

Abstract

Nutr Neurosci. 2007 Feb-Apr;10(1-2):1-9.

Plasma, red blood cells phospholipids and clinical evaluation after long chain omega-3 supplementation in children with attention deficit hyperactivity disorder (ADHD).

Germano M, Meleleo D, Montorfano G, Adorni L, Negroni M, Berra B, Rizzo AM.

NPI L R.C.S. Casa Sollievo della Sofferenza S. Giovanni R. (FG), Milan, Italy.

BACKGROUND: Omega-3 and omega-6 long-chain polyunsaturated fatty acids (LCPUFAs), are crucial to brain development and function. Increasing evidence indicates that deficiencies or metabolic imbalances of these fatty acids might be associated with childhood developmental and psychiatric disorders including attention-deficit/hyperactivity disorder (ADHD).

OBJECTIVE: Omega-3 are often lacking on modern diets. Moreover preliminary evidences suggest that supplementation with omega-3 LCPUFAs, might help in the management of the ADHD linked behavioural and learning difficulties. However, few studies published to date have involved different populations, study designs, treatments and outcome results.

SUMMARY AND CONCLUSIONS: Thus, further researches are required to assess the durability of the treatment effects, to determine optimal composition and dosages of the supplement and to develop reliable ways to identify patients that might have some benefits from this kind of treatment, also because the study of LCPUFAs and their metabolism might offer new approaches to the early identification and management of ADHD. In this paper, we provide new insight on the lipid pattern in plasma and red blood cells (RBC) phospholipids, together with evaluation of the arachidonic acid (AA)/eicosapentaenoic acid (EPA) ratio which seems to correlate with the improvement of the patients both from a biochemical and clinical point of view.

PMID: 17539477

