TRiP-LaB
PUTTING RESEARCH TO WORK FOR LEEDS AND BRADFORD

NHS
National Institute for Health Research

NICE, CBT and schizophrenia: a case study of evidence-informed decision-making

Duncan Chambers and Paul Wilson, Centre for Reviews and Dissemination (CRD), University of York, UK (duncan.chambers@york.ac.uk)

Background

A key recommendation from the NICE clinical guideline for schizophrenia[1] is that people with schizophrenia should be offered cognitive behaviour therapy (CBT). Guidelines should inform decision makers of what the quality of the underlying evidence base is and whether recommendations are strong or weak.[2] NICE no longer grades its recommendations by strength or level of evidence.

Objectives

To assess the strength of the evidence behind this recommendation to assist its implementation in a local NHS Foundation Trust.

Methods

Using the NICE clinical guideline and its appendices, we extracted key data required to assess the quality of the evidence using the GRADE system.[3] This includes information about the type of evidence (study design), study quality, inconsistency between studies, directness and whether data are imprecise or sparse. We also attempted to assess the effects of CBT on patient-important outcomes and whether these appeared likely to be clinically significant. We used criteria for clinical significance presented in the 2004 NICE guidance on depression.[4] A relative risk of 0.8 or less (for dichotomous outcomes) or a standardised mean difference of 0.5 or more (for continuous outcomes) was considered potentially clinically significant. The range of plausible effects represented by the 95% confidence interval was also considered.

Results

The NICE recommendation was based on a systematic review of randomised trials comparing CBT with any alternative management strategy.[1] Very limited information about the review results and included studies was presented in the guideline text (Table 1). Study quality information and information about the CBT interventions had to be extracted individually from data extraction tables in an appendix. Study results were summarised as forest plots in another appendix and in clinical evidence summary tables (presented as a chapter of the guideline but separate from the main guideline document).

The overall quality of the evidence was high or moderate for most outcomes. Compared with standard care, CBT significantly reduced hospitalisation at follow-up (up to 18 months after end of treatment) and duration of hospitalisation (Table 2).

Outcome	Design	Quality	Consistency	Directness	Other factors	Effect size 95% CI	Clinical significance	Overall quality/ strength of evidence
Re-hospitalisation at follow-up (up to 18 months)	RCT 5 910	No serious limitations	No serious limitations	No serious limitations? (Not all trials 100% schizophrenia)	No serious limitations	RR 0.76 0.61,0.94	Possibly significant	GRADE: High to moderate
Duration of hospitalisation (up to 12 months)	RCT 5 791	No serious limitations	No serious limitations	No serious limitations	No serious limitations	WMD -8.26 -15.51, -1.01	Possibly significant	GRADE: High

Table 2 Modified GRADE evidence profile for CBT vs. standard care: hospitalisation outcomes

Conclusions

The quality and strength of evidence can affect uptake of and adherence to guideline recommendations.[5] Based on the NICE systematic review, we were able to show that there is reasonable evidence supporting the efficacy of CBT for people with schizophrenia. However, a clear and succinct summary was absent from the guidance document itself. In the absence of resources to conduct such an analysis, a more explicit statement of the strength of the evidence could promote evidence-informed decision-making and implementation of the recommendation. Some recent NICE guidelines summarise evidence in the form of modified GRADE profiles and it would be helpful for decision-makers if this method were adopted more widely in the future.

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. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, *et al*. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ* 2008;336:924-6.
3. 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.
4. National Institute for Clinical Excellence. *Depression: management of depression in primary and secondary care*. London: National Institute for Clinical Excellence; 2004.
5. Grol R, Dalhuijsen J, Thomas S, Veld C, Rutten G, Mokkink H. Attributes of clinical guidelines that influence use of guidelines in general practice: observational study. *BMJ* 1998;317:858-61.

Disclaimer: This poster presents independent research funded by the National Institute for Health Research (NIHR) through the Leeds York Bradford Collaboration for Leadership in Applied Health Research and Care. The views expressed in this publication are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health.

