A comparison of the cost-effectiveness of sertraline versus tricyclic antidepressants in primary care

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**Record Status**
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

**Health technology**
Sertraline (a selective serotonin re-uptake inhibitor (SSRI)) versus conventional tricyclic antidepressants (TCA) in treating depression.

**Type of intervention**
Treatment.

**Economic study type**
Cost-effectiveness analysis.

**Study population**
Patients diagnosed and treated for depression in primary care. Depression was defined as five or more symptoms from a checklist of DSM-III-R major depressive symptoms or illness rated by the GP as comparable to major depressive disorder, a clinical global impression (CGI) score indicating at least mild severity and a duration of illness in excess of two weeks.

**Setting**
Primary care. The economic study was carried out in the United Kingdom.

**Dates to which data relate**
The dates of the effectiveness and resource use data were not clearly reported (the sertraline group were chosen from the study sample of an open trial the results of which was published in 1994). The price year was 1993/1994.

**Source of effectiveness data**
Effectiveness data were derived from a single study.

**Link between effectiveness and cost data**
The costing was undertaken retrospectively on the same patient sample as that used in the effectiveness analysis.

**Study sample**
No power calculations were reported. 378 patients were included in the study from an original total of 392 patients (sertraline, n=196; TCAs, n=196). 190 patients were included in the intervention (sertraline) group (average age 48 years), and 188 in the control group (average age 47.3 years). 6 patients from the intervention group and 8 from the control group were excluded.
Study design
This was a non-randomised trial with concurrent controls, carried out as a multicentre study in more than 37 primary care practices. The TCA group was selected so as to match those patients in the sertraline group. Patients in the TCA group were either attending the same practices as patients in the sertraline group or some neighbouring practices. The duration of follow-up was 12 months. The percentage of drop-outs in the sertraline group was 8.2% (about 30 patients who switched to TCAs).

Analysis of effectiveness
The analysis of effectiveness was based on both intention to treat and treatment completers. The primary health outcome used in the analysis was improvement from depression rated by the patients' GP as 'very much improved, improved, no change and worsened'. The groups were well matched in terms of socio-demographic characteristics, previous depression, and concomitant physical morbidity.

Effectiveness results
Using the intention to treat principle, the proportion of those rated as either 'somewhat improved' or 'very much improved' in the sertraline group was 87%, while the corresponding proportion for the TCA group was 74%, (p<0.01). Based on the principle of treatment completers only, the corresponding values were 90% and 74%, respectively, (p<0.01).

Clinical conclusions
Treatment with sertraline appears to be more successful in reducing the symptoms of depression. The authors discovered considerable sub-optimal prescribing and switching between different types of TCAs.

Measure of benefits used in the economic analysis
The measure of benefits used in the economic analysis was the number of patients improved from depression.

Direct costs
Costs were not discounted. The quantities of resource use were reported separately from the costs. The cost items were reported separately. The costs measured were those associated with generic health and social care services, medical hospital services, specialist (psychiatric) services, and medication. Hospital costs included 'hotel' services, administration, laboratory, and capital. The hospital unit costs were obtained from Financial Return FR12 to the Department of Health. The cost data related to medication and personal living expenses were obtained from official reports. The sources of quantities of resource use were patient notes and interviews with patients and GPs. The time spent by professionals with patients was assumed by the authors. The source of unit costs for private home consumption of resources was the 1992 Family Expenditure Survey (CSO, 1993). The price year was 1993/94, while the costs were reflated using the Retail Price Index. The costs associated with concomitant physical illnesses were not included in the cost analysis.

Statistical analysis of costs
Student's t test was performed to compare groups in terms of costs. A multivariate regression was used to test for the differences in costs due only to the treatment group to which the patient was allocated. It included all demographic and prognostic characteristics for which data were available.

Indirect Costs
Costs were not discounted. The quantities of resource use were reported separately from the costs. The cost items were reported separately. The opportunity costs due to informal care provided by family and friends, and opportunity costs of housing were included in the analysis of indirect costs. A flat rate of 5.00 was assigned to each hour of informal care. The weekly opportunity costs of housing were estimated based on the calculations performed in a study published in...
1986. The price year was 1993/94, while the costs were inflated using the appropriate indices.

**Currency**

UK pounds sterling (£).

**Sensitivity analysis**

Not performed.

**Estimated benefits used in the economic analysis**

Using the intention to treat principle, 165 patients in the sertraline had an improvement in symptoms (with treatment completers only, the number was 144), and 138 patients in the TCA group.

**Cost results**

The average total one year cost in the intervention group, including informal care, was 8,052.68, whereas in the TCA group it was 8,238.63, (p=0.0039). When the informal costs were excluded from the calculation, the figures were 7,789.7 and 7,841.38, respectively, (p<0.0002).

**Synthesis of costs and benefits**

Although sertraline turned out to be the dominant strategy, the authors reported the average cost-effectiveness ratios, in terms of cost per patient either 'very much improved' or 'at least somewhat improved', in 1993/94 prices. The total cost figure (including informal care) per patient very much improved was 24,286 for sertraline and 34,419 for TCAs. For the 'at least somewhat improved patient' category, the corresponding figures were 9,273 (sertraline) and 11,224 (TCAs).

**Authors' conclusions**

This study suggests that pharmacotherapy for depression using sertraline is more cost-effective compared to treatment with TCAs. The finding that sertraline is less costly than TCAs is largely dependant on sertraline producing a reduced requirement for secondary psychiatric services for a relatively small number of people.

**CRD COMMENTARY - Selection of comparators**

reason for the choice of the comparator is clear.

**Validity of estimate of measure of benefit**

internal validity of the study results may be weakened by the use of a retrospective design. The authors did not report the specific dates during which the data was collected.

**Validity of estimate of costs**

resource quantities were reported separately from the costs, with adequate details of the methods used in the cost estimation being reported. In order to reduce potential selection biases arising from the study design employed, the cost analysis further explored the cost difference that resulted after controlling for differences in patient characteristics.

**Other issues**

en the lack of a prospective design and sensitivity analysis, the results need to be treated with some caution. The generalisability of the study results to other settings or countries was not addressed. The results were not presented selectively.
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