The treatment of child and adolescent mental health problems in primary care: a systematic review

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Authors' objectives
To assess the effectiveness of interventions for child and adolescent mental health problems in primary care, and interventions designed to improve the skills of primary care staff.

Searching
The following sources were searched for reports published in the English language: the Cochrane Controlled Trials Register (1999); MEDLINE from 1966 to 1999; PsycINFO from 1966 to 1999; EMBASE from 1980 to 1999; and CINAHL from 1982 to 1999. The reference lists of relevant studies were reviewed and experts were contacted for details of additional studies. All authors of studies included in the review were contacted regarding ongoing and additional studies and relevant grey literature.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs), controlled before-and-after studies (CBA), and simple before-and-after studies (SBA) were eligible.

Specific interventions included in the review
The eligible interventions were: educational interventions with primary care or community staff; treatment by primary care or community staff; treatment by specialist staff in primary care; and consultation-liaison on patients.

In the included studies, the educational interventions that involved the primary care team were: instruction in behaviour modification techniques; parent advisor training; training in detection and management of postnatal depression; preparatory reading and training sessions using vignettes or video; workshops with and without follow-up sessions; and instruction plus access to specialist health visitor or case supervision.

In the included studies, the treatments by the primary care team were: brief pre-school interview with parent; parent educational interventions; researcher acting in supportive capacity plus booklet; and educational intervention by nurses and behaviour therapy. The duration of follow-up ranged from 7 weeks to 20 years.

In the included studies, the treatments by specialists in primary care were: behaviour therapy by psychologists; counselling, cognitive therapy or dynamic therapy; group therapy by psychologist or general practitioner (GP); parent counselling by trained health visitor (HV) and community medical officers; parents treated by psychologists; and psychiatric evaluation by child psychiatrist. The duration of follow-up ranged from 12 weeks to 3 years. The included study on consultation-liaison involved a specialist mental health worker running liaison clinics and acting as a solo clinician. The duration of follow-up was 9 months. In the controlled trials, the active interventions were compared with delayed intervention, no intervention, or usual care.

Participants included in the review
Children and adolescents aged 18 years or under, with mental health problems, were eligible participants for studies of treatment by primary care or specialist staff and for studies of the effect of consultation-liaison on patients. Interventions for the mothers were included if the outcomes were measured at the level of the child. Primary care professionals were eligible participants for studies involving education of the primary care team and the effect of consultation-liaison on primary care staff. The included educational studies involving the primary care team enrolled HVs (with and without families on their case load, children with sleep problems and postnatal depressed women), community medical officers and trainee GPs.

The included studies of treatment by the primary care team enrolled a community sample, children with night waking...
or sleep disturbances, and adolescents at risk for substance abuse. The included studies of treatment by specialists in primary care enrolled children with psychological problems, recurrent abdominal pain, mental health problems, and preschool children with emotional and behavioural problems; mothers with postnatal depression; families referred to a Parent Adviser Service; and mothers of children with psychiatric disorders. The included study on consultation-liaison enrolled primary care teams, and children and adolescents with mental health problems.

Outcomes assessed in the review
The eligible outcomes for studies of treatment by primary care or specialist staff, or studies of the effect of consultation liaison methods on patients, were clinical outcomes, other outcomes (social, educational), satisfaction with treatment and costs. The eligible outcomes for studies involving education of the primary care team, or the effect of consultation-liaison on primary care staff, were attitudes, knowledge, diagnostic and treatment behaviour, and costs.

The actual outcomes for the educational studies included: child behaviour; clinical and HV ratings; counselling knowledge; perception of self as counsellor; self-esteem; overall counselling ability; attending behaviour; mothers' experience of infant care; mother-baby relationship problems; attitude and competence measures; mothers’ perception of the problem; mother and fathers' General Health Questionnaire score; and scores on case vignettes, appropriateness, difficulty in dealing with problems, and case identification.

The actual outcomes for treatments by the primary care team included: behaviour and relationships; school performance; neurotic symptoms; problematic behaviour; night waking measures; time to settle and mean waking; number of problems; satisfaction with treatment; and self-reported alcohol use.

The actual outcomes for specialist management in primary care included: externalising and internalising score; number of Health Maintenance Organisation, medical and service encounters; school absence; intensity and number of problems; mother-child interaction; cognitive development; family consultations; developmental quotient; child behaviour; perception of family relationship; and maternal confidence.

The actual outcomes assessed for consultation-liaison included the referral rates to child and adolescent psychiatric services, and the appropriateness of the referrals.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
Aspects of validity were discussed in the text of the review. These included: study design; the methods used for randomisation; selection bias; adequacy of the information reported; the comparability of treatment groups at baseline in the controlled studies; and the methods used for statistical analysis. One author extracted information on study methodology.

Data extraction
One author extracted the data. The following data were tabulated in the review: author; study design; details of the intervention; study population; sample size; and summary of results.

