

**Evidence Briefing for Leeds Partnerships NHS Foundation Trust**

## **Cognitive behaviour therapy for schizophrenia**

- The NICE clinical guideline on schizophrenia<sup>1</sup> recommends that cognitive behaviour therapy (CBT) should be offered to all people with schizophrenia.
- This recommendation is based primarily on evidence that CBT can reduce hospitalisation compared with standard care. A meta-analysis of randomised trials reported a 24% relative reduction in hospitalisation at follow-up (up to 18 months after treatment). Duration of hospitalisation was reduced by an average of 8 days.
- Overall, the quality of the evidence supporting the recommendation is high to moderate. Differences in participant characteristics and details of the CBT intervention suggest some uncertainty about the generalisability of the findings across different settings. However, a number of the relevant trials were performed in UK NHS settings.
- Evidence for the cost-effectiveness of CBT is limited but an economic model produced by the NICE Guideline Development Group indicated that provision of CBT is likely to result in cost savings overall.
- The performance of Leeds Partnership Foundation Trust (LPFT) in providing CBT for service users with schizophrenia was rated 'average' by the Care Quality Commission in 2005/6 and 2007/8. An internal audit (April 2009) revealed that 17 out of 75 eligible service users had been offered CBT; 27 people were offered other psychosocial interventions.
- If LPFT implements CBT for service users who are currently receiving standard care, the research evidence suggests that one hospital admission could be avoided for every 13 patients treated.

## What does NICE recommend?

Cognitive behaviour therapy should be offered to all people with schizophrenia. This can be started either during the acute phase or later, including in in-patient settings. Therapy should be offered on a one-to-one basis and involve at least 16 planned sessions.

## What is the evidence base for clinical effectiveness?

### *Evidence used by NICE*

The NICE Guideline Development Group (GDG) performed a systematic review to identify randomised controlled trials (RCTs) comparing CBT with any other management strategy in adults with schizophrenia. Thirty-one RCTs were included. This briefing concentrates on the primary analysis comparing CBT with standard care (i.e. standard care + CBT versus standard care alone). Nineteen RCTs with 2118 participants were included in this analysis. This section is based on data extracted from the NICE clinical guideline and its appendices 15 and 16d. Further details of the data extracted will be available on [www.trip-lab.com](http://www.trip-lab.com).

The NICE GDG identified nine critical outcomes or groups of outcomes. The recommendation to use CBT is based largely on evidence that CBT can reduce hospitalisation compared with standard care alone. A meta-analysis of five RCTs (910 participants) showed a statistically significant reduction in hospitalisation when patients were followed up to 18 months after the end of treatment. Hospitalisation was reduced by 24% with a 95% confidence interval of 6% to 39%. In other words it is likely that CBT reduces the risk of hospitalisation although the possibility of a chance effect cannot be completely ruled out (probability 1%) and the true effect could be small. A 24% reduction in the risk of hospitalisation could be considered clinically important. In absolute terms, risk of hospitalisation was reduced by 8.5 percentage points (from 30% to 21.5%) by adding CBT to standard care. CBT also reduced the duration of hospitalisation at up to 12 months' follow-up by an average of 8 days (95% confidence interval 1 to 15 days).

CBT significantly reduced total symptom scores and depression scores at the end of treatment and at follow-up. The differences

between the CBT and standard care groups were small to medium and their clinical significance is uncertain. Similar statistically significant but small improvements were seen in psychosocial functioning and insight at follow-up. Follow-up evaluation also indicated that patients given CBT were less likely to leave studies early compared with the standard care group.

There were no statistically significant differences between CBT and standard care for outcomes related to mortality (suicide), relapse or treatment adherence. There was no information on quality of life or adverse effects.

The NICE recommendation to use individual rather than group CBT is based on an indirect comparison as no trials directly compared group and individual CBT. Similarly, no clear conclusions could be drawn from subgroup analyses assessing the effect of treatment duration and number of CBT sessions. The recommendation of at least 16 planned sessions is based on the fact that most RCTs showing an effect of CBT included at least this number of sessions, and on expert consensus.

RCTs comparing CBT with other active treatments such as psychoeducation and supportive counselling generally did not report significant differences in outcomes between groups.

### *Critical appraisal of the evidence*

The evidence supporting an effect of CBT on hospitalisation was appraised using a profile based on the GRADE system.<sup>2</sup> The overall quality of the evidence was rated high to moderate. Study design (RCTs), methodological quality of the trials (as appraised by the NICE GDG) and consistency of the results did not appear to have important limitations. The wide range of participants in the included trials and differences in details of the CBT intervention (e.g. number of sessions, group or individual, level of training of the therapist) mean that there is some uncertainty in the generalisability of the results across different settings. However, a number of the included trials were performed in the UK NHS and analyses in which non-UK studies and pre-National Service Framework (NSF) studies were disregarded gave similar results to the main analysis.

## Other evidence

Other relevant and up-to-date systematic reviews were sought by a non-systematic search of the CRD databases, including systematic reviews included in the DARE database and Cochrane reviews. A 2008 review of CBT for schizophrenia<sup>3</sup> concentrated on effects on symptoms. The review found a beneficial effect on positive symptoms, although the authors concluded that further methodologically sound research was required to confirm the findings. A Cochrane review of the same topic was last updated in 2004.<sup>4</sup> This review also concluded that CBT is a promising intervention for schizophrenia but further research is required. The NICE GDG review includes a number of studies that were not available when the Cochrane review was published.

