

# Effect of increased antidepressant prescribing on suicide rate in Northern Ireland

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**Aims and method** To investigate whether changes in antidepressant prescribing have been associated with alteration in suicide rate for the period 1989–1996 in Northern Ireland. Data for antidepressant prescribing were obtained from a central unit, for Northern Ireland, using the defined daily dose system for each of the above years. The number of recorded cases of suicide and undetermined death were also obtained for this period, from Northern Ireland coroners.

**Results** There was no evidence of an association between suicide rate and antidepressant prescription ( $r^2=0.019$ ,  $F$  test=0.115,  $P=0.74$ ), despite antidepressant use more than tripling over the study period.

**Clinical implications** Even substantial increases in detection and treatment of depressive illness may not impinge on suicide rate. It is also possible that suicide rate may be a very poor marker of the benefits of antidepressant treatment.

Suicide has been identified as a preventable cause of death and targeted for reduction in the UK (Hawton, 1998). Several studies have suggested that a high percentage of suicides have a history of mental illness and, in particular, depressive illness (Foster *et al*, 1997). Notwithstanding the aetiological complexity of suicide, prevention, recognition and effective treatment of mental disorder are thought to play key roles in suicide prevention. At least one study has shown that increased detection and treatment of depressive illness have been associated with a reduced suicide rate (Rutz *et al*, 1989). Cross-sectional analysis has suggested that the use of antidepressants reduces suicides in patients with depression (Isacsson *et al*, 1996). The ongoing Defeat Depression Campaign (Paykel & Priest, 1992) aims to increase awareness of depression and methods of treatment among professionals and lay people. This has occurred at a time when there have been a variety of new and effective antidepressant treatments available. In this study it was possible to see if the changing use of antidepressants was associated with alteration of the suicide rate between 1989 and 1996 in Northern Ireland.

## The study

The number of recorded cases of both suicide and undetermined deaths were obtained for Northern Ireland in each of the years 1989–1996 inclusive. This information was released by the General Register Office in Belfast, where it is collated from Northern Ireland coroners following inquests.

In Northern Ireland the Drug Utilisation Research Unit at The Queen's University of Belfast monitors prescribing practices throughout Northern Ireland, using data supplied from the Central Services Agency. When scripts are taken to the pharmacy, they are coded by the pharmacist and submitted monthly for payment to the Central Services Agency. The data are felt to be an accurate reflection of actual drug use (Rafferty *et al*, 1997). The Drug Utilisation Research Unit was able to supply details of all antidepressants prescribed yearly from 1989 to 1996 for Northern Ireland. Drugs were classified with the World Health Organization Anatomical Chemical Classification System. To monitor the utilisation of drugs, the defined daily dose (DDD) system is an internationally accepted technique (Oydivin & Kristinnson, 1991). It is defined as the assumed average dose per day for a drug used for its main indication in adults. The DDD is a technical unit of measurement and does not reflect the prescribed (or actual) daily dose. Nevertheless, the DDD method has stood the test of time and remains the best method available for its purpose.

Simple regression was used to examine the statistical relationship between change in rate of suicide and undetermined deaths and prescription of antidepressants, for the above years in Northern Ireland.

## Findings

Data on numbers of suicides, undetermined deaths and antidepressant prescription (using the DDD) for the years 1989–1996 are given in Table 1. The volume of antidepressants had more

Table 1. Suicides, undetermined deaths and prescription of antidepressants (defined daily dose, in thousands) yearly for the period 1989–1996

Year	Suicides	Suicides plus undetermined deaths	Antidepressant prescribing
1989	116	134	4962
1990	158	168	5678
1991	129	148	6408
1992	107	128	7669
1993	129	151	9158
1994	138	151	11 214
1995	122	146	13 478
1996	124	143	15 664

than tripled within the study period, the increase being predominantly related to the rise in sales of selective serotonin re-uptake inhibitors (SSRI), which, by 1996, were the most commonly prescribed group. Simple regression suggested that there was no statistically significant relationship between number of suicides and antidepressant prescription ( $r^2=0.019$ ,  $F$  test=0.115,  $P=0.74$ ). When suicides and undetermined deaths were taken together, the relationship was essentially unchanged ( $r^2=0.002$ ,  $F$  test=0.012,  $P=0.918$ ).

### Comment

The above findings show that a large increase in the prescribing of antidepressants has not been associated with alteration of the suicide rate over a seven-year period in Northern Ireland. It is likely that the increased prescribing of antidepressants follows on from educational campaigns highlighting the prevalence and appropriate treatment of depressive illness. In addition, antidepressants with different side-effect profiles and greater safety in overdose had become available during the study period.

Suicide is a complex act and, although its association with depressive illness is robust, other factors appear to influence its frequency. These factors include cultural, economic and political effects (Diekstra, 1989), which may act to obscure any effects of increased treatment for mental disorders. In addition, suicide is a rare event compared to the prevalence of depressive illness (Jenkins *et al.*, 1998) and other mental disorders. For this reason, even greater increases in quantity of treatment (in this case, antidepressant prescribing) may be required to show an effect on suicide rate. Although the above are valid criticisms of these findings, they would also strongly question the value of suicide rate as a marker of effective mental illness management.

Indeed, the efficacy of prevention strategies targeting those at greatest risk (in this case, individuals with depressive illness at risk of suicide) has been questioned generally, because they ignore the continuum of symptomatology of those not targeted, which may also give rise to substantial morbidity (Rose, 1993).

It has been suggested that antidepressants may not be prescribed at doses that are clinically effective. This is unlikely to have affected these findings because the bulk of the increase in prescribing was for SSRIs, which do not suffer from the above handicap (Donaghue *et al.*, 1996) probably because of the dosage regimes.

Finally, diagnosis of patients prescribed antidepressants was not available from Drug Utilisation Research Unit data. It is possible that these drugs are not being prescribed for the disorders for which they are licensed. There is evidence that this is the case from the USA (Olsson *et al.*, 1998). Given the increased use of antidepressants for deliberate self-poisoning both in Northern Ireland (Kelly *et al.*, 1998) and in other UK centres (Hawton *et al.*, 1997) over the last decade, monitoring the clinical diagnoses of those prescribed antidepressant agents is important. The rise in antidepressant prescribing may not be targeted at those with depressive illness.

Despite the above limitations, it is disappointing to report that substantial increases of antidepressant treatment have not been associated with a decline in the suicide rate.

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# Management of psychiatric in-patient violence in the Anglia region

## Implications for record-keeping, staff training and victim support

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**Aims and method** A total of 384 incidents of violence against the person (six 'serious' and 378 'mild'), by adult in-patients in general psychiatric units (GPUs) and learning disability units (LDUs) in 10 National Health Service trusts in the Anglia region, were evaluated by interviews with staff and examination of records.

**Results** The findings, when compared with standards derived from previous recommendations, showed deficiencies in the documentation of incidents (there was no satisfactory written record of physical restraint for 97% of incidents in GPUs and 85% in LDUs),

in the training of staff in 'control and restraint' procedures (if two or more staff were involved in physical restraint, for 3% of incidents in GPUs and 100% in LDUs, the staff had received no training within the previous 12 months) and in policies for victim support (there was no written policy that included procedures for victim support in relation to 84% of incidents in GPUs and 44% in LDUs).

**Clinical implications** Trusts should consider reviewing their policies on the prevention and management of violence, particularly in relation to staff training.