Cost-effectiveness of nidotherapy for comorbid personality disorder and severe mental illness: randomized controlled trial

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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
This study examined the clinical and economic impact of nidotherapy, a systematic modification of the environment to create a better fit for people with severe mental illness and comorbid personality disorder. The authors concluded that nidotherapy might be cost-effective for this patient population. The study was well conducted and, despite the small sample size for the cost and clinical data, the authors’ conclusions appear to be appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study examined the clinical and economic impact (especially in terms of hospital bed usage) of nidotherapy, a systematic modification of the environment to create a better fit for people with severe mental illness and comorbid personality disorder.

Interventions
The two interventions were nidotherapy as an enhancement to assertive treatment and standard assertive outreach treatment.

Location/setting
UK/community.

Methods
Analytical approach:
This analysis was based on a single study with a one-year time horizon. The authors stated that the perspective of the service provider (including the health, social, voluntary, and criminal justice services) was adopted.

Effectiveness data:
The clinical data came from a prospective, parallel-group, randomised controlled trial (RCT) that enrolled 52 patients, with 28 (17 male) in the nidotherapy group and 24 (18 male) in the control group. Patients were assessed at baseline and then at six and 12 months by two researchers, who were blind to treatment allocation. The key endpoints were the length of hospital stay over one year and the change in clinical psychopathology, which was assessed using the Brief Psychiatric Rating Scale (BPRS).

Monetary benefit and utility valuations:
Not assessed.

Measure of benefit:
The change in the BPRS was the summary benefit measure.

Cost data:
The economic analysis included the costs of nidotherapy (time spent by the therapists plus overheads), hospital services, community health and social services, medications, and criminal justice services. The resource consumption was based on the Secure Facilities Service Use Schedule, which covers every possible service contact for this patient population.
(both in the community and in secure facilities). Resource use was assessed six months before randomisation and one year after randomisation. Costs were from the National Health Service (NHS) Reference Costs, the British Medical Association, Social Services Research Units, and the Legal Services Commission. They were in UK pounds sterling (£) and referred to the financial year 2004 to 2005. Tests were used to assess the statistical significance of cost differences, given the skewed distribution of the cost data.

Analysis of uncertainty:
Several one-way sensitivity analyses were carried out by varying the assumptions for costs or clinical data. A nonparametric bootstrapping approach was used to generate average estimates and confidence intervals for the expected costs and benefits. Cost-effectiveness acceptability curves were generated.

Results
The BPRS score changed from 34.6 to 24.8 in the nidotherapy intervention group and from 36.4 to 29.2 in the control group. The difference between groups was not statistically significant (p=0.14). There was a 63% reduction in bed usage with nidotherapy, but this difference was also not statistically significant (p=0.13).

The total costs were £23,796 with nidotherapy and £27,908 without. This difference did not reach statistical significance (mean -4,112, 95% CI -20,144 to 9,814).

The results were stable when the unit cost of hospital stay, which was the key cost driver, was changed. The probabilistic analysis showed that there was at least a 60% probability of the active treatment being cost-effective, when compared with usual care, when society was not willing to pay anything for an improvement in the BPRS scale.

Authors’ conclusions
The authors concluded that nidotherapy might be cost-effective for this patient population.

CRD commentary
Interventions:
The rationale for the selection of the comparators was clear as the proposed intervention was compared against the usual approach for this patient population. A clear description of the two strategies was given.

Effectiveness/benefits:
A RCT was an appropriate source of evidence given the methodological strengths of its design, not only in randomisation, but also in its blinded design, which ensures the validity of the clinical evidence. The authors stated that power calculations were not performed to justify the sample size because this was a pilot trial of a new treatment. The inclusion criteria were clearly reported, allowing a clear definition of the patient population. Details of the randomisation procedure and the use of statistical tests were reported. The analysis was appropriately based on intention-to-treat. Statistical analyses were conducted to adjust for baseline differences between groups. The reasons for exclusion of patients from the initial study sample were reported. The benefit measure was disease specific and might not allow a direct comparison with the benefits of other health care interventions.

Costs:
The categories of costs appear to have been appropriately selected for the economic viewpoint. The unit costs were not reported, but extensive details of the resource use were reported and the data were from the RCT used in the clinical analysis. The data were available for most of the patients included at baseline. The fiscal year of the analysis was reported and statistical analyses of costs were appropriately conducted.

Analysis and results:
The costs and benefits were reported, but were not synthesised in an incremental cost-effectiveness ratio because nidotherapy was both more effective and less costly. Only the results of the cost-effectiveness acceptability curves were given. The study results were stable to the variations in the costs considered in the sensitivity analysis. Large differences were found in the cost results and it is likely that these were not statistically significant due to the small sample size. The authors acknowledged that this was a pilot study, and further analyses were required to corroborate their results.
Concluding remarks:
The study was well conducted and, despite the small sample size for the cost and clinical data, the authors’ conclusions appear to be appropriate.

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