The effectiveness of complementary therapies on the pain experience of hospitalized children

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CRD summary
This review found mixed results about the effectiveness of complementary therapies and non-pharmacological techniques on the pain experience of hospitalised children. The author recommends further research. The use of both qualitative and quantitative studies to address the problem is to be commended. However, several methodological issues render the reliability of the conclusions uncertain.

Authors' objectives
To examine the use and effectiveness of complementary therapies and non-pharmacological techniques on the pain experience of hospitalised children.

Searching
MEDLINE (1996 to March 2005), CINAHL (1982 to March 2005), AltHealthWatch (1995 to March 2005) and PsycINFO (1985 to March 2005) were searched; the search terms were reported. The reference lists of relevant studies were checked for additional studies and ancestry searching was carried out. Only articles published in English were eligible. Studies prior to 1995 were excluded from the review.

Study selection
Studies that used complementary and/or non-pharmacological therapies to address pain management in children in a hospital setting were included. The following therapies were included: cold therapy, distraction and/or guided imagery, hypnosis and distraction, hypnosis, cognitive-behavioural training and ‘talking with’ interactions. Hospital settings included in-patient units, emergency departments, treatment rooms and interventional laboratories. Children experienced different pain situations across the studies: intramuscular injections, cardiac catheterisation, lumbar puncture, venipuncture or intravenous catheter insertion, bone marrow aspiration and procedures linked to leukaemia. Study designs were not pre-specified but all ‘nonresearch’ articles (unspecified) were excluded. In addition to interventional studies, cross-sectional descriptive studies and a qualitative study were also included. This abstract focuses on outcome studies (the qualitative study and interventional studies). A variety of measures were used to assess pain.

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

Assessment of study quality
The author did not state that they assessed validity.

Data extraction
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The author provided a narrative synthesis of the included studies.

Results of the review
Thirteen articles were included in the review: seven interventional studies (3 randomised controlled trials, 4 quasi-experimental studies), one qualitative ethological study and five cross-sectional descriptive studies.

The descriptive studies provided details of which non-pharmacological techniques were most frequently used in which situations, with two studies investigating barriers to the use of such techniques.
The qualitative study videotaped 17 children undergoing painful procedures. From the brief reporting of this study, it was stated that ‘talking with’ interactions appeared to have been the most effective in helping participants during painful situations, allied to the non-pharmacological technique of ‘distraction’.

The results of the interventional studies were mixed. The most promising appeared to be those involving hypnosis in terms of reducing pain and anxiety, particularly with those children with high hypnotisability. One study that investigated art therapy found it be useful in helping children cope with painful procedures. Those studies not finding a statistically significant effect may in part reflect the fact that they were small and had methodological flaws, rather than that they investigated an ineffective intervention.

**Authors’ conclusions**
The results of the research were mixed. Further research is required to explore the effectiveness of complementary therapies on the pain experience of hospitalised children.

**CRD commentary**
The objective of the research was clear, but detailed criteria relating to eligible participants, interventions, outcomes and study designs were not available. The searches involved a range of databases and follow-up handsearches, but only published studies written in English were eligible and the rationale for the cut-off of 1995 was not clear. This opens up the possibility of both publication and language bias. Although information on the review process was not available, the review appears to have been conducted by one reviewer and this could lead to bias in the selection, data extraction and analysis of the studies. A formal validity assessment would have lent weight to the author's descriptions of the methodological flaws of the included studies. The narrative synthesis was appropriate given the diversity of the studies. The inclusion of a qualitative study added value to this review, but a more detailed reporting of this study would have helped the reader. These methodological issues render the reliability of the conclusions uncertain.

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

Research: The author stated that studies investigating the use of complementary therapies without pharmacological pain relief could be useful. More qualitative studies would add to the evidence base and allow children to express their views on holistic pain management. Further interventional studies examining specific complementary therapies would help determine which complementary therapies work best with which populations of children.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.