



Vigorous Physical Activity Linked to Lower MASLD Risk

Even if exercise decreased over time, the benefits of vigorous physical activity were sustained in middle age.

January 26, 2024 By [Sukanya Charuchandra](#)

People who engage in vigorous-intensity physical activity earlier in life—even if it declines over time—continue to reap benefits in middle age, according to study findings published in [JAMA Network Open](#). Over 25 years, individuals with a history of vigorous exercise had a lower risk of [metabolic dysfunction-associated steatotic liver disease \(MASLD\)](#) than those who did little vigorous activity. However, this study did not see a similar benefit with moderate-intensity physical activity.

MASLD, [the new name](#) for non-alcoholic fatty liver disease (NAFLD), is responsible for a growing proportion of advanced liver disease worldwide, coinciding with a rise in obesity. The buildup of fat in the liver can lead to inflammation, fibrosis, [cirrhosis](#) and even [liver cancer](#). With no effective approved medical therapies, disease management is dependent on lifestyle changes such as exercise and weight loss. But whether the intensity of physical activity affects MASLD risk is not well understood.

Junia de Brito, PhD, MPH, of the University of Minnesota Medical School in Minneapolis, and colleagues assessed how exercise at different intensities over a 25-year period influenced the development of MASLD in midlife.

For their analysis, the researchers included 2,833 people from the Coronary Artery Risk Development in Young Adults study seen at clinics in Birmingham, Chicago, Minneapolis and Oakland, California. More than half (57%) were women, 51% were white and 49% were Black. The median age was 25 years at baseline and 50 years at the end of follow-up. About one quarter met the criteria for MASLD during follow-up.

Over the course of 25 years, participants self-reported information about their moderate-intensity physical activity and vigorous-intensity physical activity at eight examinations. The researchers observed three trajectories for moderate-intensity physical activity: very low and stable (53%), low but increasing over time (39%) and moderate but increasing (8%). They also noted three trajectories for vigorous-intensity physical activity: low and stable (58%), moderate and decreasing over time (36%) and high and decreasing (6%).

After adjusting for demographic and lifestyle factors, people who reported moderate but decreasing vigorous-intensity physical activity had a 26% lower risk for MASLD in middle age, and those who reported high but decreasing activity saw a 41% risk reduction, compared with those who reported low and stable vigorous-intensity activity.

In contrast, the researchers saw no significant effect of changes in moderate-intensity physical activity. Those who reported low but increasing or moderate but increasing activity and those who reported very low and stable moderate-intensity activity had statistically similar risk for MASLD. However, a risk reduction of up to 30% could not be ruled out, according to the researchers, and they noted that moderate-intensity activity has been found to have many health benefits. “It is essential to recognize that vigorous-intensity physical activity is not possible for some and challenging to maintain for most as people age,” they wrote.

“This cohort study of Black and white participants found a reduced risk of [MASLD] in middle age for individuals with higher levels of vigorous-intensity physical activity throughout young to middle adulthood compared with those with lower vigorous-intensity physical activity levels,” the researchers concluded. “These results suggest the need for promoting sustainable and equitable prevention programs focused on vigorous-intensity physical activity over the life course to aid in lowering [MASLD] risk.”

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