



Study Challenges the Link Between Aging and Chronic Inflammation

By Courtney Davison
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- A new study suggests chronic inflammation tied to aging—“inflammaging”—may be driven more by industrialized lifestyles than by aging itself.
- In less industrialized populations, inflammation doesn’t rise markedly with age and chronic diseases are rare—**read on for the full article.**

An uptick in chronic [inflammation](#) has long been seen as an inevitable result of getting older, a phenomenon known as “inflammaging.” But a fascinating new study suggests that the type of inflammation linked to chronic disease may have more to do with industrialized lifestyles than with aging.

A Closer Look at Inflammaging

In studies of people living in industrialized societies, certain markers of chronic (the bad kind of) inflammation have been shown to rise with age, along with the risks for diseases such as heart disease, Type 2 diabetes, cancer, and Alzheimer’s. This age-related immune activation is what researchers call inflammaging. But is this rise in inflammation truly driven by aging itself? Or could it have more to do with lifestyle and environmental factors common in modern life?

To explore these questions, a team of researchers

compared inflammation levels in four distinct populations: two industrialized (Singapore and the Chianti region of Italy) and two nonindustrialized (the Tsimane people of Bolivia and the Orang Asli of Malaysia). By comparing the trends in four diverse groups, the scientists hoped to better understand the connections between aging, inflammation, and disease.

Published in [Nature Aging](#), the study drew on previously collected data from blood samples of 2,800 participants between the ages of 18 and 65, focusing on key biomarkers traditionally associated with inflammaging. In the industrialized groups, these markers tended to rise with age and were linked to chronic disease risk. But in the nonindustrialized populations, the pattern was strikingly different: Researchers observed “little to no” age-related increase in inflammaging markers. The inflammation that was present appeared to stem from infections, parasites, and viruses. Notably, age-related chronic diseases such as Type 2 diabetes, heart disease, and Alzheimer’s were rare or largely absent in the indigenous populations.

The findings led the authors to propose that inflammaging associated with chronic disease risk “appears to be largely a byproduct of industrialized lifestyles.”

“These findings really call into question the idea that inflammation is bad per se,” Alan Cohen, Ph.D., who co-authored the study, said in a [news release](#). “Rather, it appears that inflammation—and perhaps other aging mechanisms too—may be highly context dependent.”

Acute vs. Chronic Inflammation

The study highlights an important distinction: Not all inflammation is harmful. In the nonindustrialized populations, inflammation occurred in response to infections but did not lead to chronic disease. By contrast, chronic inflammation—often driven by elevated cholesterol, high blood sugar, and other metabolic imbalances common in industrialized societies—can cause ongoing tissue damage and

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significantly increase the risk of serious illnesses.

Cohen emphasizes that the goal isn't to eliminate inflammation altogether.

“As we get older, our bodies start to break down, there are going to be stressors, and so inflammation is going to be universal in the sense that it's not possible to have a body that doesn't get stressed with age,” says Cohen, who is an associate professor of environmental health sciences at Columbia University's Robert N. Butler Columbia Aging Center.

Instead, he advises focusing on the root causes of harmful, chronic inflammation. “I think the main message is don't try to target your inflammation as such,” Cohen says. “If there's a fire alarm getting pulled, don't shut off the fire alarm. Get rid of the fire.”

What Role Does Diet Play?

Gastroenterologist [Shilpa Ravella, M.D.](#), who was not involved with the study, says that poor diet—particularly fiber deficiency—is one of the biggest contributors to chronic inflammation in industrialized societies. “Fiber is one of our most anti-inflammatory nutrients ... but we're not getting enough of it,” Ravella says. Studies have found that [95% of Americans](#) fall short of the recommended daily minimums for fiber. “From a disease prevention [and] treatment [standpoint], we really need to be looking at highly plant-based diets,” which are [naturally rich in fiber](#), Ravella says. “Plant foods are so essential for helping to prevent and also reverse inflammation.”