Cost-effectiveness of selective serotonin reuptake inhibitors and routine specialist care with and without cognitive-behavioural therapy in adolescents with major depression


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
The aim was to evaluate the cost-effectiveness of selective serotonin reuptake inhibitors (SSRIs) plus cognitive behavioural therapy, compared with SSRIs alone, for adolescents with major depression. The authors concluded that the combined therapy was not cost-effective in the short-term for the treatment of major depression in adolescents. Overall, the methodology was good and the results were clearly reported. Good quality sources of data were used, which makes the authors’ conclusions more robust.

Type of economic evaluation
Cost-effectiveness analysis, cost-utility analysis

Study objective
The aim was to evaluate the cost-effectiveness of selective serotonin reuptake inhibitors (SSRIs) plus cognitive behavioural therapy (CBT) compared with SSRIs alone for adolescents with major depression.

Interventions
Participants receiving SSRIs (fluoxetine) were offered nine out-patient sessions over 28 weeks. CBT was offered once weekly for 12 weeks, followed by a maintenance session every two weeks for 12 weeks, and a final session at the 28th week.

Location/setting
UK/primary and secondary care.

Methods
Analytical approach:
This economic evaluation was based on a single clinical trial. The time horizon was 28 weeks. The authors stated that a broad service-providing perspective was adopted.

Effectiveness data:
The clinical data were derived from a randomised controlled trial (RCT) with 208 patients (105 in the combined therapy group and 103 in the monotherapy group) who were followed for 28 weeks. The two groups were comparable at baseline in terms of their demographic characteristics, disorder history, and costs of depression management.

Monetary benefit and utility valuations:
The utility valuations were derived from the sample of patients enrolled in the RCT using the European Quality of life (EQ-5D) questionnaire.

Measure of benefit:
The two health benefit measures were the Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA) and quality-adjusted life-years (QALYs).

Cost data:
The cost categories were those of health services (intervention sessions, hospitalisation, community health services, and medication), education, social services, voluntary service, and the private sector. Travel and productivity costs were also
recorded and included in the total costs in a sensitivity analysis. Resource use was collected from the RCT. These resources were valued using the unit costs from publicly available sources in the UK, including the British National Formulary, the National Health Service Reference Costs and the Unit Costs of Health and Social Care. All costs were in UK pounds sterling (£) and the price year was 2004. Given the short time horizon, no discounting was performed. Bootstrapping was used to validate the results from the t-tests.

Analysis of uncertainty:
Bootstrapping was used to address the uncertainty surrounding the cost-effectiveness estimates. The one-way sensitivity analysis was performed on some inputs to test whether the model outcomes were robust or not.

Results
There were no significant differences between the groups in the benefit measures or total costs.

The HoNOSCA scores at 28 weeks were 15.39 (standard deviation, SD: 8.58) for combined therapy and 14.52 (SD: 8.26) for monotherapy (p=0.287), and QALYs were 0.36 (SD: 0.15) for combined therapy and 0.38 (SD: 0.14) for monotherapy (p=0.137).

Total costs were £6,940 (SD: 11,122) for combined therapy and £4,640 (SD: 4,516) for monotherapy (p=0.059).

The bootstrapping analysis generated less than a 26% probability that the combined therapy was cost-effective over the monotherapy, using the HoNOSCA measure of benefit, and a 4% probability of being cost-effective, using the QALY measure of benefit.

Authors' conclusions
The authors concluded that the combined CBT and SSRIs therapy was not cost-effective in the short-term for the treatment of major depression in adolescents.

CRD commentary
Interventions:
A detailed description of the interventions was provided. The choice of interventions appeared to be based on those included in the RCT. There may have been other relevant interventions.

Effectiveness/benefits:
The use of a RCT should have ensured the validity of the clinical analysis. Further strengths of the clinical study included the use of an intention-to-treat approach and the bootstrapping method.

Costs:
The reporting of the cost analysis was transparent and clear. A breakdown of the cost items was given. The resource use data were collected from the sample of patients enrolled in the RCT and therefore reflected the real consumption of services in the clinical trial. Analyses were performed to assess the statistical significance of the cost differences. Other details of the analysis, such as the price year and sources of costs, were reported.

Analysis and results:
A bootstrapping analysis was conducted to evaluate the costs and benefits. No incremental cost-effectiveness ratios were calculated, but the combined therapy was dominated when using the QALY outcome, which means it was less effective and more costly. The issue of uncertainty was satisfactorily addressed in the sensitivity analysis.

Concluding remarks:
Overall, the methodology was good and the reporting of the results was clear. Good quality sources of data were used, which makes the authors' conclusions more robust.

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