



UMEÅ UNIVERSITET

Umeå University Medical Dissertations, New Series No 2065

Exercise and team rehabilitation in older
people with dementia: applicability,
motivation and experiences

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Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för
avläggande av medicine doktorsexamen framläggs till offentligt
försvar i

Aulan Vårdvetarhuset, fredagen den 10 januari 2020 kl. 09:00.
Avhandlingen kommer att försvaras på svenska.

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Abstract

Background: The world's population is aging. With the growing population of older people, dementia disorders are becoming increasingly common. Dementia disorders are progressive and include impairments in cognitive and physical function, which lead to increased risks of inactivity, falls, fractures, and comorbidity. Dementia is also the leading cause of dependency in activities of daily living. Therefore, rehabilitation including exercise is needed for this population. To obtain optimal effects on the functional ability of older people, exercise should be task specific, functional, performed at high intensity at sufficient frequency and duration, and include both balance and strength training. Motivation to participate is important for exercise program participation, the fulfillment of exercise recommendations and facilitation of motor learning in order to achieve exercise response. However, exercise recommendations for older people are based mainly on findings from studies conducted with people without dementia. Exercise may be challenging for some people with dementia due to complicating symptoms, such as cognitive deficits, depression, apathy or lack of motivation, and behavioral and psychological symptoms of dementia (BPSD). Studies exploring the applicability of exercise programs have been called for to optimize exercise programs; knowledge about motivation is lacking, and how this together influences exercise response in this group. Additionally, dementia disorders significantly affect all aspects of life for the affected persons and their informal caregivers, friends, and family members in their immediate networks. Furthermore, the care and rehabilitation needs of community-dwelling people with dementia must be considered due to the decreasing proportion of nursing home residents in Sweden today. Scientific knowledge and clinical experiences regarding the use of rehabilitation for people with dementia are limited, despite the urgent need for rehabilitation and its proven effects after events such as hip fracture. The effects of person-centered multidimensional interdisciplinary rehabilitation programs for people with dementia, including education and counseling for informal primary caregivers, have not been evaluated and need to be explored. The overall aim of the thesis was to evaluate the effects of exercise and team based rehabilitation among older people with dementia. Specifically, the objectives were to evaluate motivation to participate in and applicability of a high-intensity functional exercise program, and to explore participants' experiences with a multidimensional interdisciplinary rehabilitation program including high-intensity functional exercise, among older people with dementia.

Methods: In the Umeå Dementia and Exercise (UMDEX) study, a cluster-randomized controlled trial including 186 people with dementia in nursing homes, the effects of the High-Intensity Functional Exercise (HIFE) Program and a seated social activity, both lasting for 45 minutes and held five times fortnightly for 4 months, were compared. Participants' motivation to go to activity sessions and motivation during sessions were assessed using a five-point Likert scale. The applicability of the exercise program (with regard to attendance, achieved intensity, and adverse events) was assessed with a focus on dementia type and reasons for non-attendance and for not achieving high intensity, based on exercise diary data. Balance exercise response was investigated using the Berg Balance Scale, assessed at baseline and 4 month follow-up. In the Multidimensional Interdisciplinary Rehabilitation in Dementia (MIDRED) study, a randomized controlled study, a person-centered multidimensional interdisciplinary rehabilitation program for community-dwelling older people with dementia, including education and counseling for informal primary caregivers, was evaluated. With the aim of exploring experiences with program participation, 16 participants with dementia were interviewed and data were analyzed using qualitative content analysis.

Results: The UMDEX study showed that motivation during activities was quite high, with no overall difference between groups; over time, however, motivation increased in the exercise group and decreased in the social activity group. Motivation during activity sessions was greater than motivation to go to sessions in both groups. The exercise program was applicable, with high attendance rates, moderate to high intensity achieved, and the occurrence of only minor and temporary adverse events. Dementia subtype, low motivation, pain, and presence of BPSD seemed to affect applicability. The exercise response varied widely, with many participants showing improved balance after the intervention. The applicability of the exercise program and motivation did not seem to be associated with paramount balance response. Four categories emerged from the MIDRED study analysis: Being empowered through challenges; Gaining insight, motives and rising concerns about the future; To participate is worthwhile, if you are seen; and Togetherness in prosperity and adversity.

Conclusion: In conclusion, for older people with dementia living in nursing homes, who have a high prevalence of medical conditions and functional limitations, motivation to participate in a high-intensity exercise program was high and did not differ from motivation to participate in a less physically demanding social activity. The exercise program seems to be applicable with regard to attendance, achieved intensity, and adverse events. The prediction of balance exercise response based on program applicability and participant motivation does not seem to be possible. The promotion of strategies to encourage people with dementia to join exercise groups is of great importance, and more knowledge about strategies is needed to overcome low pre-exercise motivation levels. An interdisciplinary rehabilitation program for community-dwelling older people seems feasible, according to reported experiences. The participants had positive experiences and perceived improvement and empowerment due to the rehabilitation, which can influence well-being in daily life in this population. The results of this research support the inclusion of this population in team rehabilitation and high-intensity functional exercise program.

Keywords

Dementia, Exercise, Rehabilitation, Residential Facilities, Postural Balance, Frail Elderly, Motivation

Language

English

ISBN

978-91-7855-156-9

ISSN

0346-6612

Number of pages

76 + 4 papers