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Walk for a Healthy Heart

Walking 10 k steps daily may seem an intimidating goal for many. Don't be disheartened, if you are not able to achieve this. A recent study published in the journal *Circulation* says that the beneficial effects of walking on heart health progressively increased even with small increases in the number of steps per day in older adults. Daily step count ranging between 6,000 and 9,000 lowered the risk of cardiac events by up to 50% among older adults compared to those who walked just 2,000 steps in a day.¹

A meta-analysis of 8 studies involving 20,152 adults was conducted to examine the association of daily step counts and cardiovascular events - fatal and nonfatal coronary heart disease, stroke, heart failure - by age group (younger and older adults) and the amount of physical activity. The mean age of participants was 63.2 years; 52% were women. Based on the physical activity, the participants were categorized into four quartiles, quartile 1 being the least and quartile 4 being the group with the maximum activity. The hazard ratios (HR) were generated using restricted cubic spline models.

The older adults walked less with a median number of 4,323 steps per day, whereas the younger adults walked more with 6,911 steps per day. During a mean follow-up period of 6.2 years, 1,523 cardiovascular events (12.4 per 1,000 person-years) occurred. The association of daily steps and the first cardiovascular event, which was the primary outcome of the study, differed considerably between the older (≥ 60 years of age) and younger adults (< 60 years of age).

The risk of a cardiac event was the least among older adults in quartile 4 (median steps 9,259) with HR of 0.51. For those in quartile 3 (median steps 5,520, the HR was 0.62; for quartile 2 (median steps 3,823), the HR was 0.80 compared with those in quartile 1 with the lowest step count (median steps 1,811). In the spline model, a significant curvilinear association was noted for older adults demonstrating the link between more steps and

decreased risk of cardiovascular disease (CVD) in this age group. Among the younger participants, the HR for risk of CVD among quartile 2 was 0.79, 0.90 for quartile 3 and 0.95 for quartile 4 compared with the lowest quartile. These results were nonsignificant versus the lowest quartile. In the spline model, no significant association was noted between steps per day and CVD events for them.

No association was noted between the pace of steps and cardiovascular risk.

The key takeaway from this meta-analysis is the inverse relationship between the number of daily steps and risk of CVD among older adults. The risk progressively declined as the daily step count increased. Walking 6,000 to 9,000 steps per day reduced CVD risk by as much as 50% compared to those who walked 2,000 steps per day. However, no such association was observed for younger adults. This can be attributed to the shorter follow-up duration, which was insufficient to measure the incidence of heart disease in the younger adults. This, note the authors, is a limitation of their study.

These findings have significant clinical implications for older adults in particular. One, that it is important to be physically active and two, that gradually increasing the number of steps in a day reduces their risk of acute cardiac events. Physical activity also helps preserve their cognitive skills.

There is no age bar for exercise. Walking is the simplest and most inexpensive form of exercise. Physicians should set attainable goals for all their patients, not just the older adults, who walk less than 10,000 steps in a day and encourage them to be more active for optimum cardiovascular health.

REFERENCE

1. Paluch AE, Bajpai S, Ballin M, Bassett DR, Buford TW, Carnethon MR, et al; Steps for Health Collaborative. Prospective association of daily steps with cardiovascular disease: a harmonized meta-analysis. *Circulation*. 2023;147(2):122-31.