**Tittel:** A High-Intensity Functional Weight-Bearing Exercise Program for Older People Dependent in Activities of Daily Living and Living in Residential Care Facilities: evaluation of the Applicability With Focus on Cognitive Function

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**Sammendrag:**

Background and Purpose: knowledge concerning the applicability and the effect of high-intensity exercise programs is very limited for older people with severe cognitive and physical impairments. The primary aim of this study was to evaluate the applicability of a high-intensity functional weight-bearing exercise program among older people who are dependent in activities of daily living and living in residential care facilities. A second aim was to analyze whether cognitive function was associated with the applicability of the program.

Subjects: the subjects were 91 older people (mean age=85.3 years, SD=6.1, range=68–100) who were dependent in personal activities of daily living and randomly assigned to participate in an exercise intervention. Their mean score for the Mini-Mental State Examination (MMSE) was 17.5 (SD=5.0, range=10–29).

Methods: a high-intensity functional weight-bearing exercise program was performed in groups of 3 to 7 participants who were supervised by physical therapists. There were 29 exercise sessions over 13 weeks.

Attendance, intensity of lower-limb strength and balance exercises, and occurrence and seriousness of adverse events were the outcome variables in evaluating the applicability of the program. Results: the median attendance rate was 76%. Lower-limb strength exercises with high intensity were performed in a median of 53% of the attended exercise sessions, and balance exercises with high intensity were performed in a median of 73% of the attended exercise sessions. The median rate of sessions with adverse events was 5%. All except 2 adverse events were assessed as minor and temporary, and none led to manifest injury or disease. No significant differences were observed in applicability when comparing participants with dementia and participants without dementia. In addition, there was no
significant correlation between applicability and the MMSE score. Discussion and Conclusion: the results suggest that a high-intensity functional weight-bearing exercise program is applicable for use, regardless of cognitive function, among older people who are dependent in activities of daily living, living in residential care facilities, and have an MMSE score of 10 or higher.

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