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[Intervention Review]

Dietary supplements for established atopic eczema

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ABSTRACT

Background

Many people with atopic eczema are reluctant to use the most commonly recommended treatments because they fear the long-term health effects. As a result, many turn to dietary supplements as a possible treatment approach, often with the belief that some essential ingredient is 'missing' in their diet. Various supplements have been proposed, but it is unclear whether any of these interventions are effective.

Objectives

To evaluate dietary supplements for treating established atopic eczema/dermatitis.

Evening primrose oil, borage oil, and probiotics are covered in other Cochrane reviews.

Search methods

We searched the following databases up to July 2010: the Cochrane Skin Group Specialised Register, the Cochrane Central Register of Controlled Trials (CENTRAL) in *The Cochrane Library*, MEDLINE (from 2005), EMBASE (from 2007), PsycINFO (from 1806), AMED (from 1985), LILACS (from 1982), ISI Web of Science, GREAT (Global Resource of Eczema Trials) database, and reference lists of articles. We searched ongoing trials registers up to April 2011.

Selection criteria

Randomised controlled trials (RCTs) of dietary supplements for the treatment of those with established atopic eczema/dermatitis.

Data collection and analysis

Two authors independently screened the titles and abstracts, read the full text of the publications, extracted data, and assessed the risk of bias.

Main results

We included 11 studies with a total of 596 participants. Two studies assessed fish oil versus olive oil or corn oil placebo. The following were all looked at in single studies: oral zinc sulphate compared to placebo, selenium versus selenium plus vitamin E versus placebo, vitamin D versus placebo, vitamin D versus vitamin E versus vitamins D plus vitamin E together versus placebo, pyridoxine versus

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placebo, sea buckthorn seed oil versus sea buckthorn pulp oil versus placebo, hempseed oil versus placebo, sunflower oil (linoleic acid) versus fish oil versus placebo, and DHA versus control (saturated fatty acids of the same energy value). Two small studies on fish oil suggest a possible modest benefit, but many outcomes were explored. A convincingly positive result from a much larger study with a publicly-registered protocol is needed before clinical practice can be influenced.

Authors' conclusions

There is no convincing evidence of the benefit of dietary supplements in eczema, and they cannot be recommended for the public or for clinical practice at present. Whilst some may argue that at least supplements do not do any harm, high doses of vitamin D may give rise to serious medical problems, and the cost of long-term supplements may also mount up.

PLAIN LANGUAGE SUMMARY

Dietary supplements for established atopic eczema in adults and children

Eczema is a skin condition characterised by an itchy, red rash, which affects 5% to 20% of people worldwide. There is no cure, but many treatments can help improve the skin's condition, making life easier. In those for whom these treatments do not work well or who fear their long-term effects, there is often a belief that either something in their diet, or something missing in their diet, is making their eczema worse.

This review looked at the following dietary supplements (products which add ingredients to a diet): fish oil, zinc, selenium, vitamin D, vitamin E, pyridoxine (vitamin B6), sea buckthorn oil, hempseed oil, and sunflower oil.

Three commonly used dietary supplements (evening primrose oil, borage oil, and probiotics) are currently the subject of other Cochrane reviews ([Boehm 2003](#); [Boyle 2008](#)).

We looked for trials comparing supplements with placebo (dummy). We included 11 randomised controlled trials (596 participants) when it was clear that the children or adults taking part had atopic eczema. In reviewing the trials, the main outcomes we looked for were evidence of improvement in the symptoms of eczema, such as itching or loss of sleep, in the short-term (i.e. six weeks). In the longer term, we wanted to see evidence of a reduced need for treatment for the eczema or a reduction in the number of flares. We also looked for evidence of any general improvement in the eczema and in individual symptoms.

Overall, we found no convincing evidence that taking supplements improved the eczema of those involved. In general, studies were small with low numbers of participants and of poor quality in terms of the way they were run. Two trials of fish oil did find slight improvement for the participants in terms of the degree of itchiness and quality of life. However, these trials had small numbers, which means they had little chance of finding real differences if they did exist. That is why larger trials are needed before any recommendations can be made. We found no evidence of adverse (harmful) effects in those who took part in the trials. People sometimes think that supplements can at least do no harm; however, high doses of vitamin D, for example, can cause serious medical problems, and the safety of dietary supplements should not be assumed. The cost of supplements can also mount up.