Auricular acupuncture in the treatment of cocaine/crack abuse: a review of the efficacy, the use of the National Acupuncture Detoxification Association protocol, and the selection of sham points

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CRD summary
This review concluded that the efficacy of auricular acupuncture for the treatment of cocaine abuse could not be confirmed. This reflects the evidence presented. However, limitations in the review process suggest that studies might have been missed and that subjective decisions were made; this may mean that the conclusions do not reflect the available literature.

Authors' objectives
The author's objective was to evaluate the efficacy of acupuncture for the treatment of cocaine addiction and to review the use of the NADA protocol and the selection of sham points.

Searching
MEDLINE (1966 to 2004), EMBASE (1989 to 2004), ARRCBASE and AMED (1985 to 2004) were searched; the keywords were reported. The British Library indexes and reference lists of included studies and reviews were also searched. Only full articles published in the English language were included in the review.

Study selection
Study designs of evaluations included in the review
Single- or double-blind randomised controlled trials (RCTs) were eligible for inclusion.

Specific interventions included in the review
Studies of auricular needle acupuncture compared with sham control were eligible for inclusion. Studies of moxibustion, laser acupuncture, or transcutaneous electrical nerve stimulation were excluded. The focus of the intervention was based on the five points of addiction according to the National Acupuncture Detoxification Association (NADA) protocol.

Participants included in the review
Studies of people addicted to cocaine, or where crack cocaine was their main addiction, were eligible for inclusion.

Outcomes assessed in the review
There were no specific inclusion criteria relating to the outcomes. The outcomes reported in the included studies were urine toxicology rests, cocaine use toxicology screens, the Cocaine Craving Questionnaire-Now score, and the Skin Conductance Activity score.

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

Assessment of study quality
Study quality was assessed using a modified version of the ter Riet 18-point scale. This resulted in a 27-item scale evaluating criteria relating to the comparability of prognosis, adequacy of the intervention and effect measurement, and the data presentation and analysis. Each item was weighted, based on relative importance, to give a maximum potential score out of 100. Half-points were assigned for items that were considered to be partially met. One reviewer assessed the quality of the included studies. Authors were contacted in an attempt to retrieve missing data from the included trials.
Data extraction
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Data on the outcomes were extracted, and the studies were classified as either positive or negative regarding their outcome.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Differences were discussed briefly in the text, with some study details tabulated. A linear regression analysis was used to explore the relationship between quality score and outcome.

Results of the review
Six RCTs (n=1,356) were included in the review.

The mean quality score for the included studies was 75 (range: 64 to 83). All were considered to be of an adequate quality.

All six included studies used lung, liver, Shenmen and sympathetic NADA points; three also used kidney points.

Two studies reported positive outcomes and four negative outcomes. There was no association between quality score and the direction of outcome reported.

Authors' conclusions
The efficacy of acupuncture for the treatment of cocaine abuse could not be confirmed. [A: There was no basis for the exclusion of the kidney point in the treatment protocol]

CRD commentary
The review question was clear in relation to the intervention, participants and study design. However, there were no criteria relating to the outcomes. Several relevant sources were searched but, since only full articles published in English were included, there is a likelihood of publication and language bias. The author did not investigate the potential for publication bias. Study quality was assessed using an appropriate scale, with the score for each criteria for each study reported. The relationship between quality and outcome was explored and was commented on with regards to the interpretation of the results. However, a single reviewer, who was not blinded to the study outcome, assessed quality and this may be a source of bias. The methods used for the study selection and data extraction were not reported, therefore it was unclear whether any efforts were made to reduce the potential for error and bias during these stages of the review.[A: There was no publication bias]

The studies were classified as being positive or negative, which may not have been the most informative presentation of the results, particularly as different outcomes were reported across the included studies. Although the author’s conclusion reflects the evidence presented, the review had several limitations and studies are likely to have been missed by the imposition of language restrictions. Therefore, the conclusions may not reflect the available literature.

Implications of the review for practice and research
Practice: The author stated that even though they could not confirm the efficacy of acupuncture for the treatment of cocaine abuse, the 5-point NADA protocol offers the acupuncturist the best possible combination of acupoints based on traditional Chinese medicine theories.
Research: The author suggested the standardisation of methodology in clinical studies of auricular acupuncture for cocaine or crack abuse, with the 5-point NADA protocol being used for the intervention. The author went on to suggest that points on the helix, other than the liver yang points, should be used as sham points, and that studies should investigate whether endogenous opiate release or hormonal changes occur with sham points.

Bibliographic details

Indexing Status
Subject indexing assigned by NLM

MeSH
Acupuncture Points; Acupuncture, Ear /methods; Adult; Behavior, Addictive /therapy; Cocaine-Related Disorders /prevention & control /therapy; Crack Cocaine; Europe; Great Britain; Randomized Controlled Trials as Topic; Research Design /standards; Substance Withdrawal Syndrome /prevention & control /therapy; Treatment Outcome

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Record Status
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.