Cost-effectiveness of escitalopram vs. citalopram in major depressive disorder

Fantino B, Moore N, Verdoux H, Auray J P

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.

CRD summary
This study examined the relative cost-effectiveness of escitalopram (ESC) compared with citalopram (CIT) for the first-line treatment of patients aged 18 to 65 years with major depressive disorder. The authors concluded that ECS was the preferred strategy as it was more effective and less expensive than CIT from the perspective of the health care payer. The study methodology was of good quality and was well presented. The conclusions appear to be valid.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study examined the relative cost-effectiveness of escitalopram (ESC) compared with citalopram (CIT) for the first-line treatment of patients aged 18 to 65 years with major depressive disorder (MDD).

Interventions
The two strategies were fixed doses of ESC, at 20mg per day, and CIT, at 40mg per day, over eight weeks.

Location/setting
France/secondary care.

Methods
Analytical approach:
This economic evaluation was carried out alongside a single study with an eight-week time horizon. The authors stated that a health care perspective was adopted.

Effectiveness data:
The clinical data were derived from a double-blind, randomised controlled trial (RCT) with an eight-week follow-up. There were 138 patients (28.3% men, mean age: 44.1 ± 10.9 years) in the ESC group and 142 patients (38% men, mean age: 46.2 ± 11.1 years) in the CIT group. There were no differences, at baseline, in the clinical or demographic characteristics of the two groups. No patient was lost to follow-up. The key clinical endpoint was the remission rate, which was defined as the percentage of patients with a final Montgomery-Asberg Depression Rating Scale (MADRS) score lower than or equal to 12. The baseline MADRS score for every patient was 30 or more.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
The three summary benefit measures were the remission rate, the reduction in MADRS score, and the reduction in the self-reported MADRS (MADRS-S) score.

Cost data:
The health services were the study drugs, physician visits (general practitioner or psychiatrist), co-medications, and in-patient care (emergency or psychiatry ward). Only those physician visits, which were in addition to those per protocol in the RCT, were considered. The drug cost for CIT was based on the average wholesale brand price. ESC was not commercially available in France at the time of the study, thus it was assumed to have the same price as CIT. The sources of other costs were not explicitly reported. The unit costs were reported separately from the resource quantities.
The resource use data came from the actual consumption of services in the RCT. Sick leave was assessed as a resource consumed, but no cost appears to have been attributed to this. All costs were in Euros (EUR) and the price year was 2004.

**Analysis of uncertainty:**
A bootstrapping methodology was used to generate confidence intervals (CIs) around the costs and benefits. The generic, rather than the brand price of ESC was considered in an alternative scenario, while the price of CIT was not varied.

**Results**
The expected health care costs per patient were EUR 96 (± EUR 55) with ESC and EUR 163 (± EUR 705) with CIT. This cost difference was statistically significant. Using the generic price of CIT, reduced the difference.

All three benefits were significantly better in the ESC group than in the CIT group. The difference in remission rate was 12% (95% CI: 5 to 21), the difference in MADRS was -2.12 (95% CI: -3.75 to -0.59), the difference in MADRS-S was -1.32 (95% CI: -2.42 to -0.22).

The incremental analysis showed the dominance of ESC over CIT from the perspective of the health care payer, meaning that ESC was simultaneously less expensive and more effective.

The bootstrapping analysis showed that ESC was dominant in about 85% of simulations regardless of the measure of benefit used. The threshold price for ESC to be cost neutral compared with CIT was EUR 1.03 (it was assumed to be EUR 0.89 in the base case).

**Authors' conclusions**
The authors concluded that ESC was the preferred first-line treatment for MDD as it was more effective and less expensive than CIT from the perspective of the health care payer.

**CRD commentary**
**Interventions:**
No formal justification was provided for the selection of the two treatments from among all the available drugs. However, it appears that they were chosen because they had been compared in the primary RCT.

**Effectiveness/benefits:**
The source of clinical evidence was highly appropriate as the authors carried out a head-to-head study of the two drugs. Although little information on the RCT methodology was provided, as it had been published elsewhere, its randomised and blinded design ensures a high internal validity. The patient inclusion and exclusion criteria were reported. Furthermore, the study groups were comparable at baseline in terms of socio-demographic and clinical characteristics. The clinical endpoints were adjusted by the baseline scores. These aspects of the analysis enhance the validity of the clinical estimates. The authors justified their choice of a disease-specific benefit measure, which was the relevant outcome for clinicians and the health care payer. However, a disease-specific measure cannot be directly compared with the benefits of other health care interventions.

**Costs:**
The authors explicitly stated the study perspective, and all the relevant cost categories appear to have been included. Extensive information on the unit costs, quantities of resources used, and the price year was provided, which enhances the transparency of the economic evaluation. However, the sources of data were reported only for the drugs. The approach used to derive the prices of the other health services was not reported. The resource use data reflected the actual consumption of health care services. Conventional statistical analyses of the costs were carried out in the sensitivity analysis. The authors noted that due to the ‘controlled’ nature of the study, visits to the health care professionals which were a planned part of the study, were not included in the cost analysis. Thus, the number of visits might have been underestimated.

**Analysis and results:**
The incremental approach used to combine the costs and benefits was appropriate. However, incremental cost-effectiveness ratios were not calculated given the dominance of one treatment over the other. The issue of uncertainty was addressed by means of a probabilistic approach. Only the price of CIT was varied in the deterministic sensitivity analysis, as at the time of the study, ESC was not marketed in France. Two alternative assumptions were made: either that the two drug prices were the same at the branded price of CIT, or that ESC had the branded price of CIT and CIT had its generic price. Finally, the authors noted some potential limitations of their analysis such as the use of patient self-reported data, which might affect the validity of these estimates given the potential for recall bias.

Concluding remarks:
The study methodology was of good quality and was well presented. The conclusions appear to be valid.

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Other publications of related interest


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