Chiropractic spinal manipulation for infant colic: a systematic review of randomised clinical trials

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CRD summary
This review evaluated the effectiveness of chiropractic spinal manipulation for treatment of infant colic. The author concluded that the available evidence failed to demonstrate the effectiveness of spinal manipulation in infant colic. This conclusion reflected the evidence presented, but its reliability is unclear given the possibility of publication bias.

Authors' objectives
To evaluate the effectiveness of chiropractic spinal manipulation for infant colic.

Searching
MEDLINE, EMBASE, AMED and CINHAL were searched in January 2009 for studies published in full in any language. Some details of the search strategy were reported. Bibliographies of review articles and the department files of the author were also searched for additional studies.

Study selection
Randomised clinical trials (RCTs) of spinal manipulation compared with control, in infants with a clinical diagnosis of colic, were eligible for inclusion. Eligible trials had to report outcomes of clinical importance.

The included trials were of infants aged 0 to 10 weeks; diagnostic criteria were crying more than three hours for three to five days per week. Spinal manipulation therapy regimes varied. Control interventions were dimethicone, holding of the infant by a nurse, and occipitosacral decompression. The outcomes were measured by crying diary and parent evaluation of severity.

The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
Methodological quality was assessed independently by two reviewers using the Jadad score and drop-outs were also reported.

Data extraction
Data were extracted for the outcomes reported. Two reviewers independently extracted data.

Methods of synthesis
The studies were combined in a narrative synthesis.

Results of the review
Three RCTs were included (n=198 infants; range 48 to 100). All had a Jadad score of 2; drop-outs ranged from five to nine.

Trial quality was low for all studies; sample sizes were small in two trials, two trials did not control for effects of placebo, one RCT was an equivalence trial that compared interventions of unknown effectiveness, and none of the outcome measures used were validated.

One of the three RCTs reported a significant reduction in crying in infants treated with spinal manipulation compared with dimethicone; the other two RCTs reported no significant difference between spinal manipulation and either holding infant or occipitosacral decompression.
Authors' conclusions
The available evidence failed to demonstrate the effectiveness of spinal manipulation in infant colic.

CRD commentary
The review question was supported by inclusion criteria for participants, intervention, outcomes and study design. Four relevant databases were searched for studies in all languages, reducing the possibility of language bias. However, only published studies were included, increasing the risk of publication bias. The author acknowledged the difficulty of locating all studies in the field of complementary medicine.

Data extraction and validity assessment were performed in duplicate, reducing the risk of error and bias, but this was not reported for study selection. Trial quality was assessed using a published tool and was taken into consideration in the results. Narrative synthesis appeared appropriate given the variety of comparators used.

The author's conclusion reflected the evidence presented, but its reliability is unclear given the possibility of publication bias.

Implications of the review for practice and research
Practice: The author did not state any implications for practice.

Research: The author stated that future studies should focus on minimising bias, be sufficiently powered, control for non-specific effects, blind parents and outcome assessors and use validated outcome measures.

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