Psychological therapies for borderline personality disorder

Psychological therapies including dialectical behaviour therapy for borderline personality disorder: a systematic review and preliminary economic evaluation

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Executive summary

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Executive summary

Background

Borderline personality disorder (BPD) is a severe and complex mental disorder characterised by pervasive instability in moods, interpersonal relationships, self-image and behaviour. In the DSM-IV system, the criterion for a diagnosis of BPD is five of nine presenting symptoms. The Office for National Statistics 2000 survey of psychiatric morbidity in private households identified seven people per 1000, which indicates that for a primary care trust of 500,000, there would be 3500 individuals meeting the criteria for BPD.

Psychological therapies for BPD have many factors in common, such as a high level of structure, consistency, theoretical coherence, taking account of the relationship problems (including the difficulty in engaging positively with the therapist), and taking a flexible and individualised approach to care. Within these general principles, several specific therapies have been applied to, and developed for use with, patients with BPD. Mental health practitioners specifically trained in the methods described deliver these treatments. The practitioners may have a qualification in psychiatry, mental health nursing, clinical psychology or another mental health profession (e.g. occupational therapy or mental health social work).

Objective

The aim of this project was to summarise the available evidence on the clinical effectiveness and cost-effectiveness of psychological therapies including dialectical behaviour therapy (DBT) for BPD.

More specifically, the review aimed to:

- evaluate clinical effectiveness in terms of reductions in self-harm and suicide
- evaluate effectiveness in terms of improved psychological functioning (e.g. in terms of dissociation and mood)
- evaluate effectiveness in terms of interpersonal and social functioning
- evaluate effectiveness in terms of quality of life
- evaluate effectiveness in terms of presentation to mental health and other services (including accident and emergency attendance and psychiatric hospital admission)
- evaluate the cost-effectiveness of the therapies compared with treatment as usual
- identify the important areas of ignorance or uncertainty.

Methods

Clinical effectiveness

A systematic review of the literature aimed to identify all references related to the clinical and cost-effectiveness of psychological therapies including DBT for BPD.

Twenty electronic bibliographic databases were searched, covering biomedical, health-related, science and social science literature. In addition, attempts were made to identify 'grey' literature by searching appropriate databases (e.g. Health Management Information Consortium, Index to Theses, Dissertation Abstracts), current research registers (e.g. National Research Register, Current Controlled Trials) and the Internet (e.g. by searching Google and relevant websites, such as the British Association for Behavioural and Cognitive Psychotherapies, British Psychological Society and Royal College of Psychiatry). Citation searches of included studies were undertaken using the Science Citation Index and Social Sciences Citation Index citation search facility, and the reference lists of included studies and relevant review articles were also checked.

The study quality of relevant studies was assessed using standard checklists and data were abstracted by two reviewers using standardised forms.

Cost-effectiveness

The cost-effectiveness assessment was in two parts. The first was a review of the literature. The second was an original assessment undertaken by the review team using evidence from the clinical trials and other sources.

It was not possible to apply a formal decision modelling approach given the complex care pathways for patients with BPD and the lack of evidence. It was decided instead to undertake separate economic evaluations for the six randomised controlled trials (RCTs) that had sufficient data using a combination of data reported in published papers, trial data sets sent by the investigators, a cost model using data from the POPMACT study and a utility mapping exercise. Cost-effectiveness was assessed in terms of cost per parasuicide event avoided in all six trials and cost per quality-adjusted life-year (QALY) in four of them, (which was done by mapping BDI results onto the EQ-5D for three. All results are at 2003–4 prices and for 12 months follow-up.

Results

Number and quality of studies, and direction of evidence

Clinical effectiveness

Ten studies met the inclusion criteria of DBT, mentalisation-based partial hospitalisation (MBT), manual-assisted cognitive behavioural therapy (MACT), comprehensive validation therapy (CVT) and client-centred therapy (CCT), along with treatment as usual (TAU). Of these, nine were RCTs and one was a non-randomised comparative study. The quality of the studies ranged from moderate to poor.

Cost-effectiveness

The review of published studies identified one cost-effectiveness analysis of psychological therapy for BPD. This was based on data from an RCT comparing DBT with TAU for the treatment of BPD. Participants were women who were clinically referred to a psychotherapy outcome study. The review of published studies also identified an economic evaluation of psychological therapies of partial relevance to BPD. This was a cost-effectiveness analysis of data from an RCT comparing MACT with TAU for the treatment of people with recurrent episodes of deliberate self-harm. A subgroup analysis was published but this did not present a full economic evaluation (although one was undertaken by the review team).

