

Association of physical activity trajectories with major cardiovascular diseases in elderly people

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Abstract

Introduction

Cardiovascular benefits deriving from physical activity are well known, but it is unclear whether physical activity trajectories in late life are associated with different risks of cardiovascular diseases.

Methods

Progetto Veneto Anziani (Pro.V.A.) is a cohort study of 3099 Italians aged ≥ 65 years with baseline assessment in 1995-1997 and follow-up visits at 4 and 7 years. Surveillance was extended to 2018 by linkage with hospital and mortality records. Prevalent and incident cardiovascular diseases (coronary heart disease, heart failure and stroke) were identified through clinical examination, questionnaire, or hospital records. Moderate to vigorous physical activity was considered as a time-varying variable. Physical activity trajectories were categorised as: stable-low, high-decreasing, low-increasing and stable-high. Exposure was also assessed at 70, 75, 80 and 85 years.

Results

Overall, physical activity was associated with lower rates of incident cardiovascular diseases. A significant risk reduction was present among men and was stronger earlier in late life (70-75 years). Trajectories of stable-high physical activity were associated with a significantly lower risk of cardiovascular outcomes among men (HR 0.48, 95% CI 0.27 to 0.86) compared with those with stable-low trajectories (p for trend 0.002). No significant association was found with stroke. The greatest cardiovascular risk reduction was observed for >20 min/day of physical activity, and was more marked at 70 years.

Conclusion

Increasingly active trajectories of physical activity were associated with lower rates of cardiovascular diseases and overall mortality. Promoting at least 20 min/day of physical activity early in late life seems to provide the greatest cardiovascular benefits.

Keywords: coronary artery disease; epidemiology; heart failure; risk factors; stroke.

FULL TEXT

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