

# Omega-3 and Omega-6 fatty acid intake may affect lupus outcomes

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Higher intake of omega-3 fatty acids was associated with better sleep quality and a decrease in depressive symptoms in lupus patients, among other patient-reported outcomes, according to new research findings

presented this week at the 2017 ACR/ARHP Annual Meeting in San Diego.

Lupus is a chronic (long-term) inflammatory autoimmune disease in which an unknown trigger causes the body's immune system to attack its own healthy tissues. The most common type of lupus is [systemic lupus erythematosus](#) (SLE), a complex, multiple symptom disease that can cause inflammation, pain and damage to various parts of the body. While anyone can develop lupus, it occurs 9-10 times more often in women than in men, and is 2-3 times more common among women of color.

Omega [fatty acids](#) have an effect on inflammation in the body, with [omega-3 fatty acids](#) generally acting as an anti-inflammatory and omega-6 fatty acids acting as a pro-inflammatory. Western diets are often much higher in omega-6 fatty acids, and they are suspected to contribute to chronic diseases.

While small studies show an association between omega-3 supplementation and reduced disease activity in lupus [patients](#). Researchers at the University of Michigan in Ann Arbor examined their impact on patient-reported outcomes, or PROs. They performed a population-based, cross-sectional study to look for a possible association between dietary intake of omega-3 and omega-6 fatty acids and PROs in lupus patients. Data from the Michigan Lupus Epidemiology & Surveillance (MILES) program was used.

"Western diets are thought to contribute to an increase in people with chronic conditions including autoimmune diseases. Many small studies found that omega-3 supplementation was associated with an improvement in disease activity in SLE patients, but no studies have looked at omega-3 exposure through diet or its impact on PROs," said Prae Charoenwoodhipong, MS, a graduate student in the Department of Nutrition Science at the University of Michigan School of Public Health

in Ann Arbor. "Also, very few studies have looked at the impact of omega-6, an inflammatory fatty acid that is very common in U.S. diets. According to rheumatologists I've worked with, patients with SLE are always asking about what they might be able to do with supplements or their diet to help improve their health."

The MILES program includes SLE patient cases from southeast Michigan. The researchers collected data on dietary intake of [omega fatty acids](#) at baseline using questions from the National Cancer Institute's Diet History Questionnaire. Patient-reported outcome data included the Systemic Lupus Activity Questionnaire (SLAQ), RAND 36 Healthy Survey, Fibromyalgia (FM) Scale, PROMIS Sleep Disturbance (short form 8b) and PROMIS Depression. The researchers also made adjustments for covariates like age, sex, race, energy intake and body-mass index in their analysis of the association between omega-3 and [omega-6 fatty acids](#) and patient-reported outcomes.

For the study, 456 out of 462 SLE patients enrolled in the program completed the dietary questionnaires at baseline. Of these, 425 were female, 207 were black, and the mean age of the participants was 52.9 years. After controlling for covariates, they found that increasing omega-6 to omega-3 ratios in the diet were associated with SLE [disease activity](#).

Intake of omega-3 fatty acids was also significantly associated with better sleep quality and trended toward significant decreases in depressive symptoms and the presence of comorbid fibromyalgia. The researchers did not observe any associations between fatty acid intake and general health-related quality of life measures.

"Many SLE patients suffer from symptoms such as poor sleep, fatigue and depression," said Charoenwoodhipong. "While current treatments have been wonderful at addressing pain, we haven't been able to offer

therapies that really help with these other symptoms. Eating more foods that are high in omega-3 and avoiding a lot of foods that are high in omega-6 could be a low-toxicity intervention that is easily available for SLE patients to help address these symptoms.

"Recommending daily servings of fatty fish, nuts and seeds that are rich in omega-3 fatty acids is consistent with the USDA guidance on healthy goals for all Americans. So, it seems reasonable that rheumatologists could be giving out this advice to their patients."

According to Charoenwoodhipong, this study is a first step in helping rheumatologists better understand the role of diet in SLE management and future studies should investigate whether omega-3-rich foods could help manage symptoms in [lupus patients](#), as well as to identify other nutrients that may be beneficial, such as vitamins A, C or E.

Provided by American College of Rheumatology

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