Evidence of effectiveness

Clinical effectiveness

Nine RCTs and one non-RCT of moderate to poor quality were identified in the clinical effectiveness review. There is some evidence to support the effectiveness of psychological therapies for BPD:

- There is some evidence that DBT is more effective than TAU for the treatment of chronically parasuicidal and drug-dependent borderline women.
- There is some evidence that DBT-orientated therapy is more effective than CCT for the treatment of BPD.
- There is some evidence that DBT is as effective as CVT with 12-Step (CVT+12S) for the treatment of opioid-dependent borderline women.
- There is some evidence that partial hospitalisation is more effective than TAU in the treatment of BPD.
- There is good evidence that MACT is no more effective than TAU in the treatment of BPD.
- There is some evidence that interpersonal group therapy is no more effective than individual MBT for the treatment of BPD.

However, these results should be interpreted with caution as not all studies were primarily targeted to borderline symptoms and there were considerable differences in patient characteristics, comparison groups and outcomes between the studies.

Cost-effectiveness

Review

One cost-effectiveness analysis used data from an RCT that compared DBT with TAU for the treatment of BPD. The participants were women who were clinically referred to a psychotherapy outcome study. Those receiving DBT (n = 22) incurred significantly higher psychotherapy costs, lower psychiatric inpatient costs and lower emergency room costs compared with TAU (n = 22). The two treatment groups did not differ significantly with respect to median medical or total healthcare costs. The cost-effectiveness measures used were cost per week employed and cost per point of global adjustment, and no significant difference was found in either of these measures for DBT compared with TAU. This study had limitations concerning the lack of important cost data and the fact that it was undertaken using data from a small, underpowered trial with a high dropout rate.

The cost-effectiveness analysis comparing MACT with TAU for the treatment of people with recurrent episodes of deliberate self-harm found no significant differences between the groups in the total costs across all patients or among those with BPD (n = 62). The cost per 1% reduction in the proportion of patients with a ▶

repeat self-harm episode was £120, with more than a 90% chance of being cost-effective, but this analysis was not undertaken for the BPD subgroup. The incremental mean effect as measured by EQ-5D was negative for MACT (–0.01118). The incremental cost per QALY gained from TAU was therefore £66,000, but the authors argued that this was probably a chance finding given that the difference in EQ-5D was not significant.

Assessment
In three of the four DBT trials, the intervention dominated the control groups in terms of parasuicide events or achieved a cost per event avoided below £50. However, in a fourth DBT trial the estimated cost per event avoided was £43,124. Although these studies seem favourable to DBT in terms of mean incremental cost-effectiveness, the probability of being cost-effective at £5000 per parasuicide event avoided was around just 60% in each case. Only two DBT trials could be subjected to a cost per QALY analysis, and for one the intervention again dominated and the other had a cost per QALY of £273,801. The probabilistic sensitivity analysis showed substantial uncertainty surrounding these results; the most favourable study had a probability of DBT being cost-effective of around 85%.

The MBT study group achieved a low cost per parasuicide event avoided, with a probability of being cost-effective at £5000 per parasuicide event avoided of 80%. While the cost per QALY was modest at £7242, there was substantial uncertainty, with a probability of being cost-effective at £20,000 per QALY of less than 60%. For the POPMACT, the BPD subgroup analysis found that the intervention was dominated in terms of cost per parasuicide event avoided. There was an insignificant incremental QALY gain in BPD, with an associated cost per QALY of £84,032. These assessments of MACT were both associated with a high degree of uncertainty, where the probability of being cost-effective was less than 50% in each case.

These assessments must be viewed with great care. The trials on which they were based were often of poor quality, using a mixture of methods for costing and assessing outcome (including QALYs) and of doubtful generalisability to the NHS for many of the studies. This mixture of results, high levels of uncertainty and the limitations in methods provides very limited support for the cost-effectiveness of DBT, but the results suggest that DBT could be cost-effective.

Conclusions

The overall efficacy of psychological therapies is promising; however, at this stage the evidence is inconclusive.

This study attempted to examine the cost-effectiveness of the intervention in six RCTs. The mixture of results for the four trials of DBT, plus the high levels of uncertainty and the limitations of the analyses, do not support the cost-effectiveness of DBT, although they suggest that it could have the potential to be cost-effective. The results for MBT are promising, although again surrounded by a high degree of uncertainty, and for MACT, the analysis suggests that the intervention is unlikely to be cost-effective. There is a need for considerable research in this area.

