Early intervention services, cognitive-behavioural therapy and family intervention in early psychosis: systematic review

CRD summary
The review found that early intervention services had clinically meaningful benefit for individuals with early psychosis, compared to standard care. Inclusion of cognitive-behavioural therapy and family intervention in early intervention services may contribute to improved outcomes. Limited reporting of study quality means that the authors’ conclusions need to be interpreted with a degree of caution.

Authors’ objectives
To assess the effectiveness of early intervention services, cognitive-behavioural therapy (CBT) and family intervention for treating early psychosis.

Searching
CINAHL, Cochrane Central Register of Controlled Trials (CENTRAL), EMBASE, MEDLINE and PsycINFO were searched to September 2009. Search terms were reported. The National Centre for Clinical Excellence (NICE) schizophrenia guideline, relevant journals, recent reviews and meta-analyses and reference lists of retrieved articles were checked for further studies and experts in the field were consulted. The search was limited to articles in English or with an abstract in English.

Study selection
Randomised controlled trials (RCTs) of early intervention services, CBT or family therapy for treating early psychosis were eligible for inclusion. Early psychosis was defined as a clinical diagnosis of psychosis within five years of the first psychotic episode or presentation to mental health services. Studies of high-risk or pre-psychotic groups or with fewer than 10 participants per intervention arm were excluded. Outcomes of interest were: psychotic relapse; duration of untreated psychosis; positive and negative symptoms (measured using one of four named rating scales); continued contact with services; and accessing psychosocial treatment. Outcomes were measured at the end of treatment and at follow-up.

Participants in the included studies were recruited from community, in-patient and outpatient mental health services. In most studies participants were either new referrals or within a specified time period (range 12 weeks to five years) of first contact with services. Early intervention services included psychosocial support, medication management, case-management with a relatively small caseload and an assertive approach to treatment. CBT approaches varied and in some studies the intervention was adapted for early psychosis. Family therapy included psycho-education and problem solving. CBT and family therapy were delivered in various individual and/or group settings. Controls received standard care, usually from local community or outpatient mental health services. The frequency and duration of interventions varied across studies from from five weeks (plus booster sessions) to two years. Follow-up ranged from nine months to five years post randomisation.

The authors did not state how many reviewers performed the selection.

Assessment of study quality
Study quality was assessed using a modified version of the Scottish Intercollegiate Guidelines Network (SIGN) checklist. SIGN criteria included randomisation, allocation concealment, baseline comparability, blinding, drop-outs, outcome measures and intention-to-treat analysis. Studies were included in the review if they were deemed to be of adequate quality (not defined further).

Two reviewers assessed study validity and this was checked by a third reviewer. Disagreements were resolved by discussion.
Data extraction
Relative risks (RRs) were extracted or calculated for dichotomous outcomes and mean differences for continuous outcomes, with 95% confidence intervals (CIs).

Three reviewers extracted data and these were rechecked by one of the three. Disagreements were resolved by discussion.

Methods of synthesis
Studies were combined to calculate pooled relative risks and standardised mean differences (SMDs) with 95% CIs. A random-effects model was used. Numbers needed to treat for benefit (NNTB) were calculated for statistically significant relative risks. Intention-to-treat analysis was used where possible and used the last observation carried forward or assumed an unfavourable outcome for participants who left the study early. Heterogeneity was assessed with $\chi^2$ and $I^2$. Two outcomes for family therapy (relapse and hospital admission) were combined to increase statistical power.

Results of the review
Eleven RCTs were included (n=1,708 participants, range 50 to 547): four were of early intervention (n=800), four were of CBT (n=620) and three were of family intervention (n=288). It appeared that all the included studies were judged to be of adequate quality, but no details or summary information on study quality were provided in the article.

Early intervention services significantly reduced the risk of relapse (RR 0.66, 95% CI 0.47 to 0.94, NNTB=6; two RCTs), positive symptoms (SMD -0.21, 95% CI -0.42 to 0.01; two RCTs), negative symptoms (SMD -0.39, 95% CI -0.57 to -0.20; two RCTs), trial discontinuation (RR 0.71, 95% CI 0.53 to 0.94, NNTB=8; four RCTs), loss of contact with services (RR 0.60, 95% CI 0.39 to 0.92, NNTB=13; two RCTs) and having no psychological intervention (RR 0.67, 95% CI 0.46 to 0.97, NNTB=5, $I^2=74\%$, $p=0.02$; four RCTs) significantly more than standard care alone.

CBT reduced positive symptoms (SMD -0.60, 95% CI -0.79 to -0.41; three RCTs) and negative symptoms (SMD -0.45, 85% CI -0.80 to -0.09, $I^2=62\%$; three RCTs) at up to two years post treatment significantly more than standard care alone. There was no significant difference between the groups for other outcomes: symptoms at end of treatment (four RCTs), relapse within two years (two RCTs, $I^2=79\%$, $p=0.03$) and hospital admission (two RCTs).

Family intervention reduced the risk of relapse after treatment and of hospital admission (RR 0.50, 95% CI 0.32 to 0.80, NNTB=7; three RCTs) significantly more than standard care alone. There was no significant difference between the groups for these outcomes measured separately at end of treatment or at up to two years' follow-up.

No data were reported on duration of untreated psychosis.

No statistically significant heterogeneity was found except where noted above.

Authors' conclusions
Early intervention services had clinically meaningful benefit for individuals with early psychosis, compared to standard care. Inclusion of CBT and family intervention in early intervention services may contribute to improved outcomes.

CRD commentary
The objectives and inclusion criteria of the review were clear. Relevant sources were searched for studies. Language restrictions meant that language bias could not be ruled out. No specific attempts were made to search for unpublished studies, which increased potential for publication bias. Steps were taken to minimise risks of reviewer bias and error by having more than one reviewer undertake validity assessment and extract data; the process for study selection was not described. No criteria used to define adequate quality were reported and there were no details of the quality characteristics of the included studies; some information was accessible in NICE guideline appendices. No estimates of effect from individual studies were reported in the article, but forest plots were accessible in the guideline appendices. Appropriate methods were used to pool studies and assess for statistical heterogeneity. Significant
heterogeneity was found but it was not discussed in the text. The authors noted that there were few RCTs in each meta-analysis and much variability in long-term follow-up measures, especially on early intervention.

The review was well conducted in many respects and the authors took care not to overstate the results. However, limited reporting (in particular about study quality) means that the authors’ conclusions need to be interpreted with a degree of caution.

**Implications of the review for practice and research**

**Practice:** The authors stated that early intervention was effective for early psychosis and can reduce hospital admission. They also stated that inclusion of psychological interventions as part of an early intervention service may improve outcomes and a comprehensive service of this type may benefit individuals with established psychosis.

**Research:** The authors stated that further research was needed to investigate different component treatments of early intervention services and the long-term effects of early intervention services on individuals with early and established psychosis. Further studies were required to investigate whether longer duration of untreated psychosis was associated with poorer clinical outcomes.

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