Atopic dermatitis symptoms decreased in children following massage therapy
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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.

Health technology
Massage therapy (by parents for 20 minutes daily for a 1 month period) adjunct to standard topical care for children with atopic dermatitis (AD).

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Young children with atopic dermatitis (AD).

Setting
The setting for the study was a dermatology clinic and the patients' homes. The economic study was performed in the United States.

Dates to which data relate
The years during which the effectiveness and resource use data were collected was not stated. The price year was not stated.

Source of effectiveness data
The evidence for final outcomes was derived from a single study.

Link between effectiveness and cost data
Costing was not undertaken on the same patient sample as that used in the effectiveness analysis.

Study sample
Power analysis based on a moderate effect from previous studies at a level of 0.05 and power of 0.80 suggested that 20 subjects would be adequate. Twenty children (seven girls) with atopic dermatitis (2 to 8 years old, mean 3.8 years) who received standard atopic therapy were recruited from a dermatology department. The study design called for half the group to be randomly assigned to receive standard care and the other half to receive standard care plus a 20 minute massage daily.

Study design
The study was a small randomised, controlled pilot trial, carried out in one centre. The children were seen twice, on day 1 and 1 month later. Loss to follow-up was not reported. The children were randomly assigned to a standard care control group or a massage group based on a stratification of moderate to severe condition, age and gender. Clinical assessments were made by a pediatric dermatologist and a pediatric dermatology fellow both of whom were blind to the child's group assignment.

**Analysis of effectiveness**
The basis (intention to treat or treatment completers only) used for the analysis of the clinical study was not stated. The primary health outcomes used in the analysis were the children's anxiety and activity level, the parent's anxiety and various clinical measures (such as redness, scaling, lichenification, excoriation and pruritus). Before and after the massage session, or control period, on the first and last days of the study, the parents rated their own anxiety levels (using the State Anxiety Inventory scale). In addition, on the first and last days of the study, parents completed scales on how they were coping with their children's disease, and their feelings about their children. Parents also rated their children's response to being touched, anxiety, soothability and stability levels. Independent observers, blind to the conditions of the study, rated the child's behaviour before and after the first and last day's massage and/or control period using a behaviour observation scale, and an age appropriate measure of mood was given to the child (the Happy Face scale). No group differences were noted in the demographic data.

**Effectiveness results**
The multivariate analysis of variance (MANOVA) on parental anxiety and children's behaviours revealed differences for the massage and control groups' scores from pre- to post-treatment session (massage or control session) on the first and last days of the study. Post hoc comparisons revealed the following effects favouring the massage group:

1. the parents' reported anxiety levels decreased after the first massage session and by the last day of treatment, and

2. the massaged children's mood (affect) and activity levels improved and their anxiety decreased, but only on the last day.

A repeated measure MANOVA, with first day - last day data as the repeated measure, yielded a group by first day - last day interaction effect. Post hoc comparisons revealed the following for the massage group:

1. the parents' assessment of their child's anxiety and stability improved on the coping index; and

2. the parents' feelings about their child improved.

A repeated measures MANOVA with first day - last day data as the repeated measure yielded a group by first day - last day interaction effect. Post hoc comparisons revealed the following in the massage group:

1. for the focal area assessment, all measures were numerically and statistically improved by the last day of treatment; and

2. for the global area assessment, scaling and excoriation statistically improved for the control group.

**Clinical conclusions**
Although the study did not assess the long-term effects of the massage intervention, it was hypothesised that the observed improvement in the children's condition would stabilise or continue to improve if the parents continued to administer the massage protocol.

**Measure of benefits used in the economic analysis**
No summary benefit measure was identified in the economic analysis and only separate outcomes were reported.
Direct costs
Costs were not discounted due to the short time frame of the study. Quantities were not reported separately from the costs. Only the costs associated with the massage and one time instructions given by the therapist, were considered in the cost analysis. No other details were provided.

Indirect Costs
Not included.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
Not applicable.

Cost results
The authors reported that there was a one-off expense of $30 for the child to receive the massage and the parent to learn the technique.

Synthesis of costs and benefits
Costs and benefits were not combined.

Authors' conclusions
Overall the results of this study suggest that parents benefit from giving their children massage and children who receive massage therapy show an improvement in their AD condition. It is a very cost-effective adjunct therapy since the massage and instruction are given once by the therapist at a cost of $30.

CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator (standard topical care alone) is clear.

Validity of estimate of measure of benefit
In the context of a small pilot study, the estimate of the measure of benefit is likely to be internally valid due to the randomized design adopted and the power calculations performed. The study may be regarded as a cost-consequences analysis.

Validity of estimate of costs
Quantities were not reported separately from the costs. A full cost analysis was not performed. Cost results may not be generalisable to other settings or countries.

Other issues
Given the context of a small pilot study, the authors' conclusion is justified given the uncertainties in the data. The issue of generalisability to other settings or countries was not addressed. Appropriate comparisons were not made with other
Implications of the study
Further research is required to explore residual or longer term effects of massage therapy. This small pilot study will lead the authors to examine larger numbers of patients with AD and perhaps other chronic inflammatory skin disorders.

Source of funding
None stated.

Bibliographic details

PubMedID
9796594

Indexing Status
Subject indexing assigned by NLM

MeSH
Anxiety; Child; Child, Preschool; Cost-Benefit Analysis; Dermatitis, Atopic /psychology /therapy; Emollients /therapeutic use; Female; Glucocorticoids /therapeutic use; Humans; Male; Massage /economics /psychology; Parents /psychology

AccessionNumber
21998001530

Date bibliographic record published
30/09/2000

Date abstract record published
30/09/2000