Physical Activity at Midlife and Health-Related Quality of Life in Older Men

A recent study in the Archives' investigated associations of midlife physical activity and health status in older age, and the results showed a strong association between midlife leisure time physical activity and successful survival and exceptional health status in later life. However, this cohort was limited to women, and although health-related quality of life (HRQoL) was assessed with the 36-Item Short-Form Health Survey (SF-36), these results were not reported. Because the SF-36, with its 8 domains, may give detailed information of the effects of physical activity on both physical and mental dimensions in old age aspects, we investigated long-term associations between leisure-time physical activity in midlife and HRQoL in old age in the Helsinki Businessmen Study.2

See Invited Commentary at the end of this letter

Methods. In 1974, clinically healthy middle-aged men (born in 1919-1934; median age, 47 years) of similar socioeconomic status were assessed with questionnaires and clinical and laboratory examinations as described previously.2 The men were asked how they rated their present health on a 5-step scale (“very poor,” “good,” “fair,” “poor,” and “very poor”), and a global description of leisure time physical activity was assessed with the following 4-step scale:

1. Activity mainly reading, watching television, or other sedentary activity.

Results. In 2000, men with a low physical activity in midlife reported significantly higher prevalences of coronary artery disease (P = .04). Of the adjusted HRQoL scales in old age (in the year 2000), only physical function was significantly related to physical activity in midlife (Figure). Further adjustment for individual diseases (history of coronary ar-
ttery disease, cerebrovascular disease, heart failure, or chronic obstructive pulmonary disease, which were found to be different between groups in 2000), or the Charlson comorbidity index reduced but did not abolish the significance in physical function (P = .01 when diseases were included; P = .02 when the Charlson comorbidity index was included).

Comment. Leisure-time physical activity in midlife predicted better physical function in old age but was not significantly associated with mental or social dimensions of the HRQoL in this socioeconomically homogeneous male cohort. Moreover, the relationship was not explained, albeit attenuated, by diseases associated with less physical activity. Because the physical function score of the SF-36 has been shown to be a valid measure of mobility-disability, more physical activity in healthy individuals in midlife may thus have an independent and specific impact for the prevention of disability in old age.

Salla L. Savela, MD
Pentti Koistinen, MD, PhD
Reijo S. Tilvis, MD, PhD
Arto Y. Strandberg, MD
Kaisu H. Pitkälä, MD, PhD
Veikko V. Salomaa, MD, PhD
Tatu A. Miettinen, MD, PhD
Timo E. Strandberg, MD, PhD

Author Affiliations: Oulu City Hospital, Oulu, Finland (Drs Savela and Koistinen); Geriatric Clinic, Department of Medicine, University of Helsinki, Helsinki, Finland (Drs Tilvis, A. Y. Strandberg, and Miettinen); Unit of General Practice, Helsinki University Central Hospital, Helsinki (Dr Pitkälä); National Institute for Health and Welfare (THL), Helsinki (Dr Salomaa); and Institute of Health Sciences/Geriatrics, University of Oulu and Oulu City Hospital, Oulu (Dr T. E. Strandberg).

Correspondence: Dr T. E. Strandberg, Institute of Health Sciences/Geriatrics, University of Oulu and Oulu City Hospital, Aapistie 1, PO Box 5000, FIN-90014 Oulun Ylioppisto, Finland (timo.strandberg@oulu.fi).


Financial Disclosure: None reported.

Funding/Sponsor: This study was funded by the Johnsson Foundation.


INVITED COMMENTARY

Physical Activity Benefits Various Aspects of Healthy Aging

Physical activity is an effective approach to preventing chronic diseases. We and others have also found that physical activity in midlife is related to healthy aging. In this issue of the Archives, Savela and colleagues report a significant positive association between higher midlife physical activity and greater physical function in older men; activity was not associated with other components of health-related quality of life. A major strength of this study is its long follow-up and detailed measures of quality of life in older age. However, 2 limitations are notable. Assessment of physical activity was limited, with 3 broad categories; thus, measurement errors might have attenuated associations. Second, the sample was relatively small with 552 participants. In our previous study, as Savela et al note, we did not consider individual quality of life components; our interest was in understanding overall successful survival—a clear public health priority. Nonetheless, for comparison, in our data, midlife physical activity was related to the SF-36 mental health index and to physical function (2 components in our definition of successful survival, along with chronic diseases and cognition). Adjusted odds ratios (95% confidence intervals) for the fifth vs first quintile of physical activity were 0.43 (0.38-0.49) (P value for trend, <.001) for physical function and 0.80 (0.72-0.90) (P value for trend, <.001) for mental health. Overall, however, despite relatively low power, the study by Savela et al adds to the growing evidence that greater physical activity in midlife contributes to aspects of healthy aging.

Qi Sun, MD, ScD
Frank B. Hu, MD, PhD
Francine Grodstein, ScD

Author Affiliations: Departments of Nutrition (Drs Sun and Hu) and Epidemiology (Drs Hu and Grodstein), Harvard School of Public Health, Boston, Massachusetts; and Channing Laboratory, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston (Drs Hu and Grodstein).

Correspondence: Dr Sun, Department of Nutrition, Harvard School of Public Health, 665 Huntington Ave, Room 349, Bldg 2, Boston, MA 02115 (qisun@hsph.harvard.edu).

Financial Disclosure: None reported.

Funding/Sponsor: This study was supported by research grants AG13482, AG15424, and CA40356 from

©2010 American Medical Association. All rights reserved.