Abstract

Title: Omega-3 Supplementation and Prevention of Preterm Delivery - a systematic review

Author: Andrea Dahl-Sturedahl, Emma Johansson, Klara Standley-From

Supervisor: Anna Winkvist
Examiner: Mette Axelsen
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Background: To be born prematurely is associated with higher mortality and morbidity and preterm birth (PTB) is a problem world wide. It is defined by parturition before 37 completed weeks of gestation. There is a suggested association between omega-3 (n-3) fatty acids and gestational length and previous studies including women with low risk of preterm delivery (PD) have shown a decreased risk when supplemented with n-3 capsules. Whether this is applicable to pregnant women with high risk of PD is not clear since the scientific evidence regarding these women is limited.

Objective: The aim of this systematic review was to evaluate the evidence whether n-3 supplementation may reduce the risk of PD in women with high risk pregnancies compared to women receiving placebo.

Search strategy: The literature search was carried out in the databases PubMed and Scopus. MeSH-terms and free-text search words of relevance for the research question were used.

Selection criteria: The inclusion criteria were: randomised controlled trials, human studies, articles written in English and stating PD, PTB or gestational age as a primary or secondary outcome. The interventions were required to include only women with high risk pregnancies receiving long chain n-3 supplements. Studies including women with multiple pregnancies were excluded. Moreover, “fortification of foodstuffs” and “intervention starting after onset of third trimester” were also selected as exclusion criteria.

Data collection and analysis: Three articles that matched the inclusion criteria were identified and reviewed by three authors individually using a template from The Swedish Council on Health Technology Assessment. The combined strength of evidence for the three articles was set using the GRADE system.

Main results: The main finding of this systematic review was that there is moderate evidence (+ + +) that n-3 supplementation does not have an effect on reducing the risk of PTB in women with high risk pregnancies.

Conclusions: Supplementation of n-3 can at present not be recommended to women with high risk pregnancies as a tool to prevent PTB in the western world. However, it can not be ruled out that there may be other reasons for recommending n-3 supplementation during pregnancy.