Methods of synthesis
How were the studies combined?
The studies were grouped according to the following intervention types: educational studies involving the primary care team; treatment by the primary care team; management by specialists in primary care and management by consultation-liaison methods. A narrative synthesis was then undertaken.

How were differences between studies investigated?
Differences between the studies were discussed in the text of the review, particularly with regard to study methodology.
Results of the review
Twenty-five studies were included: 7 RCTs, 10 CBAs and 8 SBAs. The sample sizes, where reported, ranged from 9 to 246 people.

Methodological flaws present in the primary studies included the use of non-randomised controlled trials with potential for selection bias; inadequate description of the process of randomisation in RCTs; information missing on important issues such as the process of treatment delivery, patient compliance, and the use of other mental health treatments as coninterventions; the lack of information on the comparability of the intervention and control groups; a general absence of power analyses; significance of changes within the control and intervention groups was reported, rather than the significance of differences between the treatment groups in the change from baseline; the interventions were conducted at the level of the health professional but were assessed at the level of the patient; and the absence of an actual economic analysis.

Educational studies involving the primary care team (8 studies: 1 RCT, 2 CBAs and 5 SBAs).

Short courses for primary care professionals may be associated with changes in subjective outcomes, such as confidence and knowledge (1 CBA and 1 SBA). The one controlled evaluation (14 HVs and 205 families) found few significant changes in child behaviour, no significant changes in maternal General Health Questionnaire score, and no differences in the resolution of target symptoms. Overall, there was little good evidence of changes in either objective professional behaviour or child outcomes with any of the interventions tested.

Treatment by the primary care team (6 studies: 3 RCTs, 1 CBA and 2 SBAs).

The variability in the interventions, problems treated and outcomes made it difficult to reach meaningful conclusions. One RCT (246 participants) found some differences in behaviour and relationships after a brief pre-school interview with parents by a GP, which endured for up to 20 to 30 years, but it was unclear whether these results could be replicated. One RCT (90 children) found no significant difference in night waking with support from a researcher plus a booklet, compared with the booklet alone or control. One RCT (25 at-risk adolescents) found lower self-reported alcohol use after an educational intervention by nurses, compared with a control intervention.

Treatment by a specialist in primary care (10 studies: 3 RCTs, 6 CBAs and 1 SBA).

The evidence was ambiguous. The studies suggested that psychological treatments such as cognitive-behaviour therapy were effective in reducing primary care utilisation. Two large RCTs (one involved 191 mothers with postnatal depression and one involved 260 pre-school children) found no significant effect of specialist treatment (counselling, cognitive behaviour therapy, dynamic therapy, intensive health visiting and family therapy) on child health, compared with control or routine primary care. One small RCT (17 participants) found significantly reduced family consultations in a group receiving group therapy in comparison with routine primary care.

Management by consultation-liaison methods (1 CBA involving 16 GP practices).

Compared to usual care, the intervention of a specialist mental health worker running liaison clinics was associated with reduced referral rates (51% versus 8%) and increased appropriateness of referrals (68% versus 51%). The new service was highly rated by GPs and HVs, but only one-third of doctors thought that liaison clinics had increased their knowledge and skills in this area.

Authors' conclusions
There was some preliminary evidence that treatments by specialist staff working in primary care were effective, although the quality of the included studies was variable. Some educational interventions showed potential for increasing the skills and confidence of primary care staff, but controlled evaluations were rare and few studies reported the actual change in professional behaviour or patient health outcomes. A significant programme of research is required if the potential for child and adolescent mental health services in primary care is to be realised in an effective way.

CRD commentary
This was a clearly structured and presented review, which included a discussion of some of the limitations of the review methodology and the evidence. The aims of the review were stated, and the inclusion criteria were defined in terms of the intervention, study design, participants and outcome. Several relevant sources were searched and attempts were made to locate unpublished material. The authors acknowledged that restricting eligible studies to those reported in the English language may have resulted in the omission of other studies. The methods used to select the studies were not described. The keywords used in the search, though not reported in the text of the review, are available from the first author.

Relevant aspects of study quality were discussed in the text of the review. Relevant data were presented in tabular format; the authors acknowledged the potential inaccuracies that may result from only one reviewer extracting the data. A narrative synthesis was appropriate given the small number of diverse studies, and in the summary, attention was drawn to the methodological quality of the reported studies.

The evidence presented supports the authors' conclusions.

Implications of the review for practice and research
Practice: The authors state that, at present, the development of child and adolescent mental health services cannot depend on a reliable base of evidence.

Research: The authors state that there is a need for a significant programme of research into the provision of mental health services for adolescents and children in primary care. In particular, the reporting of future studies should adhere to guidelines such as the Consolidated Standards of Reporting Trials (CONSORT) statement; economic evaluations are required; and further research into consultation-liaison is required.

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