Costs of antidepressant overdose: a preliminary study

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SUMMARY

There is ongoing debate regarding the relative cost effectiveness of different classes of antidepressants. Although factors such as tolerability and discontinuation rates have been taken into account, there has been little consideration of the cost of overdose. In the current study we examined the cost of antidepressant overdose at four teaching hospitals over a four-week period and found that the cost of selective serotonin reuptake inhibitor overdose was less than half that of tricyclic antidepresant overdose. The cost of overdose is often ignored and should be considered in future analyses of the cost effectiveness of different antidepressant prescribing policies in primary care.

Keywords: antidepressants; cost effectiveness; overdose.

Introduction

GENERAL practitioners (GPs) spend considerable amounts of time and money treating depression. Newer antidepressants, such as the selective serotonin reuptake inhibitors (SSRIs), are more expensive than older antidepresants, such as tricyclic antidepressants (TCAs), but there is continuing debate about the relative cost effectiveness of these classes of antidepressant.

A retrospective study carried out in a general practice setting suggested that prescribing SSRIs might represent better value for money than prescribing TCAs because of reduced contact with psychiatric services.[1] Other arguments made in favour of SSRIs are the fact that they are less toxic in overdose and may be better tolerated by patients.[2] Although studies have estimated the cost of suicide,[3] there has been little consideration of the cost of deliberate self-poisoning with antidepressants, which is a far more common outcome. A small retrospective study carried out in the United States suggested that the additional hospital costs associated with TCA overdose might justify the routine prescription of newer antidepressants.[4] In the current study, we sought to estimate the hospital costs associated with TCA and SSRI overdose prospectively.

Method

Over a four-week period in 1996, we identified all patients over 16 years of age who attended four teaching hospitals in Leeds, Leicester, Manchester, and Nottingham with deliberate overdose of TCAs or SSRIs. We recorded demographic information and the management of the current self-poisoning episode. We examined ward and accident and emergency databases, referral ledgers, accident and emergency notes, and copies of specialist deliberate self-poisoning assessments. Inpatient data were retrospectively checked against admission, and discharge information was obtained from the patient administration system in each hospital. Direct hospital costs of deliberate self-poisoning were estimated using the methods adopted by Yeo.[5] The number of accident and emergency attendances, medical inpatient days, specialist psychosocial assessments, and days on the intensive care unit were recorded for each episode. Costs were estimated using prices (inclusive of capital charges, general services, staff, and equipment costs) quoted by each contracting department.

Results

There were a total of 477 episodes of deliberate self-poisoning during the study period, of which 57 (12%) involved ingestion of predominantly TCAs or SSRIs. The mean age of the sample was 29.5 years (SD = 11.8), with no significant difference in the age of those ingesting different classes of antidepressant. Patient characteristics, management of the current episode, and hospital costs are presented in Table 1. There were no significant differences between study centres. The extra hospital cost attributable to TCA overdose compared with SSRI overdose was £371 per episode (£584 versus £213).

Discussion

The current study must be regarded as preliminary because of the comparatively small number of subjects, but several interesting findings emerged. Compared with those taking an overdose of TCAs, individuals taking SSRIs were more likely to be female and in contact with psychiatric services. This could reflect prescribing of low toxicity antidepressants to a group of patients perceived to be at high risk of self-poisoning. Attendance in the accident and emergency department with TCA poisoning was more likely to lead to hospital admission, perhaps owing to increased drowsiness and risk of cardiac arrhythmia following the overdose.

The hospital cost per episode of TCA poisoning was over twice that of SSRI overdose, and was largely accounted for by an increased number of inpatient days and days on the intensive care unit for those taking TCAs. This is a substantial difference, especially since it excludes indirect and non-hospital costs, but it represents only 7% of the total costs of self-poisoning estimated from this study. However, it would cost the Health Service in the region of £170 million to change all those taking TCAs to SSRIs.[6] Our conclusion must therefore be that a wholesale change to prescribing of SSRIs rather than TCAs cannot be justi-

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Table 1. Overdoses presenting to the four study hospitals over a four-week period.

	All episodes (n = 477)	SSRI overdose (n = 29)	TCA overdose (n = 28)	SSRI versus TCA P-value for difference[a]
Patient characteristics	n (%)	n (%)	n (%)	
Current psychiatric contact	111 (23)	14 (48)	6 (21)	<0.05
Female sex	234 (49)	18 (62)	10 (36)	<0.05
Substance dependence	51 (11)	0	5 (18)	<0.02
Previous overdose	196 (41)	11 (38)	10 (35)	>0.5
Out of catchment area	63 (8)	2 (7)	2 (7)	>0.5
Patient management	n (%)	n (%)	n (%)	
Admitted to medical bed	296 (62)	16 (55)	24 (86)	<0.02
Admitted to psychiatric ward	48 (10)	7 (24)	4 (14)	>0.2
Self discharged	56 (12)	4 (14)	1 (4)	>0.1
Received specialist assessment	257 (53)	16 (55)	15 (54)	>0.5
Referred back to GP	261 (55)	8 (28)	11 (39)	>0.2
Costs	Cost (n)	Cost (n)	Cost (n)	
A&E assessments	£21 775 (444)	£1372 (28)	£1323 (27)	
Inpatient days	£61 852 (415)	£2682 (18)	£7152 (48)	
ICU days	£10 636 (9)	£0	£5909 (5)	
Specialist assessments	£30 401 (301)	£2128 (16)	£1995 (15)	
Total hospital costs	£124 664	£6182	£16 375	
Cost per episode	£261	£213	£584	

Patient characteristics, management, and costs of the current episode. Tricyclic antidepressants (TCA) are compared with selective serotonin reuptake inhibitors (SSRIs). [a]Chi-squared test. A&E = accident and emergency department. ICU = intensive care unit. All costs in pounds sterling at November 1996 prices.

fied by the likely savings in hospital costs following self-poisoning alone. Nevertheless, the cost of overdose is often ignored and should be considered in future analyses of the cost effectiveness of different antidepressant prescribing policies in primary care. Larger studies examining the cost of self-poisoning with antidepressants are needed to inform the debate.

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