Group CBT for schizophrenia was evaluated in a systematic review published in 2006.<sup>5</sup> However, the review found only limited evidence (five studies with 255 participants) and the review authors emphasised the inconsistency and methodological weaknesses of the studies. It therefore appears inappropriate to draw any conclusions about the effectiveness of group CBT based on this evidence.

## What is the evidence base for cost-effectiveness?

The NICE GDG's systematic review of health economic evidence found two studies that assessed the cost-effectiveness of CBT for people with schizophrenia.<sup>6,7</sup> Both studies were undertaken in the UK. However, both studies had small sample sizes and neither had sufficient statistical power to allow firm conclusions to be drawn. Structured abstracts of the studies by Kuipers et al. and Startup et al. are available on the NHS Economic Evaluation Database.

In view of the limited economic evidence available, the NICE GDG performed a cost analysis to assess whether the additional costs of providing CBT in addition to standard care are offset by future savings in hospitalisation costs. The analysis indicated that provision of CBT is likely to result in cost savings overall. A critical appraisal of the economic model is beyond the scope of this briefing.

## How applicable is the evidence to the setting of LPFT?

The RCTs included in the analysis of CBT versus standard care varied with respect to diagnosis (58–100% of patients with schizophrenia or other related diagnoses), length of illness (from first episode to over 10 years), baseline severity of illness and study setting (in-patient, out-patient or both). As such, they appear to represent a broad spectrum of participants and settings. Of the RCTs included for the key outcomes of hospitalisation, the majority were performed in the UK and sensitivity analyses were done including only post-NSF UK studies. Therefore, there seem to be no compelling reasons why the evidence should not be applicable to the LPFT setting.

However, there are often issues in transferring results from the setting of a clinical trial or research study to routine clinical practice, including availability of resources and training. Participants in trials may be carefully selected and patients with other co-existing problems are often excluded. The RCTs included in the GDG review varied with respect to exclusion criteria and the proportion of potential participants who were excluded or declined to participate. If there were major differences between those who participated and those who were eligible but declined, this could be a threat to the generalisability of the findings.

## What are the potential implications for LPFT of implementing this recommendation?

LPFT clinical audit project 161 examined implementation of the previous NICE guideline, which recommended that CBT should be offered to any individual with schizophrenia other than those unable to participate in an informed discussion. From a sample of 109 service users, 75 came into this category. Of these, 17 had been offered CBT and two actually received it. Fifty-two of the 75 eligible service users were not offered CBT. Of these, twenty-seven people were offered other psycho-social interventions (unspecified) instead of CBT.

The Care Quality Commission evaluated community mental health services in 2005/6 with a follow-up report in 2007/8. One of the indicators used was proportion of service

users who had received CBT, been offered CBT or for whom CBT was not applicable. LPFT's performance on this criterion was rated as average in both assessments, scoring 52% in 2005/6 (national average 46%) and 44% in 2007/8 (national average 45%).

According to the Hospital Episode Statistics for 2005/6 (the most recent data available),

there were 487 admissions with a primary diagnosis of schizophrenia in Leeds Mental Health Trust (LPFT's predecessor). The relative reduction in hospitalisations seen in the trials (24%) would translate into some 117 admissions avoided. The absolute reduction in hospitalisations seen in the trials implies that one admission could be avoided for every 13 patients treated with CBT in addition to standard care.

## References

1. National Institute for Health and Clinical Excellence. *Schizophrenia: core interventions in the treatment and management of schizophrenia in adults in primary and secondary care. NICE Clinical Guideline 82*. London: National Institute for Health and Clinical Excellence; 2009.
2. Atkins D, Best D, Briss PA, Eccles M, Falck-Ytter Y, Flottorp S, et al. Grading quality of evidence and strength of recommendations. *BMJ* 2004;328:1490.
3. Wykes T, Steel C, Everitt B, Tarrier N. Cognitive behavior therapy for schizophrenia: effect sizes, clinical models, and methodological rigor. *Schizophr Bull* 2008;34:523-37. DARE abstract: <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?ID=12008103475>
4. Jones C, Cormac I, Silveira da Mota Neto JI, Campbell C. Cognitive behaviour therapy for schizophrenia. *Cochrane Database Syst Rev* 2004:CD000524.
5. Lawrence R, Bradshaw T, Mairs H. Group cognitive behavioural therapy for schizophrenia: a systematic review of the literature. *J Psychiatr Ment Health Nurs* 2006;13:673-81. DARE abstract: <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?ID=12006006355>
6. Kuipers E, Fowler D, Garety P, Chisholm D, Freeman D, Dunn G, et al. London-east Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis. III: Follow-up and economic evaluation at 18 months. *Br J Psychiatry* 1998;173:61-8. NHS EED abstract: <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?ID=21998001113>
7. Startup M, Jackson MC, Evans KE, Bendix S. North Wales randomized controlled trial of cognitive behaviour therapy for acute schizophrenia spectrum disorders: two-year follow-up and economic evaluation. *Psychol Med* 2005;35:1307-16. NHS EED abstract: <http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?ID=22005001398>

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