

Study shows that lack of free-time exercise significantly increases risk of cardiac death

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Researchers from Massachusetts General Hospital (MGH) and Kaiser Permanente have found that communities with high prevalence of adults who fail to exercise in their free-time, experience significantly higher rates of death from cardiovascular disease (CVD), with middle-aged

women and elderly Black individuals shouldering the heaviest burden.

In a study in [*the British Journal of Sports Medicine*](#), the team cited an urgent need for policymakers in the United States to implement public health interventions and measures designed to boost physical activity, especially in high-risk communities, with the ultimate goal of reducing mortality and morbidity from heart disease.

"Our findings indicate a persistent and concerning trend: Despite a national decline in cardiovascular mortality rates in recent years, communities in the U.S. with high proportions of adults lacking leisure-time physical activity (LTPA) continued to experience higher mortality rates," says Shady Abohashem, MD, MPH, an investigator in cardiovascular medicine at MGH and lead author of the study.

"These numbers suggest to us that existing interventions aimed at promoting physical activity may not be effectively reaching communities most in need, underscoring the necessity of more effective strategies."

The Centers for Disease Control and Prevention (CDC) recently reported that 25% of adults in the U.S. do not engage in leisure-time physical activity outside of their work, a number that varies greatly by age, sex, race/ethnicity, and location.

At the same time, exercise and activity during free-time has been shown in past studies to be a key modifiable factor in reducing cardiovascular risk and mortality, though its communitywide impact has been vastly understudied.

To gain a better understanding of the population-level implications, MGH researchers analyzed over seven million CVD deaths across 2,900 U.S. counties from 2011 to 2019, drawing on the CDC's PLACES database which provides health indicator estimates at the county, census

tract, and zip code levels across the country.

The analysis revealed a conspicuous relationship between the prevalence of chronic diseases such as obesity, diabetes, and heart diseases and high rates of leisure-time physical inactivity (LTPI).

"Social determinants of health invariably play an important role. People living in underserved communities face a myriad of barriers, including lack of infrastructure for safe recreation, erratic work hours, and scarce child support," notes senior author Jamal Rana, MD, Ph.D., a cardiologist with The Permanente Medical Group. The study also found a robust correlation between heightened levels of air pollution and LTPI.

The researchers further expressed concern over the higher risk of CVD death for women—particularly middle-aged—and the older Black population, who don't engage in physical activity during their free-time.

"Women are more likely to engage in sedentary behavior and have lower physical activity levels than men, which may be due to sociocultural factors like caregiving responsibilities, and persisting social expectations regarding gender roles," Abohashem points out.

"In the case of elderly Blacks, we corroborated previous studies that indicate this group is generally less active and more susceptible to [cardiovascular disease](#)."

For researchers, findings like these underscored the pressing need for tailored community-based initiatives that offer a broad spectrum of safe and affordable physical activities, infrastructural upgrades, and targeted public awareness programs.

"These programs should be culturally sensitive and inclusive, ensuring that they effectively communicate the benefits of [physical activity](#) and

address common barriers to exercise faced by women and less active populations," Abohashem mentions.

In particular, the study strongly endorsed the goals and approaches of the CDC's Healthy People 2030 initiative, which seeks to lower the percentage of people not engaging in LTPA from 25 percent to 21 percent through a vast array of programs involving communities, states, health care providers, and public health leaders.

"We believe our study can act as an anchor for creating effective [public health interventions](#) across varied geographic and demographic landscapes in line with the goals of Healthy People 2030," emphasizes Abohashem.

"To that end, our analysis not only highlights the immediate need for public intervention programs but equips community leaders and health care providers with critical data to allocate resources and personalize preventive care aimed at populations with higher risk of dying from heart disease."

More information: Shady Abohashem et al, Lack of leisure time physical activity and variations in cardiovascular mortality across US communities: a comprehensive county-level analysis (2011–2019), *British Journal of Sports Medicine* (2024). [DOI: 10.1136/bjsports-2023-107220](#)

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