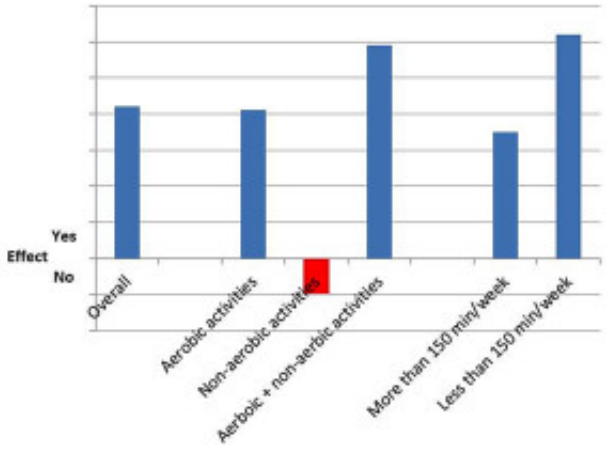
Physical activity helps to reduce cognitive symptoms for dementia patients

Dementia is a clinical syndrome characterized by cognitive symptoms, which lead to disruptions in many aspects of daily life. The most common type of dementia is Alzheimer's disease, which affects 5.3 million people in the United States alone. With the ever increasingly aging population, the number of people with dementia is expected to rise even further and this has prompted the World Health Organization (WHO) to denote dementia as a public health priority. Presently, no cure for dementia is available and current pharmacological treatments only serve to reduce symptoms. Because of the inherent costs and possible side-effects of pharmacological treatments, other therapies, such as physical activity interventions, are an appealing alternative for people with dementia. Previous studies have revealed that cognition may be positively influenced by physical activity. This positive effect could be explained by the effects of physical activity on physiological processes in the brain, which enhance general brain vitality, as shown in animal studies. For the elderly population of people over 65 years old, including people with dementia, the WHO recommends a minimal of 150 minutes of physical activity per week to remain physically and mentally healthy. However, studies aiming to determine the effectiveness of physical activity to reduce cognitive symptoms in people with dementia have shown mixed results.



In this study, we collapsed all available study results regarding the effectiveness of physical activity interventions for people with dementia. We aimed to investigate whether these interventions help reducing cognitive symptoms and relieve the negative effects on daily living in dementia patients, and what kind of physical activities work best. After searching scientific journal databases, we selected 18 studies including a total of 802 dementia patients. Approximately half of the dementia patients included in the studies received a physical activity intervention and the other half did not. This way, the effectiveness of the treatments could be measured by looking at the difference in cognition scores between people with and without an intervention. The results of all studies were statistically pooled together and we found that, as a whole, physical activity interventions have a positive effect on cognition for all people with dementia, regardless of the type of dementia.

Furthermore. we observed that physical activity interventions were only effective when they included aerobic exercises, such as walking or cycling. Interestingly, we found that physical activity was effective when offered for more than 150 minutes per week but also when offered for less than 150 minutes per week. Finally, we found that positive effects of physical activity on cognition were also reflected in positive effects on activities of daily living, such as dressing and washing.

Our findings illustrate that physical activity interventions may be used as a cost-effective treatment to reduce cognitive symptoms and relieve burden on daily living for dementia patients. Furthermore, our results provide a helpful tool to tailor future physical activity interventions used in clinical practice to optimal effectiveness, for instance by ensuring that aerobic exercises are included in the interventions. While we observed that less than 150 minutes of physical activity per week benefits cognition, we recommend to adhere to WHO recommendations whenever possible. However, physical activity interventions should still be considered if only interventions with less than 150 minutes per week are feasible for pragmatic reason, as this might still be beneficial. Based on these results, we encourage clinicians and physiotherapists to include more physical activity in management of people with dementia.

Colin Groot
Department of Radiology and Nuclear Medicine/Neurology and Alzheimer Center
VU University Medical Center
Amsterdam, the Netherlands

Publication

The effect of physical activity on cognitive function in patients with dementia: A meta-analysis of randomized control trials.
Groot C, Hooghiemstra AM, Raijmakers PG, van Berckel BN, Scheltens P, Scherder EJ, van der Flier WM, Ossenkoppele R.
Ageing Res Rev. 2016 Jan