Vergleichende Bewertung der Wirkung und klinischen Wirksamkeit von terbinafinhaltigen und bifonazolhaltigen Topika bei der Behandlung der Fussmykose [Comparative evaluation of the activity and clinical effectiveness of terbinafine and bifonazole preparations in the treatment of pedal mycosis]

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CRD summary
The review investigated the clinical effectiveness of terbinafine and bifonazole in the local treatment of tinea pedis. The authors concluded that terbinafine, with its more rapid onset of healing, shorter therapy duration and lower relapse rates, is superior to bifonazole. The conclusions appear reliable, but were based on a very limited number of studies.

Authors' objectives
To evaluate the in vitro activity and clinical effectiveness of terbinafine and bifonazole in the local treatment of tinea pedis. Only the study of clinical effectiveness will be abstracted here.

Searching
BIOSIS Previews (BA70 and BA00), MEDLINE (ME60), MEDLINE ALERT (ME0A), EMBASE(EM74), EMBASE Alert (EA08), MEDIKAT (MK77), SciSearch (IS74 and IS00) and the Cochrane CENTRAL Register (CCTR93) were searched from 1960 to 2003.

Study selection
Study designs of evaluations included in the review
Double-blind randomised controlled trials (RCTs) were eligible for inclusion. The comparability of the compared patient collectives had to be ensured.

Specific interventions included in the review
Studies on the topical antimycotics bifonazole and terbinafine were eligible for inclusion. In the included studies, bifonazole and terbinafine were administered as creams, gels or lotions.

Participants included in the review
Studies on patients with microbiological or microscopic evidence of pedal mycosis were eligible for inclusion. The patients in the included studies were treated for tinea pedis interdigitalis or plantar tinea pedis.

Outcomes assessed in the review
The review considered the mycological cure rates (native preparation and culture negative), clinical cure rates (abating clinical symptoms), overall cure rates (native preparation and culture negative and complete or near complete decay of the symptoms), side-effects and remission rates.

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.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Where available, the percentages of mycological, clinical and overall cure rates were extracted for each
Methods of synthesis
How were the studies combined?
The studies were combined in a narrative review. The main outcomes were tabulated; the range of cure rates, side-effects and remission rates were presented in the text.

How were differences between studies investigated?
The studies comparing bifonazole with placebo, terbinafine with placebo, and bifonazole with terbinafine were presented separately. Other differences between the studies were addressed in the narrative synthesis.

Results of the review
Fourteen RCTs (n=1,005) were included in the clinical effectiveness part of the review. A further study was added to a subsection but no further details were provided.

Bifonazole versus placebo: all studies showed more improvement in the bifonazole group than in the placebo group (4 trials). The mycological cure rates ranged from 64 to 91% (placebo group: 22 to 67%) and the clinical cure rates from 64 to 95% (placebo group: 13 to 48%).

Terbinafine versus placebo: all studies showed more improvement in the terbinafine group than in the placebo group (8 trials). The mycological cure rates ranged from 81 to 100% (placebo group: 8 to 45%) and the clinical cure rates from 66 to 79% (placebo group: 4 to 44%).

Bifonazole versus terbinafine: the 2 identified studies showed significantly better overall cure rates for terbinafine, with rates of 78% and 83% for terbinafine and 31% and 63% for bifonazole. The mycological cure rates were 90% and 100% for terbinafine, and 79% and 100% for bifonazole; the corresponding clinical cure rates were 100% (based on 1 study only) and 95% and 100%.

Minor side-effects of terbinafine were documented for 3.4% of the 147 analysed patients; none of the patients withdrew from the treatment. Skin irritations were recorded in 2.5% of the 442 patients treated with bifonazole, and 1 patient withdrew from the treatment.

Terbinafine showed a more rapid onset of clinical improvement after 1 week of treatment (reported for 1 study).

The review stated that terbinafine showed lower relapse rates than bifonazole. Three studies reported relapse rates for terbinafine that ranged from 3 to 12% after 4 or 8 weeks; one study apparently showed no reinfection. In the studies directly comparing terbinafine and bifonazole, the relapse rates were comparable in 1 study and in favour of terbinafine in the other (12% versus 20%).

Authors’ conclusions
Terbinafine showed a more rapid onset of healing, a shorter therapy duration and lower relapse rates in comparison with bifonazole.

CRD commentary
The review was based on a clear research question. Explicit inclusion criteria were reported, but the number of included studies was not entirely clear. The section on relapse rate seemed to contain another study that did not meet the inclusion criteria for the clinical effectiveness question of the review.

The reviewers searched several electronic databases. No language restrictions seem to have been applied, thus increasing the probability that all published relevant studies were included in the review. However, no unpublished studies were included in the review and the search strategy did not include explicit attempts to search for such studies. The authors did not report any measures taken to reduce error and bias in the study selection and data extraction.
processes. The validity of the included studies does not seem to have been assessed, although the studies were of a high evidence level.

The cure rates of the included studies were well presented, but the statistical significance of differences between the treatment groups could have been more transparent. Only 2 studies that allowed a direct comparison of the two drugs were identified. The results on which the conclusions were based (referring to the onset of healing, the therapy duration and the relapse rates) were the least well documented; they were based on very few studies; and the section on relapse presented the results of a study that did not appear to have met the inclusion criteria for the effectiveness review question. This last point could indicate that the evidence for this section was not based on a systematic search of the literature.

Overall, the authors' conclusions appear reliable but they were only sparsely documented in the 'Results' section and were based on a very limited number of studies.

**Implications of the review for practice and research**
The authors did not state any implications for practice or further research.

**Bibliographic details**
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**Other publications of related interest**

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