Recommendations for research

The results from existing studies in this field have produced a body of evidence that has been largely inconclusive. BPD is an important condition with a number of resource-intensive therapies available and it should be a priority area for future research. Suggestions for further research in terms of pragmatic trials and studies to inform economic evaluation are presented below.

Pragmatic controlled trials

Appropriately powered head-to-head RCTs of psychological therapies are needed. The key features of these trials include:

- Where possible, a trial should have more than one psychological therapy being compared.
- Studies must be designed with adequate statistical power taking into account expected dropouts.
- Patients from a variety of ethnic and socio-economic backgrounds must be included, with an age and gender mix comparable to those receiving treatment on the NHS.
- The level of severity and dysfunction must be well defined.
- The definition of ‘dropout’ must be standardised and reduced where possible in the RCTs examining psychological therapies for BPD. Where patients drop out of therapy considerable effort must still be undertaken to collect data on them.
- The different therapies need to be properly described, including a TAU arm (e.g. medication must be taken into account).

- The longest follow-up has been for 18 months, and 6 months was more common. Given the high cost of the interventions, longer term follow-ups should be undertaken.
- Data should be collected on outcomes, including recognised generic measures of health-related quality of life, including preference-based measures to permit comparisons across programmes (see below).
- Data should be collected on resource-use services (see below).
- Research teams should include independent researchers.

Studies to inform future economic analyses

- A survey of current practice and the use of the full range of services (including number of sessions attended and type of therapist) by people with BPD is needed to inform future economic analyses.
- Full resource-use data must be collected in the context of pragmatic clinical trials.
- A psychometric assessment is needed of the validity of the EQ-5D and other generic preference-based measures in BPD.
- If the generic measures are found wanting, then a more condition-specific preference-based measure that captures the impact of BPD on people's lives should be developed.
- A more formal cost-effectiveness model needs to be developed using the above data.

Publication

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NHS R&D HTA Programme

The research findings from the NHS R&D Health Technology Assessment (HTA) Programme directly influence key decision-making bodies such as the National Institute for Health and Clinical Excellence (NICE) and the National Screening Committee (NSC) who rely on HTA outputs to help raise standards of care. HTA findings also help to improve the quality of the service in the NHS indirectly in that they form a key component of the 'National Knowledge Service' that is being developed to improve the evidence of clinical practice throughout the NHS.

The HTA Programme was set up in 1993. Its role is to ensure that high-quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most efficient way for those who use, manage and provide care in the NHS. 'Health technologies' are broadly defined to include all interventions used to promote health, prevent and treat disease, and improve rehabilitation and long-term care, rather than settings of care.

The HTA Programme commissions research only on topics where it has identified key gaps in the evidence needed by the NHS. Suggestions for topics are actively sought from people working in the NHS, the public, service-users groups and professional bodies such as Royal Colleges and NHS Trusts.

Research suggestions are carefully considered by panels of independent experts (including service users) whose advice results in a ranked list of recommended research priorities. The HTA Programme then commissions the research team best suited to undertake the work, in the manner most appropriate to find the relevant answers. Some projects may take only months, others need several years to answer the research questions adequately. They may involve synthesising existing evidence or conducting a trial to produce new evidence where none currently exists.

Additionally, through its Technology Assessment Report (TAR) call-off contract, the HTA Programme is able to commission bespoke reports, principally for NICE, but also for other policy customers, such as a National Clinical Director. TARs bring together evidence on key aspects of the use of specific technologies and usually have to be completed within a short time period.

Criteria for inclusion in the HTA monograph series
Reports are published in the HTA monograph series if (1) they have resulted from work commissioned for the HTA Programme, and (2) they are of a sufficiently high scientific quality as assessed by the referees and editors.

Reviews in *Health Technology Assessment* are termed 'systematic' when the account of the search, appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

The research reported in this monograph was commissioned by the HTA Programme as project number 04/52/01. The contractual start date was in January 2005. The draft report began editorial review in September 2005 and was accepted for publication in February 2006. As the funder, by devising a commissioning brief, the HTA Programme specified the research question and study design. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the referees for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

The views expressed in this publication are those of the authors and not necessarily those of the HTA Programme or the Department of Health.

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