Can the medical management of self-poisoning contribute to suicide prevention? Confidential inquiry and case control study.

Executive summary for the National Institute for Health Research Service Delivery and Organisation programme

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Prepared by
Caroline Clements
- Centre for Suicide Prevention, University of Manchester

Nick Bateman
- Scottish Poisons Information Bureau

Bernard Foëx
- Manchester Royal Infirmary

David Gunnell
- Department of Social Medicine, University of Bristol

Keith Hawton
- Centre for Suicide Research, University of Oxford

Kevin Mackway-Jones
- Manchester Royal Infirmary

Navneet Kapur
- Centre for Suicide Prevention, University of Manchester
Address for correspondence:

Professor Navneet Kapur

Centre for Suicide Prevention, University of Manchester, Community Based Medicine, Floor 2 University Place, Oxford Road, Manchester, M13 9PL.

E-mail: nav.kapur@manchester.ac.uk
Executive Summary

Background

Self-poisoning accounts for approximately a quarter of all suicide deaths in England (1,300 per year) and is the most common method of suicide in women and the second most common in men.

The lethality of self poisoning varies depending on the type and amount of the substances ingested and it has been estimated that over a quarter of cases of fatal self-poisoning in England present to hospitals before death.

Most patients with acute poisoning receive fairly intensive levels of treatment, but death might be prevented by improved medical management in a proportion of cases. This could represent an opportunity for suicide prevention.

Aims

The overall aim of the study was to assess the potential contribution of improved medical management of self-poisoning to suicide prevention.

The specific objectives were:

- To describe the socio-demographic and clinical characteristics of a national sample of self-poisoning suicides who died after reaching hospital alive
- To describe the pre and in-hospital care that these patients received
- To assess the quality of care provided and identify any potential deficiencies in care (commissions and omissions) that might have contributed to death
- To compare individuals with fatal and non-fatal outcomes with respect to key aspects of hospital management.
About this study

The subjects for the study were adults (aged 16 and over) who had died by self-poisoning suicide in England in 2005 but had reached hospital alive. Case data were provided by the Office for National Statistics.

A detailed study questionnaire was developed by the research team to collect information on the self-poisoning act, pre- and in-hospital medical management and characteristics of the cases.

Each questionnaire was completed by a clinician at the treating hospital, preferably one who had been directly involved with the patient’s care. Clinicians contact details were provided by medical records or hospital information departments.

On the basis of the questionnaire responses, a panel of three expert assessors with expertise in emergency medicine, intensive care medicine, and toxicology rated the quality of care on a four point Likert scale (excellent, good, adequate, or inadequate). Assessors were also asked to give comments on cases where care was considered suboptimal.

As well as investigating the characteristics of those who died, we compared these cases with matched living controls in order to examine the factors associated with a fatal outcome.

Key findings

We obtained information on 121 cases. The most commonly ingested substances in the in-hospital death group were paracetamol, tricyclic antidepressants, coproxamol, and benzodiazepines. Those who died in hospital had comparatively high levels of psychological morbidity.

Individuals included in the study were physically unwell when they were found. Their serious physical condition was reflected in the management they received when they arrived in hospital. For example, over half were intubated and over half were managed on intensive care.

One third of individuals died within one day of arriving at hospital but 1 in 6 survived for five days or longer. A clinical review following death was recorded as having taken place in less than a fifth of cases.

In terms of the quality of treatment received, expert assessors rated 41 of 121 cases (34%) as having received inadequate care. Poor care was felt to have contributed to poor outcome in the majority of cases. The overall figures for poor care are likely to be an underestimate since we were unable to judge the quality of care in a further 17/121 cases. The most common reason for a rating of inadequate care was poor airway management. Other common reasons for ratings of inadequate care included: treatments not being administered correctly; failure to transfer or delay in transfer to a higher or intensive level of care; poor triage; a lack of investigation or the
seriousness of the overdose not being recognized. In three cases poor care prior to death was associated with the presence of an official or unofficial advanced directive.

Although based on small numbers, compared with living controls, cases were approximately twice as likely to be rated as having received inadequate care. Cases were more likely to have had existing physical health problems. Cases received more intensive management than controls (presumably reflecting the greater medical seriousness of their overdoses or poorer physical state).

Conclusions

Based on our findings we estimate that the number of individuals who take fatal overdoses but survive long enough to reach hospital alive is approximately 220 per year in England (or 18% of all self-poisoning suicide deaths). Of these, approximately 75 cases per year (over one third) may have received care that could be regarded as in some way suboptimal.

These findings need to be interpreted in the context of a number of methodological limitations. This was essentially a descriptive study and was not able to address issues of causation. In particular we are unable to present a definitive answer as to whether improvements in the medical management of self-poisoning would contribute to suicide prevention. Other methodological limitations related to the completeness of our case ascertainment, the methods of data collection (questionnaires rather than case notes), and the selection of our controls (we were able to analyse just over 60 case control pairs and were unable to control for the amount of substance ingested).

The commonest reason for poor care in this study was poor airway management. The challenge for clinical services is to ensure that optimal management strategies are implemented in practice. Clinical guidelines, improved training, and consulting poisons information services may all have a role to play in improving services. Case reviews and clinical audit may also contribute to an improvement in management by helping to monitor, identify, and address any shortfalls in care. Future studies may be able to use clinical case notes as a primary data source, enabling a more comprehensive examination of quality of care. The issue of whether deficiencies of care identified in this study are specific to individuals who self-harm or are part of a more general care issues should be investigated, especially in the context of research suggesting negative attitudes among some staff towards those who self-harm. Other future work might examine the effect of advance directives on the management of overdose, the extent to which medical management varies by hospital, and the relationship between age and the receipt of sub-optimal care.
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The management of the SDO programme has now transferred to the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton. Although NETSCC, SDO has conducted the editorial review of this document, we had no involvement in the commissioning, and therefore may not be able to comment on the background of this document. Should you have any queries please contact sdo@southampton.ac.uk.