Fish oil may reduce the risk of psychotic disorders in high-risk individuals

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Individuals at extremely high risk of developing psychosis appear less likely to develop psychotic disorders following a 12-week course of fish oil capsules containing long-chain omega-3 polyunsaturated fatty acids, according to a report in the February issue of *Archives of General Psychiatry.*

"Early treatment in schizophrenia and other psychoses has been linked to better outcomes," the authors write as background information in the article. "Given that subclinical psychotic symptoms may predict psychotic disorder and psychosis proneness in a population may be related to the rate of psychotic disorder, intervention in at-risk individuals holds the promise of even better outcomes, with the potential to prevent full-blown psychotic disorders."

Long-chain omega-3 polyunsaturated fatty acids are a promising intervention in individuals with schizophrenia, who may have an underlying dysfunction in fatty acid metabolism, the authors note. G. Paul Amminger, M.D., of Medical University of Vienna, Austria, and Orygen Youth Health Research Centre, Melbourne, Australia, conducted a randomized, double-blind, placebo-controlled clinical trial of their effect on the risk of progression to psychosis in 81 individuals at ultra-high risk. These individuals either had mild psychotic symptoms, transient psychosis or a family history of psychotic disorders plus a decrease in functioning. These criteria identify individuals whose risk of becoming psychotic may be as high as 40 percent in a 12-month period.

For 12 weeks, 41 individuals were assigned to take daily fish oil capsules containing 1.2 grams of omega-three polyunsaturated fatty acids and 40 were assigned to take placebo; a total of 76 (93.8 percent) completed the intervention. By the end of the study, two (4.9 percent) in the omega-3 group and 11 (27.5 percent) in the placebo group had transitioned to psychotic disorder. The difference between progression to psychosis was 22.6 percent.

Based on the results, the authors estimate that four adults would need to be treated with omega-3 fatty acids to prevent one from developing psychosis over a 12-month period. Polyunsaturated fatty acids also significantly reduced symptoms and improved functioning compared with placebo. Rates of adverse effects were minimal and similar between the two groups.

The potential effects of fatty acids on psychosis development may result from changes to cell membranes and interactions with neurotransmitter systems in the brain, the authors note. "The finding that treatment with a natural substance may prevent or at least delay the onset of psychotic disorder gives hope that there may be alternatives to antipsychotics for the prodromal [early symptomatic] phase," the authors write. "Stigmatization and adverse effects—which include metabolic changes, sexual dysfunction and weight gain—associated with the use of antipsychotics are often not acceptable for young people."

In contrast, omega-3 fatty acids may cause some digestive complications but largely "are free of clinically relevant adverse effects. They have the advantage of excellent tolerability, public acceptance, relatively low costs and benefits for general health," the authors conclude. "Long-chain omega-3 fatty polyunsaturated fatty acids reduce the risk of progression to psychotic disorder and may offer a safe and efficacious strategy for indicated prevention in young people with subthreshold psychotic states."

More information: Arch Gen Psychiatry. 2010;67[2]:146-154.