

# Obesity associated with worse flare symptoms and quality of life in people with early rheumatoid arthritis

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A recent study from Hospital for Special Surgery (HSS) and others has found a correlation between obesity and more severe disease flare

symptoms that negatively affect quality of life in patients with early rheumatoid arthritis (RA), a systemic, autoimmune, inflammatory disorder affecting multiple joints in the body. The study was presented at [ACR Convergence 2023](#), the annual meeting of the American College of Rheumatology.

RA is usually treated with a combination of medications to relieve swelling and pain while regulating the immune system. Joint surgery to relieve pain and disability, including joint replacement, may also be considered when these nonsurgical methods fail to provide lasting benefit.

"If a person with RA is experiencing frequent flares, weight could be a contributing factor," said study principal investigator Vivian P. Bykerk, BSc, MD, FRCPC, a rheumatologist at HSS. "It may be helpful for patients to talk with their doctor about how to lose weight."

To conduct their research, investigators used data from the prospective RA registry study called the Consortium of Early Arthritis CoHorts-U.S. Study (CATCH-US).

This study, conducted at HSS and Johns Hopkins School of Medicine, recruited participants with at least two swollen joints and early or recent onset rheumatoid arthritis (symptoms  $\leq 12/\leq 24$  months) between December 2014 and May 2023. The researchers collected baseline characteristics and patient reported outcomes at each visit.

In this study, flares were determined using the OMERACT RA-Flare Questionnaire (RA-FQ), a patient-reported outcomes tool that assesses symptoms of pain, stiffness, fatigue, impacts on physical function, and impacts on social participation. Items in this tool are scored from 0 to 10, with 0 being best and 10 worst. All five scores are summed for an overall score range of 0 to 50.

Investigators also collected an Evaluator Global Assessment (EGA) score, indicating rheumatoid arthritis clinical disease activity; this was scored by the enrolling rheumatologist between 0 (not active) and 10 (very active). Using a multivariable linear regression model, the investigators tested the correlation between body mass index (BMI) and RA-FQ scores, considering EGA scores and demographic factors such as age, sex, and ethnicity as covariates.

There were 134 participants in the study; 85% were female, 71% were white, and 87% were non-Hispanic. Almost half (46%) were overweight or obese. The median age was 47.3 years, and the median BMI was 24.3.

"Our key finding was that there was a linear relationship between having a higher BMI and having a higher RA-FQ score," said lead study author Margaret Butler, a research assistant in the Department of Medicine at HSS.

"As BMI got higher, RA-FQ scores increased as well, indicating that the patient would have poorer outcomes. Having a higher BMI also predicted worse scores in each of the five individual categories except physical function. The relationship was even more pronounced when you separated patients by healthy BMI, overweight BMI, and obese BMI, with patients having an obese BMI having worse RA-FQ scores compared to the other two groups."

The researchers say that clinicians should consider patients' BMI and RA-FQ scores when formulating treatment plans for RA flares. "Doctors should encourage patients to lose weight, if determined to be the root cause of frequent flare ups to avoid prescribing additional medications to control symptoms," said Dr. Bykerk.

"Losing weight for people with RA is a difficult problem because they have lost significant muscle mass, and that is our metabolic-driving

tissue. To lose weight, patients have to build muscle and have a more nourishing, high-protein diet. We need programs to help patients do this."

A previous study by the researchers revealed that fewer patients with RA go into remission if they are obese or overweight. Future studies will examine whether BMI influences RA flares throughout the course of the disease.

Provided by Hospital for Special Surgery

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