Case-control study of suicide by discharged psychiatric patients

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A reduction in suicide among seriously mentally ill people is a main target in *Health of the Nation*,¹ and the government's care programme approach for mental health aims at identifying those at risk. Although the characteristics of psychiatric patients who have committed suicide are well described,² it remains difficult to predict who will commit suicide.^{3,4} Furthermore, little is known about how risk in this group is affected by provision of psychiatric services.⁵

Subjects, methods, and results

We collected a 12 month consecutive sample of deaths from suicide and probable suicide (open verdicts) in Greater Manchester. Those people who had had a psychiatric admission in the previous five years were identified by checking against all hospitals in the area. We examined case records and recorded information on the last admission before death and care after discharge. The equivalent information was collected on controls, identified by block randomisation of hospitals in the area. Controls were matched for age, sex, clinical diagnosis, and date of admission. Cases and controls were compared on 18 social and clinical variables (see table).

Seventy people had committed suicide in Greater Manchester within five years of discharge from a hospital, and we traced the hospital notes for 63. Twenty one had committed suicide within three months of discharge, 11 before their first follow up appointment. The principal diagnoses were depression (28 cases) alcohol dependence (13 cases), and schizophrenia (12 cases).

The table shows that many clinical and social variables thought to be associated with suicide did not distinguish cases and controls. The strongest association was with communication of suicidal ideas during follow up. This relation was independent of age and sex but associated with a diagnosis of depression (suicidal ideas in 17 cases *v* 6 controls, $P < 0.005$). Cases and controls expressing suicidal ideas were equally likely to receive additional care (18 of 33 cases, 8 of 15 controls)—for example, admission to day hospital, increased drugs.

There were no differences in likelihood of community based follow up, contact with mental health workers, or compliance. However, the cases were significantly more likely to have been detained under section 2 of the Mental Health Act at their index admission, indicating acute illness and high risk at that time. Confining the analysis to those committing suicide within one year of discharge did not affect the results.

Comment

Our findings suggest that many conventional risk factors are not associated with suicide once age, sex, and diagnosis have been controlled for, and they cannot be used to identify those who are likely to commit suicide. Unemployment, being unmarried, living alone, substance misuse, and previous self harm were common in cases and controls and seem to be characteristics of people with severe mental illness in general. Subsequent suicide was indicated by expression of suicidal ideas after discharge and having been detained under mental health legislation.

Interpretation of these findings is limited by the reliance on retrospective examination of case notes. The data on care refer to actual provision without taking into account the appropriateness of care for individuals. However, suicide is uncommon and prospective studies are unlikely to include sufficient cases. The matched case-control design allowed elimination of some important confounding variables.

The care programme approach gives priority to detained patients and emphasises regular risk assessment. Our findings endorse these priorities. However, most people who had committed suicide had no identifiable key worker, an essential element of the care programme approach. This suggests that risk is insufficiently recognised. Furthermore, almost half of those who had committed suicide were not recorded to have been suicidal, and in almost half of those who had expressed suicidal ideas supervision or treatment was not changed. Improved risk assessment, particularly in the first few months after hospital discharge, should be a priority for mental health services.

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Table 1—Comparison of suicide cases and matched controls on clinical and social variables and aspects of psychiatric care

	No of suicide cases (n = 63)	No of controls (n = 63)	P value*	Odds ratio (95% confidence interval)
Clinical and social variables:				
Duration of illness <5 years	35	24	0.09	1.9 (0.9 to 4.2)
Relapsing illness	19	14	0.34	1.6 (0.6 to 4.0)
Past dangerous self harm	27	19	0.20	1.7 (0.8 to 4.0)
Past self harm	44	38	0.34	1.6 (0.7 to 3.7)
Depressed at last contact	22	13	0.11	1.9 (0.8 to 4.8)
Communicated ideas of suicide	33	15	0.004	4.0 (1.6 to 12.0)
Alcohol or drug misuse	26	27	1.00	1.0 (0.3 to 3.3)
Unemployed	47	49	0.83	0.9 (0.4 to 2.3)
Married	19	12	0.14	0.4 (0.1 to 1.3)
Living alone	22	21	1.00	1.1 (0.5 to 2.6)
Care variables:				
Admission under Mental Health Act	11	1	0.001	†
Index admission <1 week	15	10	0.79	1.7 (0.6 to 5.1)
Saw psychiatrist in last 3 months	40	39	1.00	1.1 (0.4 to 2.9)
Monthly contact in community	21	21	1.00	1.0 (0.4 to 2.7)
Key worker identifiable	17	21	0.57	0.8 (0.3 to 1.7)
Housing need unmet	18	12	0.31	0.6 (0.2 to 1.5)
Poor compliance ‡	22	22	0.97	0.9 (0.4 to 2.0)
No follow up	10	15	0.38	0.6 (0.2 to 1.6)

*McNemar's test.

†Not possible to calculate an odds ratio for this variable because of empty cell.

‡Non-attendance or refusal to take prescribed drugs.