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Only three-quarters of trainees appeared to have discussed the suicide and its aftermath at a team meeting, and less than half had attended a critical incident review. These events have other functions in addition to the provision of support and, given that trainees reported that they are helpful, this should reinforce the need for their routine occurrence following suicides. The trainees' consultant appears to be particularly influential, having an opportunity to provide potentially valuable advice. Most consultants appear to do well in supporting their trainees at these times, but some do poorly. Given the theme of self-blame which arose commonly, it would seem especially important that trainee psychiatrists are helped to disentangle issues of clinical management from less rational feelings arising from concerns about personal failure and responsibility. Recognition by all our consultant colleagues of the potential impact of patient suicide on training grade psychiatrists would, therefore, be of value, and trainee education could usefully include the issue of how, as consultants, support can be optimally provided.

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ALAN J. CARSON AND PREM SHAH

# Size does matter

## A study of antidepressant prescribing in a general hospital

**AIMS AND METHODS**

To examine antidepressant prescribing in a general medical hospital in the UK. The data used were extracted from a prescription database prospectively maintained by the hospital pharmacy. All prescriptions of antidepressants over a five-year period, both new and continuation, were recorded.

**RESULTS**

During the study period there were 2037 prescriptions of tricyclic antidepressants. Only 18% of these prescriptions were at conventional therapeutic doses. This compared with 773 prescriptions of selective serotonin reuptake inhibitors, 70% of which were at conventional therapeutic doses. It is shown that antidepressants were prescribed at a dose in accordance with the smallest tablet size available.

**CLINICAL IMPLICATIONS**

We suggest that reformulation of tablets to allow one tablet daily prescribing may lead to improved antidepressant prescribing.

Several authors have suggested that in primary care settings tricyclic antidepressant drugs are frequently prescribed in less than recommended doses (MacDonald *et al*, 1996; Donoghue *et al*, 1996). While some have defended these lower doses as being effective and necessitated by side-effects (Tan, 1997), it is generally



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viewed as a cause for concern. By contrast there is little information about the use of antidepressants in secondary, non-psychiatric care, despite the well acknowledged high prevalence of affective disorders in general medical and surgical settings. In this study we examine prescribing practice in a general hospital.

The aims of this study were to examine the dosing regimes of antidepressants over a five-year period in a general hospital setting. Then, to compare the proportion of prescriptions of tricyclic drugs at conventional treatment doses with the proportion of selective serotonin reuptake inhibitors (SSRIs) prescriptions at conventional treatment doses.

## The study

The study was conducted retrospectively using a prescription data base at the Western General Hospital in Edinburgh; a 600-bed teaching hospital with most medical specialities represented with the notable exception of obstetrics and gynaecology and no psychiatric beds. The database is used to monitor the hospital pharmacy and all drug prescriptions for in-patients, new or continuation, are recorded. All antidepressant prescriptions between 1 April 1993 and 31 March 1998 were examined, and we recorded both the class of drug and the dosage. Dosages were recorded as a fraction of adequate dose. The concept of adequate dose was designed to provide an indication of a drug dosing regime for routine clinical use. We consider that the doses we have classed as adequate dose reflect the general view of UK psychiatrists and are based upon national guidelines; and the hospital's own internal recommendations. We classed prescriptions into four categories: less than half the adequate dose, half adequate dose to adequate dose, adequate dose, and greater than adequate dose (adequate doses are listed in Table 1).

If there was any doubt about the exact dose prescribed of a drug, the decision was always made to assume higher doses had been prescribed.

## Findings

During the five years of the study there were 3433 prescriptions for antidepressant drugs. The number of prescriptions, and the dose, for each class of drug were described in Table 1.

## Comment

In a secondary care medical setting, 80% of prescriptions of tricyclics were under the normally accepted therapeutic dose. This compared very unfavourably with SSRIs where only 4% of prescriptions were under the accepted therapeutic dose. This was similar to patterns of use in primary care.

Why are tricyclic drugs so frequently prescribed in low doses compared with SSRIs? Many assume that this is because of side-effects. In our opinion, this belief is augmented by drug advertising. Unfortunately, empirical testing does not back up this belief about side-effects. Following a well conducted meta-analysis of studies of discontinuation of antidepressants due to side-effects Anderson & Tomenson (1995) concluded that there were no clinically significant differences in discontinuation rates between the two classes of drugs. We would suggest the answer may lie in the size of the tablet. Most SSRIs are formulated so that doses under the adequate dose require tablets to be divided manually. By contrast tricyclic drugs are normally dispensed in 25 mg tablets necessitating the patient to take at least six tablets in order to attain an adequate dose.

The use of sertraline, an SSRI, similar in clinical profile to fluoxetine and paroxetine, is of particular interest as two-thirds of scripts were at half the adequate dose. Although, many might argue that the adequate dose of sertraline is in fact 50 mg not 100 mg, the important point is that when formulations are available that allow lower doses to be prescribed, this will happen. Indeed, of all the antidepressants prescribed during the study period, 60–70% were made at a dose corresponding to the smallest tablet size.

A major problem with this data set is that only the prescription is recorded, not the purpose that the drug

**Table 1. The number of prescriptions of antidepressant drugs in a general hospital between 1 April 1993 and 31 March 1998 by class of antidepressant and by fraction of adequate dose**

| | Tricyclic[1] | SSRI[2] | Other[3] | Sertraline[4] |
|---|---|---|---|---|
| <0.5 adequate dose | 1205 (59%) | 0 (0%) | 217 (46%) | 0 (0%) |
| 0.5–0.9 adequate dose | 420 (21%) | 28 (4%) | 182 (38%) | 98 (66%) |
| Adequate dose | 373 (18%) | 541 (70%) | 60 (13%) | 47 (32%) |
| >Adequate dose | 39 (2%) | 204 (26%) | 15 (3%) | 4 (3%) |

1. Adequate dose for tricyclics all 150 mg, except lofepramine 140 mg.

2. Adequate dose for selective serotonin reuptake inhibitors (SSRIs) 20 mg, except fluvoxamine 100 mg.

3. Adequate dose for other drugs including trazodone 300 mg, nefazodone 200 mg, venlafaxine 75 mg and phenelzine 45 mg, others as per *British National Formulary* guidelines.

4. Adequate dose for sertraline 100 mg daily.



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was being used for. We suspect that some prescriptions for tricyclics and trazadone will be used for insomnia, pain and other symptoms. Nonetheless, it would be remarkable if this alone were to explain the different patterns in usage.

Given that tricyclic drugs probably have an enhanced efficacy, compared with SRRIs, in the treatment of depression (Perry, 1996), we believe reformulating older drugs like clomipramine and imipramine should become a priority. These drugs could be repackaged enabling prescription of one tablet daily dispensed via a blister pack, containing tablets of increasing strength, allowing gradual increments from 25 mg daily up to 150 mg daily. We believe such a move would be of more value than the introduction of newly developed, yet highly similar drugs into an already overcrowded marketplace or yet more attempts at educating doctors in the proper use of antidepressants.

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