The cost-effectiveness of group cognitive behavioral therapy compared with routine primary care for women with postnatal depression in the UK

Stevenson MD, Scope A, Sutcliffe PA

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 objective was to assess the cost-effectiveness of providing group cognitive-behavioural therapy (CBT), compared with routine primary care, for women with post-natal depression in the UK. The authors concluded that group CBT did not appear to be cost-effective, but research was needed to reduce the uncertainty in the costs and effectiveness. The methods were good, but details of the literature review and components of the estimated costs were lacking; these were available in another publication. The authors’ conclusions appear to be appropriate.

Type of economic evaluation
Cost-utility analysis

Study objective
The objective was to assess the cost-effectiveness of providing group cognitive-behavioural therapy (CBT), compared with routine primary care, for women with post-natal depression in the UK.

Interventions
Group CBT was compared with routine primary care for women with post-natal depression, defined by their Edinburgh Postnatal Depression Scale (EPDS) score, with scores ranging from 12 to 30 (maximum) suggesting significant depression.

Location/setting
UK/primary care.

Methods
Analytical approach:
The data were synthesised using a mathematical model constructed by the authors. The data were identified by a systematic literature review, with expert opinion for some items. The time horizon was one year and the authors reported that the UK NHS and personal social services perspective was adopted.

Effectiveness data:
A systematic review was performed for the clinical effectiveness of group CBT and the details were published in a UK Health Technology Assessment report (Stevenson, et al. 2010, see ‘Other Publications of Related Interest’ below for bibliographic details). Only one randomised controlled trial (RCT) was identified (Honey, 2002, see ‘Other Publications of Related Interest’ below for bibliographic details). This UK trial of 45 patients provided CBT in weekly two-hour psycho-educational group sessions, with four to six women per class, for eight weeks, and followed-up patients for six months. An expert panel, including psychologists, primary medical care staff, and consultants, provided estimates on the duration of effectiveness over one year, for group CBT, and assumed that the improvement in EPDS score with CBT at six months, compared with routine care, declined linearly to zero by one year. The main outcome measure was the reduction in EPDS score.

Monetary benefit and utility valuations:
The change in EPDS scores reported in the RCT were converted into a change in utility values using a mapping algorithm. This mapping algorithm was derived from an analysis of raw data from a published trial, in which patients completed the EPDS and the Short Form (SF)-6D Health Survey.
Measure of benefit:
The measure of benefit was quality-adjusted life-years (QALYs).

Cost data:
The details of the costs were reported in Stevenson, et al. (2010). The costs of providing group therapy were estimated using the resources reported in the RCT and expert opinion. The costs were incurred over one year and they were reported in UK pounds sterling (£).

Analysis of uncertainty:
One-way sensitivity analyses were performed to show the impact of changing input variables on the results. A full probabilistic sensitivity analysis was undertaken, in which each parameter was given a probabilistic distribution, and varied 1,000 times, using Monte Carlo methods. The results were presented in a cost-effectiveness acceptability curve for a range of willingness-to-pay thresholds. The expected value of perfect information (EVPI) was estimated to predict the maximum a decision-maker would pay to remove the uncertainty in the results. The expected value of perfect partial information (EVPPI) was also estimated to predict the maximum a decision-maker would pay to remove the uncertainty in a single parameter.

Results
Compared with routine care, the additional cost per woman for providing group CBT was £1,500 and this generated an additional 0.032 QALYs; the incremental cost per QALY gained was £46,462.

When the cost per woman receiving group CBT was reduced to £750, it was cost-effective at a threshold of £30,000 per QALY gained. Plausible scenarios produced cost per QALY values below £20,000.

The probabilistic analysis indicated that group CBT resulted in an additional 0.039 QALYs, and an additional cost of £1,418, and the cost per QALY gained was £36,062.

The EVPPI indicated that to remove all uncertainty decision-makers would have to pay a maximum of £64 million. The key parameters with the greatest EVPPI values were the cost per women of providing group CBT and the statistical relationship between the EPDS values and SF-6D values that were used to derive the QALYs.

Authors' conclusions
The authors concluded that the evidence showed that group CBT did not appear to be cost-effective, but research was needed to reduce the uncertainty in the costs of therapy and the relationship between the EPDS and the SF-6D, and that concurrent medication should be controlled for.

CRD commentary
Interventions:
The authors selected interventions that appear to have been appropriate and were reported clearly. They stated that the most relevant comparator was individual CBT, but this was not included due to a lack of data. The components of the group CBT were not explicitly reported, but might have been given in the Health Technology Assessment (Stevenson, et al. 2010).

Effectiveness/benefits:
Details of the review and the expert panel were provided, and further details were available in the Health Technology Assessment. It was unclear from this study if the review was systematic. QALYs were an appropriate measure of benefit, given the impact of the disease on quality of life, but the total QALYs for each intervention were not reported, only the incremental values were given. The utilities were estimated by mapping changes in EPDS scores into change in the SF-6D. The results were sensitive to the mapping algorithm, and other utility measures, such as the European Quality of life (EQ-5D) questionnaire, might have produced different results. The clinical trial had a six-month time horizon, with the effectiveness from six to 12 months estimated by an expert panel; it is possible that this did not fully capture differences in the treatment effects.

Costs:
The perspective was explicitly reported, but only brief details of the costs were given, making it impossible to determine if all the relevant categories and costs were analysed, without consulting the Health Technology Assessment. The price year was not reported, which will hamper any future inflationary exercises. The costs were not discounted, but this was appropriate for the one-year time horizon.

Analysis and results:
The costs and benefits were appropriately combined in an incremental cost-utility ratio. The impact of uncertainty on the results was tested using one-way and probabilistic sensitivity analyses. The maximum a decision-maker would pay to remove all uncertainty was assessed using EVPI and EVPPI. The ranges and distributions of values used were provided. Brief details of the literature review and costs were reported, with further details available in another publication. The main limitation, acknowledged by the authors, was that no RCT compared gCBT with individual CBT, which is the most appropriate comparator. Another key limitation was that the level of confounding within the main RCT used in the analyses due to the level of concurrent medication was also unknown; antidepressant use was included as a covariate within the analyses, but it is unclear whether the medication was identical. Any future research should explicitly control for concurrent medication.

Concluding remarks:
: The methods were good, but the details of the literature review and costs would have been helpful (although a reference was provided for these). The authors’ conclusions appear to be appropriate.

Funding
Funded by the National Institute for Health Research, UK.

Bibliographic details
Stevenson MD, Scope A, Sutcliffe PA. The cost-effectiveness of group cognitive behavioral therapy compared with routine primary care for women with postnatal depression in the UK. Value in Health 2010; 13(5): 580-584

PubMedID
20384978

DOI
10.1111/j.1524-4733.2010.00720.x

Original Paper URL

Other publications of related interest


Indexing Status
Subject indexing assigned by NLM

MeSH
Cognitive Therapy /economics; Confidence Intervals; Cost-Benefit Analysis; Depression, Postpartum /economics /therapy; Expert Testimony; Female; Great Britain; Health Status Indicators; Humans; Models, Theoretical; Pregnancy; Primary Health Care /economics; Probability; Psychometrics; Psychotherapy, Group /economics; Quality-Adjusted Life Years
AccessionNumber
22010001476

Date bibliographic record published
24/11/2010

Date abstract record published
06/07/2011