Cost-effectiveness analysis of an occupational therapy-led lifestyle approach and routine general practitioner's care for panic disorder

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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.

CRD summary
The objective was to assess the cost-effectiveness of a lifestyle intervention, based on occupational therapy, to treat panic disorder in patients aged 18 to 65 years. The authors concluded that at a maximum willingness to pay of £30,000 per QALY gained there was an 86% chance that the lifestyle intervention would be cost-effective over 10 months. The methods seem to have been appropriate and the results were relatively well reported. The authors' conclusions appear to be appropriate.

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

Study objective
The objective was to assess the cost-effectiveness of a lifestyle intervention based on occupational therapy for treating panic disorder in people aged 18 to 65 years.

Interventions
The lifestyle intervention was provided by research trained occupational therapists. It focused on diet, fluid intake, exercise, and drug use, with up to 10 intervention sessions over 16 weeks. The comparator was routine general practitioner (GP) care.

Location/setting
UK/primary care.

Methods
Analytical approach:
The analysis was based on data from a study with a 10-month time horizon. The authors reported that the perspective of the English health care provider (specifically in general practice) was adopted.

Effectiveness data:
The clinical data came from a non-blinded pragmatic randomised controlled trial (RCT) in the east of England. A sample size calculation estimated that 170 patients were required to detect a five-point difference on the Beck Anxiety Inventory (BAI) with a 90% power. In total 117 patients were randomised, with 57 receiving the lifestyle intervention and 60 receiving GP care. The full details of the RCT were reported elsewhere (Lambert, et al. 2007, see 'Other Publications of Related Interest' below for bibliographic details). The key clinical endpoint was the BAI score.

Monetary benefit and utility valuations:
The utility values were based on the responses of participants in the RCT on the European Quality of life (EQ-5D) questionnaire, completed at baseline and at five and 10 months. The responses were valued against UK general population tariffs.

Measure of benefit:
The main measure of benefit was the quality-adjusted life-year (QALY).

Cost data:
The cost analysis included GP and non-GP appointments, occupational therapy visits (for the lifestyle arm), referrals to other agencies, and prescribed medications. The resource use data were from the GP records of the trial participants. The drug costs were from the British National Formulary and the Index of Medical Specialities. The price year was 2001 to 2002 and all costs were reported in UK pounds sterling (£).

Analysis of uncertainty:
The uncertainty in the out-patient unit costs and the number of referrals was investigated in univariate sensitivity analyses. The mean differences in costs and health outcomes were calculated along with their 95% non-parametric confidence intervals, using 1,000 replications. Cost-effectiveness acceptability curves were produced to show the probability of the intervention being cost-effective at various willingness-to-pay thresholds.

Results
At 10-month follow-up, 36 patients provided data for routine GP care, and 31 provided data for the lifestyle intervention. The average BAI score was 16.22 with GP care and 14.08 with the lifestyle intervention. The mean QALYs were 0.019 with GP care and 0.041 with lifestyle intervention; a gain of 0.027 QALYs (95% CI -0.038 to 0.188).

The mean cost was £403.85 with GP care and £584.34 with lifestyle intervention. After adjusting for baseline cost and missing data, the mean difference in cost was £220.04 (95% CI -73.21 to 678.91). This difference was mostly driven by the cost of occupational therapy for the lifestyle group (£277 over 10 months).

The incremental cost-effectiveness ratio was £39 per point improvement on the BAI or £8,283 per QALY gained.

The sensitivity analysis showed that varying generic out-patient unit costs by ±50% had little impact on the results, while doubling the number of specific mental health referrals for the GP arm generated a lower (better) cost per QALY gained for the lifestyle intervention of £5,432 at 10 months. There was an 86% chance that the lifestyle intervention would be cost-effective at a maximum willingness to pay of £30,000 per QALY gained.

Authors' conclusions
The authors concluded that at a maximum willingness to pay of £30,000 per QALY gained there was an 86% chance that the lifestyle intervention would be cost-effective over 10 months.

CRD commentary
Interventions:
The intervention was described and the comparator was appropriate, as it was the usual practice in the study setting.

Effectiveness/benefits:
The clinical data were from one RCT. The details of this trial, including the sample size calculation, the method of randomisation, and the baseline characteristics, were reported and the validity of the data was generally high, but the number of participants (67) was well below the power calculation (177). The reasons for this low recruitment were not discussed. The follow-up period of 10 months might not have been long enough to capture the full effects of the intervention. QALYs were an appropriate measure of benefit, given the impact of panic disorder on quality of life and they allow comparisons to be made with other disorders.

Costs:
Those costs relevant to the authors' reported perspective appear to have been included. The resource use was reported separately for each intervention and cost item, but the sources for the unit costs were unclear, except for the medications. The price year was reported, which will enable future inflationary exercises. Discounting was not necessary as all the costs were incurred within a year. The authors reported that regression models were used to estimate the mean costs and outcomes, adjusting for differences at baseline and the likelihood that observations would be missing.

Analysis and results:
An appropriate incremental analysis was performed and allowed an assessment of the cost-effectiveness of the
intervention. The uncertainty in out-patient unit costs and the number of specific mental health referrals was investigated in univariate sensitivity analyses. The authors compared their findings with those of other published studies, which had similar incremental cost-effectiveness ratios, and suggested that the lifestyle intervention costs could be reduced by group therapy, but further research was needed. They discussed a number of limitations to their analysis including the sample size and the relatively narrow perspective of the analysis; a broader perspective might have captured indirect costs, such as those of work productivity.

Concluding remarks:
The methods seem to have been appropriate and the results were relatively well reported. The authors’ conclusions appear to be appropriate.

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