Adults who meet recommended weekly physical activity levels have a lower risk of death, finds a US study published by The BMJ today.

The survival benefits are similar regardless of intensity of activity, although they are slightly higher for vigorous than light to moderate activity, the findings show.

Inadequate physical activity is a worldwide public health issue. It has been estimated that physical inactivity was responsible for 6-10% of the global burden of major chronic non-communicable diseases and 9% of early deaths in 2008 at a cost of $53.8 billion to healthcare systems worldwide in 2013.

Growing evidence that physical activity may prevent many chronic diseases and reduce mortality has led to governments setting out recommended activity levels.

The 2018 US guidelines recommend at least 150 minutes of moderate intensity, or at least 75 minutes of vigorous intensity aerobic activity per week. They also suggest adults should engage in muscle strengthening activity of moderate or greater intensity on at least two days per week.

But evidence that meeting these recommendations is linked to reduced mortality is unclear.

So an international team of researchers set out to determine the association between sufficient physical activity according to the 2018 US guidelines and death from any cause as well as eight specific causes including cardiovascular disease (CVD), cancer, chronic lower respiratory tract diseases, accidents and injuries, Alzheimer's disease, and diabetes.

Their findings are based on 479,856 US adults aged 18-85 years who reported the amount of leisure time spent in aerobic physical activity and muscle strengthening activity per week as part of the National Health Interview Surveys from 1997 to 2014.

This data was then linked to national death records over an average of nearly nine years.

During the study period, only 16% (76,384) participants fully met the recommended activity levels and 59,819 participants died.

Compared with participants who did not meet the recommended activity levels, those who engaged in sufficient muscle strengthening activity had an 11% lower risk of death from any cause, while those who engaged in sufficient aerobic activity had a 29% lower risk of death from any cause.

Those who fully met the recommended activity levels—both sufficient muscle strengthening and aerobic activities—achieved even larger survival benefits (40% lower risk of death from any cause).

In addition, adults who engaged in sufficient aerobic activity were at reduced risk of death from all eight specific causes, while those who engaged
in sufficient strengthening activity were at reduced risk of death from three causes (CVD, cancer, and chronic lower respiratory tract disease).

This is an observational study, so can't establish cause, and relied on participants self-reporting activity levels. But the authors also point out some strengths, including the large sample size representative of the US population, and their ability to adjust for potentially influential factors, such as lifestyle and underlying conditions.

"Our findings support that the physical activity levels recommended in the 2018 physical activity guidelines for Americans provide important survival benefits," they write. "Additionally, in accordance with the guidelines, more physical activity than the minimum recommendation could provide greater health benefits."

**More information:** Recommended physical activity and all cause and cause specific mortality in US adults: prospective cohort study, [DOI: 10.1136/bmj.m2031](https://doi.org/10.1136/bmj.m2031), [www.bmj.com/content/370/bmj.m2031](https://www.bmj.com/content/370/bmj.m2031)