The pros and cons of transdermal nicotine therapy

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Authors' objectives
To review the efficacy, safety and cost of transdermal nicotine therapy for smoking cessation.

Searching
MEDLINE and bibliographies from articles and books were searched, and Ciba-Geigy was contacted for additional material.

Study selection
Study designs of evaluations included in the review
Double-blind randomised controlled trials (RCTs) comparing nicotine patches with placebo patches, and with at least a 12-week follow-up. Primary studies had to have been published, clearly define smoking cessation, and validate non-smoking status with biochemical measurements.

Specific interventions included in the review
Transdermal nicotine patches.

Participants included in the review
People who smoke at least 10 to 15 cigarettes per day and who are motivated to quit smoking.

Outcomes assessed in the review
Abstinence from smoking at 2 to 3, 6 and 12 months.

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

Assessment of study quality
The author does not report the method used to assess validity, or how the validity assessment was performed.

Data extraction
The author does 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?
Pooled odds ratios and pooled abstinence rates are quoted. The method of pooling was not stated, but appeared to be based on the fixed-effect model.

How were differences between studies investigated?
The author does not state how differences between the studies were investigated.

Results of the review
Six published RCTs were included.

Pooled odds ratios of smoking cessation with transdermal nicotine compared to transdermal placebo.
At 2 to 3 months: 2.4 (95% confidence interval, CI: 1.9, 2.8). At 6 months: 2.2 (95% CI: 1.7, 2.9). At 12 months: 1.6 (95% CI: 1.6, 3.4).

Pooled nicotine patch abstinence rates.

At 2 to 3 months: 25.0% in nicotine patch, compared with 12.6% in placebo. At 6 months: 9.5% in nicotine patch, compared with 10.9% in placebo. At 12 months: 15.5% in nicotine patch, compared with 6.2% in placebo.

Cost information
Yes.

Authors' conclusions
Transdermal nicotine therapy is an effective smoking cessation therapy for motivated nicotine-dependent smokers. It is considered that as most smokers can cease smoking on their own, and the patches are costly, they should be recommended only for smokers who are unable to quit by simpler means and those likely to suffer severe symptoms.

CRD commentary
This review was conducted by one author and thus is unlikely to have involved any independent checking of decisions about validity or data extraction.

The report gives few details of the individual trials studied.

It is unclear why at least one large unpublished trial was identified and not included in the meta-analysis.

The author acknowledges receipt of research funding and consultancy fees from companies which market nicotine replacement products.

Implications of the review for practice and research
For people who smoke more than 10 to 15 cigarettes per day or are heavily nicotine dependent, and who are motivated to quit smoking, transdermal nicotine replacement therapy can be an effective aid to smoking cessation.

Funding
National Health and Medical Research Council (Australia).

Bibliographic details

PubMedID
8295585

Other publications of related interest
This additional published commentary may also be of interest. Mendelsohn C, Richmond R. The pros and cons of transdermal nicotine therapy. Med J Aust 1994;160:803.

Indexing Status
Subject indexing assigned by NLM

MeSH
Administration, Cutaneous; Cost-Benefit Analysis; Humans; Nicotine /economics /pharmacokinetics /therapeutic use; Smoking Cessation /methods; Treatment Outcome

**AccessionNumber**
11994000033

**Date bibliographic record published**
24/04/1995

**Date abstract record published**
24/04/1995

**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.