Exploring the Path Between Life-Course Trajectories of Physical Activity Levels and Cardiometabolic Disease Incidence: Insights From the ATTICA Cohort Study (2002-2022) - PubMed

ABSTRACT

Abstract Objective: To evaluate the paths between lifelong physical activity levels and the development of cardiometabolic disease. Methods: The ATTICA is a population-based cohort study with a 20-year follow-up conducted in the Attica region, Greece and included, 3042 adult males and females (45 [11] y). Participants physical activity levels' tracking together with data regarding cardiovascular disease, obesity, hypertension, hypercholesterolemia, and diabetes incidence, were available in 1988 participants (45 [12] y old, 987 males and 1001 females), at 20-year follow-up. Physical activity levels were evaluated using the validated International Physical Activity Questionnaire, in all examinations (2001-2002, 2006, 2012, and 2022). Four physical activity trajectories were defined, that is, consistently active/inactive and changed from active/inactive. Path analysis was applied using structure equation models. Results: 54% of participants were classified as always inactive, 5% classified as became inactive from physically active, 38% as became active and, only 3% sustained physical activity levels. Participants who reported being consistently physically active throughout the 20-year period were 6% (OR, 0.94, 95% CI, 0.89-0.99) less likely to develop cardiovascular disease as compared with those who remained consistently physically inactive, had 21% lower risk of developing hypercholesterolemia (OR, 0.79, 95% CI, 0.59-1.04), 33% lower risk of obesity (OR, 0.67, 95% CI, 0.44-1.02), and 30% lower risk of diabetes (OR, 0.70, 95% CI, 0.48-1.03). Conclusions: Lifelong physical activity was strongly associated with reduced fatal or nonfatal cardiovascular disease events, as well as reduced risk of developing other cardiometabolic disorders, hypercholesterolemia, obesity, and diabetes. Keywords: cardiovascular disease; diabetes; hypercholesterolemia; hypertension; obesity; risk.
