Abstract

Title: Does omega-3 mitigate skin symptoms in psoriatic patients? – A systematic review about the effects of supplementation

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Background: Psoriasis is an inflammatory skin disease with high prevalency. Its treatment is time-consuming and associated with many side effects. Therefore alternative forms of treatment, among them omega-3 supplementation, have been investigated. Omega-3 is a family of polyunsaturated fatty acids whose metabolites participate in the regulation of inflammatory reactions in tissues and may therefore have a positive effect on skin symptoms in patients with psoriasis.

Objective: To determine if omega-3 supplementation has a beneficial effect on skin symptoms in psoriasis compared to omega-6 supplementation by rating the evidence quality in available studies.

Search strategy: The literature search was conducted in the databases PubMed, Scopus and Amed. The MeSH terms used were psoriasis AND omega 3 and omega 3 AND arthritis psoriatic.

Selection criteria: Inclusion criteria: articles published 1982 or later, in Swedish, English, French or Spanish, human studies, RCT and cohort and with at least 20 participants. Only interventions with oral or intravenous omega-3 supplementation and control interventions with oil were accepted. The endpoint was skin symptoms, measured by PASI or an analogous instrument. Studies with combination therapies were excluded.

Data collection and analysis: The literature search resulted in seven articles, of which two were excluded because of their limited study design. Of the five remaining articles three with adequate quality and homogeneous control groups (control intervention with omega-6) were chosen. Their quality was rated using an audit template from the Swedish Council on Health Technology Assessment (SBU). Finally a summary rating of the evidence quality was determined according to GRADE.

Main results: In two of the studies, both with intravenous omega-3 supplementation, a significant improvement was seen in the intervention group compared to the control group. In the third study, with oral supplementation, no such difference could be observed. The quality of two studies was rated low to moderate and one was rated moderate. There is low evidence (+++) to support the chosen endpoint.

Conclusions: At this date there is some evidence to support that omega-3 supplementation has a beneficial effect on skin symptoms in psoriasis, compared to omega-6 supplementation. Further research, focusing on oral supplementation of omega-3, is needed.