Study links low DHA levels to suicide risk among U.S. military personnel

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(Medical Xpress) -- A new study suggests that low levels of the highly unsaturated omega-3 essential fattyacids, in particular DHA, may be associated with increased risk of suicide. Researchers at the Uniformed Services University of the Health Sciences (USU) and the National Institute of Alcoholism and Alcohol Abuse (NIAAA) at the National Institutes of Health (NIH) drew this finding following analysis of a large random sampling of suicide deaths among U.S. military personnel on active-duty between 2002 and 2008. The results of this retrospective study appear in the August 23 online version of the *Journal of Clinical Psychiatry*.

“We were surprised to find just how low the levels of omega-3 fatty acids were in the entire sample,” said Army Col. (Dr.) Michael D. Lewis, lead author on the study and assistant professor in the Department of Preventive Medicine and Biometrics at the USU. “There still was a significant suicide risk when we stratified the population. When we compared the 1,400 samples with the lowest levels of DHA to the remaining 200, there was a 62 percent increased risk that the samples were from a documented suicide. We need to continue to evaluate these results with a well-designed interventional study, but this represents a potential simple nutritional intervention that warrants further investigation.”

“Our findings add to an extensive body of research that points to a fundamental role for DHA and other omega-3 fatty acids in protecting against mental health problems and suicide risks,” said U.S. Public

Health Service Capt. (Dr.) Joseph Hibbeln, acting chief of the Section of Nutritional Neurosciences in NIAAA's Laboratory of Membrane Biochemistry and Biophysics and corresponding author. "For example a previous placebo-controlled trial demonstrated that 2 grams of omega-3 fatty acids per day reduced suicidal thinking by 45 percent, along with depression and anxiety scores among individuals with recurrent self-harm." He adds that in a prior study they found low blood levels of DHA correlated with hyperactivity of brain regions in a pattern that closely resembles the pathology of major depression and suicide risk. Learning to Care for Those in Harm's Way Omega-3 fatty acids are essential nutrients that the body cannot make, so they must come from food sources. DHA, the major omega-3 fatty acid concentrated in the brain, is important throughout life for optimal brain development and function. Seafood is a major dietary source of omega-3 fatty acids.

Previous studies have associated low levels of omega-3 fats or low dietary intake of seafood, with suicide, thoughts of suicide, and depression. Many, but not all, treatment studies also have reported mental health benefits of supplemental DHA, including reduced anxiety, depression and risk of psychosis.

More information: The paper is available at dx.doi.org/10.4088/JCP.11m06879

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