Homoeopathic versus conventional therapy for atopic eczema in children: medical and economic results

Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The study examined the cost-effectiveness of homoeopathic treatment compared with conventional treatment for children with mild to moderate atopic eczema. The authors concluded that homoeopathic treatment was not clinically superior to conventional treatment and was associated with higher costs due to fees for homoeopathic doctors and greater need for medical aids and adjuvant therapies. The authors used appropriate statistical analyses to try and overcome the potential limitations of an observational non-randomised trial. The study conclusions appear robust.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The study examined the cost-effectiveness of homoeopathic treatment compared with conventional treatment for children with mild to moderate atopic eczema.

Interventions
Homoeopathic treatment (one single remedy, recommended to be emollient cream) was compared against conventional treatment (such as emollients, corticosteroids) for children with atopic eczema.

Location/setting
Germany/primary care.

Methods
Analytical approach:
The analysis was based on a single study with a one-year time horizon. The authors stated that a societal perspective was adopted.

Effectiveness data:
Clinical data came from a prospective, multicentre, comparative, observational study carried out in Berlin between January 2005 and January 2007. Follow-up was for 12 months. Of the 139 potentially eligible children, 135 were enrolled (48 in the homoeopathic group and 87 in the conventional group). The final analysis included 46 patients in the homoeopathic group and 80 patients in the conventional group (mean age 4.01 years, 48% were girls). The analysis was based on intention-to-treat. The main endpoint was the Scoring Atopic Dermatitis (SCORAD) at six months. This endpoint was assessed by two specially trained staff members who were blinded to treatment assignment. Other outcomes were included such as quality of life of children and parents, response rates and safety of treatments at six and 12 months.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
SCORAD score was used as the summary benefit measure and was taken directly from the clinical analysis.

Cost data:
The economic analysis considered direct and indirect costs related strictly to the treatment of atopic eczema (such as physician visits, hospital stays, use of medications and number of sick leave days). Resource quantities were taken from specific questionnaires and patients’ diaries collected during the clinical study supplemented by physicians’ estimates. Costs were based on German unit prices supplemented by data provided by parents. Costs were in Euros (€).

Analysis of uncertainty:
A per-protocol analysis was carried out in the sensitivity analysis and included all patients who fulfilled specific criteria. A multilevel model was used for the primary statistical analysis with the physician as random-effects and various fixed effects. Non-parametric bootstrapping was used for cost-effectiveness analysis to consider the overall issue of uncertainty after adjusting for potential confounding factors.

Results
Adjusted SCORAD at six months was 22.49 ± 3.02 (95% CI 15.46 to 29.51) in the homoeopathy group and 18.20 ± 2.31 (95% CI 12.43 to 23.96) in the conventional group. The difference did not achieve statistical significance. A similar conclusion was reached at one year, in SCORAD subscales and any of the other endpoints.

Total one-year costs amounted to €1,524.23 (95% CI 1,198.02 to 1,850.45) in the homoeopathic group and €721.21 (95% CI 424.78 to 1,017.65) in the conventional group. The difference was statistically significant, mainly due to higher costs for physician visits. It should be noted that patients in the homoeopathic group also incurred substantially more costs during the 12 months before enrolment (€551.52 versus €260.64), but this difference was not statistically significant.

The bootstrap analysis showed that the probability of greater effectiveness for the homoeopathic intervention over one year was 35.3% but the likelihood of higher costs was between 94% and 98%.

Authors' conclusions
The authors concluded that homoeopathic treatment for children with atopic eczema was not clinically superior to conventional treatment and was associated with higher costs due to fees for homoeopathic doctors and greater need for medical aids and adjuvant therapies.

CRD commentary
Interventions:
The selection of comparators was appropriate as the proposed strategy (homoeopathy) was compared against the conventional approach for this patient population.

Effectiveness/benefits:
The analysis relied on the results of a single observational study (this type of study usually presents methodological drawbacks compared with randomised trials). The authors pointed out that the study was open and non-randomised as children (and their parents) were recruited at the homoeopathic or conventional doctor's practice and had already made their own choice of therapy. Investigators that rated the SCORAD were blinded. Inclusion/exclusion criteria were reported. Power calculations were performed in the preliminary phase of the study to ensure an adequate number of patients. The authors stated that study groups were generally comparable at baseline with respect to most characteristics although baseline SCORAD was worse in the homoeopathic group. These potential confounding factors were taken into account in statistical analyses and clinical results were adjusted. The summary benefit measure was disease-specific and might not allow comparisons with the benefits of other health care interventions. Quality of life was considered (but the instruments used were not fully described).

Costs:
A societal perspective was adopted and relevant cost categories included. Only costs directly related to the disease were considered. Costs that were not diagnosis-related were not included and this was acknowledged as a possible limitation of the analysis. Resource use was taken from the sample of patients included in the clinical analysis, but was based on diaries or questionnaire and may have been subject to recall bias. Unit costs were generally taken from relevant German sources. It should be noted that important differences in costs between the two study groups were found at baseline (one year before the study). It was unclear why the authors did not adjust final costs to take account of these differences. Thus, economic results should be treated with a certain degree of caution. The price year was not reported and this
would hinder refiation exercises.

Analysis and results:
The study results were presented clearly and discussed. An incremental cost-effectiveness analysis was performed and illustrated using cost-effectiveness planes. The issue of uncertainty was based on statistical analyses that considered the variability in individual parameters. Some limitations in both clinical and economic analyses were acknowledged by the authors. The study results were specific to the German setting and may be difficult to translate to other jurisdictions.

Concluding remarks:
The authors used appropriate statistical analyses to try and overcome the potential limitations of an observational non-randomised trial. The study conclusions appear robust.

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