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FATTY ACID METABOLISM AND THE ONSET OF PSYCHOTIC DISORDER

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Introduction: Potentially chronic diseases often have a critical point in their course beyond which treatment becomes less effective. In support of this, early treatment in schizophrenia and other psychoses has been linked to better outcome.

Objectives: The emergence of simultaneous brain volume changes in those ultra-high-risk individuals who develop psychosis indicate an active biological process, and underline the importance of pre-onset treatment. However, pre-psychotic intervention has also been questioned as, using current criteria, only 20-50% of individuals classified as prodromal develop a psychotic disorder within a 1-2 years period.

Aims: Treatment agents in the pre-psychotic phase should, therefore, not have major side effects. Bioactive lipids are molecules that have both intra- and intercellular roles, including mediation, modulation and control of neurobiological processes, such as ion channel and receptor activity, neurotransmitter release, synaptic plasticity, second messenger pathways and neuronal gene expression.

Methods: Long-chain omega-3 polyunsaturated fatty acids (PUFAs) have been shown effective for both, mood and psychotic symptoms, and they have neuroprotective properties. Because of the controversy concerned with the extent to which an intervention may produce harm which outweighs its benefits, omega-3 PUFAs are prime candidates for evaluation in putatively prodromal individuals.

Results: We report on the first randomized, placebo-controlled trial on the preventive use of omega-3 fatty acids in 81 ultra-high-risk individuals.

Conclusions: Supplementation with long-chain omega-3 PUFAs reduces the risk of progression to psychotic disorder, and offers a safe and efficacious strategy for indicated prevention in individuals at ultra-high-risk of developing a psychotic illness.