 is shown in Table I.

Thirty-two patients were still alive, and seven had died (see Table II). Three of these 39 had committed suicide. Four other patients could not be traced by the method which was used here.

A survey of the 43 case records showed that 13 (7 male, 6 female) had attempted suicide (usually by drug

overdose, cutting, or jumping) before or during the follow-up. Five of this group made numerous such attempts, and two (both women) later killed themselves.

Brief descriptions of the patients who killed themselves are given in the Appendix. Additional results are reported elsewhere (Wilkinson, 1981).

Discussion

The results show that there is, indeed, a high rate of suicide (and attempted suicide) in schizophrenia. With statistical reservations, simple calculations on these results give rise to an estimated annual rate of suicide, in a first-admission sample of schizophrenics, of between 500 and 750 suicides per 100,000 of the schizophrenic population. Statistically, however, the figures give rise to approximate 95 per cent confidence limits which are wide ($0 \leq P \leq 0.16$; where P is the true proportion of suicides in schizophrenic patients); it would be rash to draw conclusions from work on such small numbers. For comparison, the annual rate of suicide in the Camberwell general population was 9 per 100,000 in 1976 (Camberwell Register, unpublished). Also, a previous less rigorous London study (Markowe *et al*, 1967) found, incidentally, that the annual rate of suicide in schizophrenia was of the order of 50 times greater than that for the general population.

There are reasons for believing that the present sample is typical of the acute schizophrenic population, and that the results are reliable. The CPR is an established research instrument, the inquiry is based upon a well-defined community, national

TABLE I
Clinical outcome of schizophrenia after 10 to 15 years

Outcome	Number of patients
Asymptomatic and not receiving treatment	3
Residual symptoms and attending the general practitioner, but not a psychiatric department	7
Residual symptoms: attending psychiatric out-patients'	9
Residual symptoms: attending psychiatric day care	7
Current psychiatric in-patient	6
Dead	7
Untraced	4
Total	43

TABLE II
Schizophrenic suicides and other deaths

Age at admission	Sex	Year of admission	Year of death	Cause of death
49	Male	1965	1978	(a) Bronchopneumonia (b) Carcinoma of bronchus
36	Male	1965	1965	Diabetic ketoacidosis
18	Female	1965	1967	Suicide: Multiple injuries
24	Female	1966	1968	Suicide: Multiple injuries
26	Male	1967	1967	Suicide: Orphenadrine overdose
34	Female	1967	1972	Bronchopneumonia
49	Male	1967	1977	(a) Bronchopneumonia (b) Cerebrovascular accident

agencies helped to trace patients, and lastly the definition of suicide used here is unequivocal. In addition, RDC for schizophrenia select patients with acute disorders and specified kinds of schizophrenic symptoms. While the criteria probably miss some patients with simple or residual schizophrenia, they screen out paranoid states, and they state that manic or depressive affects should not be present to such a degree as to become a prominent part of the schizophrenic condition. But the relationships between suicidal behaviour, treatment, and depressive symptoms in schizophrenia remain to be worked out (Johnson, 1981).

Two aspects of the investigation need critical comment. Firstly, the loss of four patients is a deficiency since their clinical outcomes are not known and this may affect the validity of the results. In fact, three were immigrants (a Ghanaian returned home in 1970 and a West Indian was last seen in 1973) and the other was English. The reasons for losing them may have to do with their mobility, their avoidance of medical care, or their deaths may not be recorded. Secondly, of the total of seven deaths, four appear to be due to natural causes. However, the schizophrenic disorder is likely to have affected the circumstances of some of such deaths. Here, for example, there was evidence of severe self-neglect in the female who died of bronchopneumonia; in another case the presence of a disturbed mental state prevented the recognition of diabetes mellitus until too late.

In conclusion, the clinical features of these schizophrenic suicides are of interest. Like the three schizophrenics in the Barraclough *et al* (1974) series of suicides, the patients were young single people. The females resembled Barraclough's group because they too had chronic disorders, and they were in continuous in-patient or day-patient psychiatric care from admission until death. Over and above this, both had irritable outbursts and histories of multiple previous suicide attempts; and both relapsed with hallucinations and delusions shortly before death. The male did not fit into this pattern. Physical treatments were of small benefit to the women, but there was no evidence that medication was associated with depression either. There was, alas, room for improvement in the supervision of compliance in the male's case. Finally, all three suicides occurred within two years of first-admission. This suggests that such deaths may be more common early in the course of treatment for schizophrenia; a suggestion which is in keeping with the finding that the suicide risk for psychiatric patients decreases at a rate roughly inversely proportional to the square root of the time they spend under psychiatric treatment, particularly in-patient hospital treatment (Copas and Fryer, 1980).

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Appendix

Case 1: An 18-year-old girl was admitted in November 1965, the main features of her disorder being bizarre delusions and visual and auditory hallucinations. Symptoms of irritability had been present for one year, but acute schizophrenic symptoms began three months before admission. She had taken a drug overdose in September 1965 and three more followed in January 1966. Physical treatments were of small benefit and the patient continued to have psychotic symptoms; in addition she was impulsive, irritable and sometimes aggressive. Because of her intractable state she was transferred to a long-stay ward for rehabilitation in November 1966. In January 1967 auditory hallucinations again caused her great distress and she slashed her wrists, so her dose of oral phenothiazine was increased. Two weeks later she went home on leave—

nothing seemed to be amiss—but the next day she jumped from the fourth floor balcony of her parents' house to her death.

Case 2: A 24-year-old woman was admitted in May 1966, the main features of her disorder being religious delusion, auditory hallucinations and catatonic rigidity. There had been an insidious onset over a period of two years and unfortunately the patient showed little response to physical treatments. She took a drug overdose in July 1966, and cut her wrists in December 1966—in the same month she attempted to gas herself, and in January 1967 she again took an overdose of drugs. Then her condition improved, in August 1967 she was transferred to a day hospital, and shortly afterwards she began work at a rehabilitation unit. About that time medication was withdrawn. On 2 May, 1968 she was readmitted to hospital in an acute relapse of her schizophrenic disorder, and this time oral phenothiazines seemed to help. On 14 May she was allowed home to fetch a bathing costume so that she might go swimming

with some other patients, but without warning she went to a nearby block of flats and jumped from a fifth floor balcony to her death.

Case 3: A 26-year-old West African man, who had been in Britain for three years, was admitted in February 1967. The main features of his disorder were bizarre delusions, and visual and auditory hallucinations. These symptoms had developed over the course of six months. After two to three months of treatment the patient was well enough to return to work as a maintenance fitter. He remained as an in-patient until 7 July when he was discharged, still taking phenothiazine and anti-cholinergic drugs orally. He returned to out-patients on 22 August and denied any symptoms. On 18 September, before his next clinic appointment, he was found dead in his bed-sitting room. He lived alone. The coroner noted that the pathologist had established that the cause of death was an orphenadrine overdose.

None of the patients were receiving depot neuroleptic medication.

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