Information required for GRADE profile	Source in guideline
Type of evidence (study design)	Main text (Table 57) **Table 57. Summary of study characteristics for CBT.** k (total N): CBT vs. any control[4]: 31(3052); CBT vs. standard care: 19(2118); CBT vs. other active treatments: 14(1029); CBT vs. non-standard care: 3(136) Study ID: BACH2002, BARROWCLOUGH2006, BECHDOLF2004, Bradshaw2000, CATHER2005, BACH2002, BARROWCLOUGH2006, DURHAM2003, ENGLAND2007, GARETY2008, BECHDOLF2004, CATHER2005, DURHAM2003, GARETY2008, Haddock1999, Drury1996, Bradshaw2000, RECTOR2003
Serious or very serious limitations to study quality?	Appendix 15c (also requires reference to quality checklist in Appendix 9) **Characteristics of included studies (update)** **Study ID** BACH2002 Quality **1.1 The study addresses an appropriate and clearly focused question.**: Well covered **1.2 The assignment of subjects to treatment groups is randomised.**: Not reported adequately **1.3 An adequate concealment method is used.**: Not addressed **1.4 Subjects and investigators are kept 'blind' about treatment allocation.**: Poorly addressed
Important inconsistency?	Appendix 16d (forest plot) Schizophrenia (update) - CBT 1.4 Service outcome: 1. Re-hospitalisation (at follow up) Study or Subgroup | Treatment Events Total | Control Events Total | Weight | Risk Ratio M-H, Fixed, 95% CI | Risk Ratio M-H, Fixed, 95% CI 1.4.1 At follow up (up to 18 months after treatment) (all data) TARRIER1998 16 33 9 28 7.4% 1.51 [0.79, 2.87] BACH2002 12 40 19 40 14.5% 0.63 [0.36, 1.12] GUMLEY2003 11 72 19 72 14.5% 0.58 [0.30, 1.13] LEWIS2002 33 101 37 102 28.1% 0.90 [0.62, 1.32] TURKINGTON2002 36 257 38 165 35.4% 0.61 [0.40, 0.92] Subtotal (95% CI) 503 407 100.0% 0.76 [0.61, 0.94] Total events 108 122 Heterogeneity: Chi² = 7.31, df = 4 (P = 0.12); I² = 45% Test for overall effect: Z = 2.49 (P = 0.01)
Some or major uncertainty about directness?	Main text (Table 57 gives details of participant diagnoses) WYKES2005 Diagnosis: 58% - 100% Schizophrenia or other related diagnoses (DSM or ICD 10); 58% - 100% Schizophrenia or other related diagnoses (DSM or ICD 10); 64% - 100% Schizophrenia or other related diagnoses (DSM or ICD 10); 100% Schizophrenia or other related diagnoses (DSM or ICD 10)
Imprecise or sparse data?	Appendix 16d (forest plot gives details of numbers of participants and events) Schizophrenia (update) - CBT 1.4 Service outcome: 1. Re-hospitalisation (at follow up) Study or Subgroup | Treatment Events Total | Control Events Total | Weight | Risk Ratio M-H, Fixed, 95% CI | Risk Ratio M-H, Fixed, 95% CI 1.4.1 At follow up (up to 18 months after treatment) (all data) TARRIER1998 16 33 9 28 7.4% 1.51 [0.79, 2.87] BACH2002 12 40 19 40 14.5% 0.63 [0.36, 1.12] GUMLEY2003 11 72 19 72 14.5% 0.58 [0.30, 1.13] LEWIS2002 33 101 37 102 28.1% 0.90 [0.62, 1.32] TURKINGTON2002 36 257 38 165 35.4% 0.61 [0.40, 0.92] Subtotal (95% CI) 503 407 100.0% 0.76 [0.61, 0.94] Total events 108 122 Heterogeneity: Chi² = 7.31, df = 4 (P = 0.12); I² = 45% Test for overall effect: Z = 2.49 (P = 0.01)
High probability of reporting bias	Not assessed
Strong evidence of association (from observational studies)?	Not applicable
Very strong evidence of association (based on direct evidence)?	Appendix 16d (forest plot) or Chapter 10 (clinical evidence summary tables, presented separately from main text) Chapter 10 – Clinical evidence summary tables N 1.1 Mortality (at end of treatment) 5 RR (M-H, Fixed, 95% CI) 1.1.1 Suicide: at end of treatment 5 883 RR (M-H, Fixed, 95% CI) 1.2 Mortality (at follow up) 4 RR (M-H, Fixed, 95% CI)
Evidence of a dose–response gradient?	Not assessed (but would require use of study characteristics tables in Appendix 15)
All plausible confounders would have reduced the effect	Not applicable

Table 1 Distribution of evidence about CBT for schizophrenia within the NICE guidance