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Moving forward with dementia

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2019

document version

Publisher's PDF, also known as Version of record

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citation for published version (APA)

Henskens, M. (2019). *Moving forward with dementia: Care dependency, quality of life, and the effectiveness of movement stimulation in nursing home residents with moderate to severe dementia.*

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SUMMARY AND GENERAL DISCUSSION

The aim of this thesis was twofold: (1) to gain insight into the demographic and clinical factors associated with care dependency, independence in activities of daily living (ADL), and quality of life (QoL), and (2) to explore the potential benefits of different movement stimulation interventions on ADL performance, QoL, cognitive and physical functions, and mood and behavioral problems in nursing home (NH) residents with moderate to severe dementia. The present chapter provides an overview of the main findings, a reflection on the findings, a discussion of methodological considerations, and implications for future policy, practice, and research.

SUMMARY

PART I: Cross-sectional studies in nursing home residents with dementia

Chapter 2 examined which demographic and clinical factors were associated with care dependency in NH residents with moderate to severe dementia. Care dependency was measured with the staff-rated care dependency scale (CDS), and ADL ability was measured with the performance based Erlangen ADL (E-ADL). Apathy, lower physical endurance, higher number of comorbidities, and lower global cognition were important independent predictors associated with more care dependency, with apathy and physical endurance being the most predictive. Furthermore, there were some indications that executive functions (i.e., category fluency) may also play an important role in predicting care dependency. Global cognition was the only predictor of ADL ability, explaining a large proportion of the variance (60%). The results suggest that a multifactorial intervention may be the most effective intervention to maintain a residents' highest level of independence.

Chapter 3 investigated the relationship between demographic and clinical factors and different domains of QoL. QoL was measured with the staff-rated Qualidem, which covers nine domains of QoL. Different domains of QoL showed associations with different predictors, highlighting the multidimensionality of QoL. Agitation, depression, and apathy were the most important predictors associated with a lower QoL. Moreover, male gender was found to be associated with having worse social relations. The presence of comorbid neurological diseases was associated with more social isolation, a worse care relationship, and lower total QoL. Last, the presence of endocrine/metabolic diseases and pulmonary diseases was associated with less restless tense behavior. The results suggest that attention should be given to persons with mood and behavioral problems in combination with comorbid conditions, as these persons may be at the greatest risk of reduced QoL.



PART II: Movement stimulation interventions in nursing home residents with dementia

This part of the thesis focused on the effects of different movement stimulation interventions on ADL performance, QoL, cognitive and physical functions, and mood and behavioral problems.

Chapter 4 compared the effects of a 12-month movement-oriented restorative care program (MRC) to care as usual in 61 NH residents with moderate to severe dementia. MRC used a multidisciplinary care approach to integrate movement into the daily lives of residents and stimulate independent functioning. The objective of the study was twofold: (1) to assess the effectiveness of MRC in preservation of ADL independence and QoL, and (2) to examine the degree of implementation and the barriers to the implementation process. The study provided no clear evidence for the effectiveness of 12 months of MRC in improving ADL independence or QoL, apart from a higher positive self-image in the MRC group compared to the care-as-usual group after 12 months. The process evaluations indicated that MRC was not applied according to its core principles. Although all permanent staff members of the psychogeriatric ward were trained in MRC, the amount of stimulation varied from three times per week to several times per day. Understaffing and limited time available for personalized care made optimal implementation of MRC challenging.

Chapters 5 and 6 described the results of a 6-month double parallel randomized controlled trial with three movement stimulation interventions: (1) ADL training, (2) multicomponent aerobic and strength exercise training, and (3) a combined ADL and multicomponent exercise training. The study in **chapter 5** focused on the effects of the movement interventions on ADL performance and QoL. Compared to care as usual, six months of ADL training positively affected overall QoL, and multiple aspects of QoL, including care relationship, positive self-image, and feeling at home. No effects were found of ADL training on ADL performance, although a trend was observed that showed a maintenance in ADL performance in the ADL group, and a decline in the care-as-usual group. No benefits were observed of exercise training or a combined ADL and exercise training on QoL or ADL performance. **Chapter 6** investigated the effect of the movement interventions on cognitive functions, physical functions, and mood and behavioral problems. Compared to care as usual, six months of ADL training benefitted executive functions (EF) and physical endurance. Exercise training benefitted only grip strength of participants with mild to moderate cognitive impairment. Contrary to our expectations, we did not find any significant effect of the exercise intervention on cognition, physical functions, ADL ability, QoL, or mood and behavioral problems. There were some benefits of a combined ADL and exercise training over ADL only training (i.e., improved functional mobility), exercise only training (i.e., improved depressive symptoms and agitation), and no movement stimulation (i.e., improved physical endurance). However, the ADL intervention was hypothesized to be the driving force for positive outcomes of the combined intervention.