A review of alternative treatments for tinnitus
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CRD summary
This review evaluated the effectiveness of alternative treatments for tinnitus. The authors concluded that hypnotherapy improved some subjective measures. Some of the methods used to conduct the review were not reported and the conclusions were based on evidence from two small, apparently methodologically flawed, studies. Consequently, the evidence was very limited.

Authors’ objectives
To evaluate the effectiveness of alternative treatments for tinnitus.

Searching
MEDLINE and PREMEDLINE (1966 to 2002), EMBASE (1980 to 2002) and the Cochrane Library (Issue 4, 2002) were searched; the search terms were stated in the paper.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were eligible for inclusion. Double-blind, single-blind and crossover RCTs were included.

Specific interventions included in the review
Studies that compared alternative treatments with placebo were eligible for inclusion. Studies of treatments that could not be placebo-controlled were excluded. The included studies used the following treatments: Ginkgo biloba, acupuncture, laser treatment, ultrasound, ear-canal magnets, electromagnetic therapy, homeopathy and hypnotherapy.

Participants included in the review
Studies of people with tinnitus were included.

Outcomes assessed in the review
The inclusion criteria were not explicitly stated in terms of outcomes. The included studies assessed tinnitus-related measures such as symptoms, tinnitus matching, loudness, frequency, severity and awareness. They also assessed other measures such as relaxation and feelings of well-being.

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

Assessment of study quality
The authors did not state that they assessed validity. However, in the tables they commented on aspects of validity: comparability of groups, statistical power, objectivity of outcome measures, blinding, and validity of ‘placebo’. The authors did not state how any validity assessment might have been performed.

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

Methods of synthesis
How were the studies combined?
The studies were grouped according to the interventions and combined in a narrative, with accompanying tables.

How were differences between studies investigated?
Differences between the studies were not discussed.

Results of the review
Twenty-three RCTs (n=2,064) were included.

Ginkgo biloba: of the 5 RCTs (n=1,403) identified, three showed that Ginkgo biloba significantly reduced tinnitus intensity compared with placebo and two showed no significant difference between treatments.

Acupuncture: 5 RCTs (n=121) were identified. Three RCTs showed no significant difference between acupuncture and placebo. One RCT found results differed according to the outcome assessed: there was no significant difference when using objective measures of tinnitus, but there was subjective improvement in a higher proportion of patients receiving acupuncture (5 out of 14) compared with placebo (0 out of 14). One RCT found significant short-term improvement in tinnitus intensity with acupuncture but no statistically significant difference between treatments at 6 months.

Low-power laser treatment: all 3 RCTs (n=126) showed no statistically significant difference between laser and placebo.

Homeopathy: the single RCT (n=28) found showed no statistically significant difference between homeopathy (sodium salicylate, ascariodile, conine and quinine) and placebo in tinnitus-related outcomes.

Hypnotherapy: the 2 RCTs (n=100) identified found that hypnotherapy had no effect on tinnitus. However, hypnotherapy increased relaxation in one RCT (in 5 out of 14 patients) and improved the sense of well-being in the other RCT (in 20 out of 44 patients given hypnotherapy versus 6 out of 42 given placebo).

Ultrasound: of the 2 RCTs (n=80) identified, one found ultrasound led to increased subjective improvement compared with placebo while the other found no statistically significant difference in tinnitus measures.

Electromagnetic therapy: 4 RCTs (n=156) were identified. Three RCTs showed no statistically significant difference between electromagnetic therapy and placebo. One RCT showed electromagnetic therapy significantly improved a tinnitus symptom score (45% improved versus 9% with placebo).

Ear-canal magnets: the single RCT (n=50) found showed no statistically significant difference between ear magnets and placebo.

Authors' conclusions
Hypnotherapy improved some subjective measures.

CRD commentary
The review addressed a clear question in terms of the participants, intervention and study design, although the inclusion criteria were explicit only for the interventions and study design. The criteria required for the diagnosis of tinnitus were not stated. It was unclear whether any language limitations had been applied during the search, and no attempt seems to have been made to search for unpublished studies. The methods used to select studies, assess validity and extract the data were not described, so it is not known whether any efforts were made to reduce errors and bias. Only RCTs were included, but the quality of the included studies was not formally assessed although some methodological flaws were listed.

Some characteristics of the included studies were tabulated, but drop-outs were not considered and the validity of the methods used to measure the outcomes was not assessed. Given the small number of diverse studies, a narrative synthesis was appropriate. However, study quality was not taken into consideration in the synthesis and potential reasons...
for different results between the studies were not discussed. The review found that hypnotherapy improved some measures of subjective improvement, but studies of this intervention appeared to be flawed (according to the tabulated information). Hence, they provided very limited evidence.

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

Practice. The authors did not state any implications for practice.

Research: The authors stated that future studies should assess the 'placebo effect' using open studies that compare alternative therapies with conventional treatments. They suggested that studies stratify participants by attitude and treating practitioner and that double-blind, placebo-controlled trials (possibly with crossover) are conducted to identify subgroups of responders. They also stated that studies should evaluate long-term quality of life using well-established scoring systems.

**Bibliographic details**


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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.