

# Abstract

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## **Polyunsaturated fatty acid status in attention deficit hyperactivity disorder, depression, and Alzheimer's disease: towards an omega-3 index for mental health?**

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**OBJECTIVE:** Interest in the role of polyunsaturated fatty acids (PUFAs), particularly long-chain (LC) omega-3 (n-3) PUFAs, in mental health is increasing. This review investigates whether n-3 PUFA levels are abnormal in people with three prevalent mental health problems - attention deficit hyperactivity disorder, depression, and dementia.

**METHODS:** Data sources included PubMed, Web of Science, and bibliographies of papers published in English that describe PUFA levels in the circulation of individuals who have these mental health conditions.

**RESULTS:** Although abnormal blood PUFA levels were reported in a number of studies, weighted comparisons of PUFA status showed no significant differences overall between people with mental health problems and controls.

**CONCLUSIONS:** Whether those with low n-3 PUFA status are likely to be more responsive to n-3 PUFA supplementation is not yet resolved. Further studies assessing PUFA levels and mental status with greater uniformity are required in order to clarify the relationship between LC n-3 PUFA status and mental health.

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