

Chapter 3

Physical Exercise and Psychological Therapies in the Treatment of Mild Cognitive Impairment and Dementia

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ABSTRACT

Dementia imposes increasing health and economic burdens, being considered one of the most impactful mental health issues among the elderly. Interventions that seek to ameliorate dementia symptoms and improve the quality of life of patients and relatives are both research and treatment priorities. This chapter presents a state-of-the-art overview of the effects of physical exercise and psychological therapies in the treatment of mild cognitive impairment (MCI) and dementia. The topics will be discussed from a patient-centric perspective, considering real-life experiences in nursing homes, day-care services (DCs), and hospitals. Translating the scientific evidence into more understandable and easy-to-apply information for mental health professionals, stakeholders, and the community at large. Accessible, affordable, acceptable, and efficient interventions are imperative to benefit patients with MCI and dementia and their caregivers.

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INTRODUCTION

Dementia is a clinical syndrome characterized by progressive cognitive deterioration, especially of memory, progressive impairment of daily life activities, and a variety of neuropsychiatric symptoms, as well as behavioral changes that are sufficiently severe to affect independence in everyday life. Worldwide, around 57 million people live with dementia, and this number is expected to rise to 152 million by 2050, particularly in low- and middle-income countries (Collaborators, 2022). Alzheimer's disease (AD) is the leading cause of primary dementia, with increasing age as the main risk factor. Many other modifiable risk factors, such as low levels of education and illiteracy, cardiovascular disease, diabetes, midlife hypertension, midlife obesity, smoking, and physical inactivity, have also been identified. Dementia imposes increasing health and economic burdens, being considered one of the most impactful mental health issues among the elderly. Interventions that seek to ameliorate dementia symptoms and improve the quality of life of patients and relatives are both research and treatment priorities (Prince et al., 2016). Expanding knowledge and access to treatment options are important goals aiming to reduce the gap between those people with dementia who need care and those who receive any treatment (Keynejad et al., 2018).

Pharmacological treatment is the cornerstone approach to dealing with cognitive and behavioral symptoms. However, it offers no cure up to this moment and has evidence-based efficacy limited to Alzheimer's disease etiology (Birks, 2006). Concerns about antipsychotics and other psychotropic drug prescriptions for the behavioral manifestations of dementia have limited their use as a first-line treatment for such symptoms. Psychosocial and sensory stimulation interventions are useful in improving cognition and behavior, postponing the loss of independence, and enhancing the quality of life (QoL) for the PwD and caregivers. Psychosocial interventions may help day-to-day living be more comfortable for the patient and caring less stressful for caregivers (Woods et al., 2012). The topics covered in this chapter are based on evidence from recent RCT and MA, as well as the clinical experiences of the authors who are experts in this field. Recent evidence from studies investigating different types of exercise, such as aerobic and strength training, dancing, martial arts, and body-mind practices, such as yoga, will be discussed. Finally, possibilities for implementing web-based physical activities (e.g., exergames), remote interventions, and movies explaining how to be more active at home, will be shown. The participation of family and caregivers in the treatment will be addressed, showing practical possibilities for the interaction between the patient-caregiver dyad during exercises, as well as suggestions for web-based interventions for the dyads. Since the focus of the new decade is on healthy aging, this chapter aims to provide state-of-the-art knowledge on the effects of exercises and psychotherapy in the care of PwD.

There is now an urgent need for improvements in the care and QoL of people with dementia (PwD) and their families. Considering the relationship between the patient's QoL, and the mental and physical health of the caregivers, a dyadic exercise regimen should be planned. Accurate diagnosis and management in the early phases of the disease may delay incapacity and reduce associated costs. In the last 20 years, more than 30 meta-analyses have been published on the benefits of physical exercise as an additional and complementary intervention in the treatment of mild cognitive impairment (MCI) and dementia. The main outcomes investigated were motor and cognitive functions, activities of daily living, and QoL. Moreover, recent studies have shown the benefits of exercise in improving neuropsychiatric symptoms, especially apathy and depression. The effects of physical exercise are the result of interactions among individuals, tasks, and the environment. Moreover, several factors, such as the prescription (duration, intensity, frequency), type of training (aerobic, resistance, balance, flexibility), cognitive

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