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Effects of the Finnish Alzheimer Disease Exercise Trial (FINALEX): A Randomized Controlled Trial.

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Abstract

IMPORTANCE Few rigorous clinical trials have investigated the effectiveness of exercise on the physical functioning of patients with Alzheimer disease (AD). **OBJECTIVES** To investigate the effects of intense and long-term exercise on the physical functioning and mobility of home-dwelling patients with AD and to explore its effects on the use and costs of health and social services. **DESIGN** A randomized controlled trial. **SETTING AND PARTICIPANTS** A total of 210 home-dwelling patients with AD living with their spousal caregiver. **INTERVENTIONS** The 3 trial arms included (1) group-based exercise (GE; 4-hour sessions with approximately 1-hour training) and (2) tailored home-based exercise (HE; 1-hour training), both twice a week for 1 year, and (3) a control group (CG) receiving the usual community care. **MAIN OUTCOME MEASURES** The Functional Independence Measure (FIM), the Short Physical Performance Battery, and information on the use and costs of social and health care services. **RESULTS** All groups deteriorated in functioning during the year after randomization, but deterioration was significantly faster in the CG than in the HE or GE group at 6 ($P = .003$) and 12 ($P = .015$) months. The FIM changes at 12 months were -7.1 (95% CI, -3.7 to -10.5), -10.3 (95% CI, -6.7 to -13.9), and -14.4 (95% CI, -10.9 to -18.0) in the HE group, GE group, and CG, respectively. The HE and GE groups had significantly fewer falls than the CG during the follow-up year. The total costs of health and social services for the HE patient-caregiver dyads (in US dollars per dyad per year) were \$25 112 (95% CI, \$17 642 to \$32 581) ($P = .13$ for comparison with the CG), \$22 066 in the GE group (\$15 931 to \$28 199; $P = .03$ vs CG), and \$34 121 (\$24 559 to \$43 681) in the CG. **CONCLUSIONS AND RELEVANCE** An intensive and long-term exercise program had beneficial effects on the physical

CONCLUSIONS AND RELEVANCE: *An intensive and long-term exercise program had beneficial effects on the physical functioning of patients with AD without increasing the total costs of health and social services or causing any significant adverse effects.*