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Original article

PHYSICAL THERAPY INTERVENTION IN THE PERSPECTIVE OF DEMENTIA PATIENTS WITH NEUROPSYCHIATRIC SYMPTOMS

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Abstract

Aims. The purpose of this study was to clarify the effects of increasing physical and intellectual activities in the elderly at home and to clarify the relationship with the improvement of cognitive functions through physical activity.

Methods. Although prescribing physical exercises for older adults with cognitive impairment may be seen as a rather more dangerous than effective measure, we recruited a lot of 10 patients with dementia that accepted to perform mild physical activity for 6 months. Patients were evaluated using the following scale: Mini-Mental State Examination at the beginning and at the end of the study. The sport group of dementia patients was compared resultwise with a group of dementia patients that did not perform any physical activity in the period of the study- the control group.

Results. The results that patients from the "sport in dementia" group obtined at the test performed before and after the 6 months training sessions, in comparison with the control group, showed that regular exercise has the ability of improving cognitive and functional activity scores in dementia patients.

Conclusions. Physical activity is a strategy with potential promising results for improving physical and cognitive function in dementia. Dementia's symptoms may be improved in time by participating in a regular exercise program.

Key words: dementia, physical activity, cognitive impairment.

Introduction

The incidence of dementia is contantly rising with age and it is predicted that about 2 to 4% of the population with the age of 65 years and over and about 20% of the population aged 80 and over have Alzheimer's disease. Non-drug therapies for dementia include: behavioral therapy, music therapy, physiotherapy, muscle strengthening, balance training, range of motion exercises, occupational therapy, yoga, social psychotherapy, walking, various gymnastics (Stroe, 2020), (Docu Axelerad, 2020), (Docu Axelerad, 2019). Exercise in known to have an important role as a drug-free therapy for dementia (Docu Axelerad, 2020), (Docu Axelerad, 2019). With the progress of the disease, the elderly with dementia, physical impairments also become visible with gait disturbances, increased risk of falls, limb stiffness, limb joint contracture, decreased activities of daily living, etc (Patel, 2004), (Knopman, 2001), (Sirbu, 2017).

Furthermore, physical activity is not practiced because of the lack of motivation, with the association of depression symptoms, usually being constant with dementia (Docu Axelerad, 2019), (Docu Axelerad, 2020), (Dantes, 2020). Also, a lack in mobility due to falling is a cause for a lack of activity in daily life, that even more decreases the physical activity (Sirbu, 2020), (Falup-Precurariu, 2019).

Physical activity and exercise are mandatory for preserving the health of elderly people with dementia as the recent studies show that exercise is expected to prevent cognitive decline (Docu Axelerad, 2020), (Sirbu, 2016), (Docu Axlerad, 2019). In general, exercise has been reported to have some effect on physical function in the elderly (Docu Axelerad, 2020), (Sirbu, 2015).

Methods

Inclusion criteria:

Subjects with the age over 60 years with moderate stage dementia medical diagnosed by neurologist doctors, in specific treatment. The patients' most obvious condition is episodic recent memory loss, retaining the ability to discern and choose to participate in the study. Subjects that have independence in carrying out the basic activities of daily life and finally any patient and / or representative who has signed the informed consent, thus authorizing his / her participation in kinetic sessions.

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Exclusion criteria:
Study participants who present other psychiatric pathologies, such as epilepsy, interictal psychosis, schizophrenia, delirium, hallucinations, and who also suffer from hearing deficits severe visual or motor impairment, vestibular dysfunction or subjects in the situation of falling down, not being able to follow basic instructions or not being able to have performed test or not being able to respond to questions from questionnaires will be excluded from the study.
The exercise programs were resistance training (minutes) and resistance training (abdominal exercises, elastic band exercises, times), cycling.

Results

At the Mini-Mental State Exam test performed before the period of physical therapy training, the active group of patients obtained a mean score of 22.20 ± 1.03 points. At the Mini-Mental State Exam test performed after the period of physical therapy training, the active group of patients obtained a mean score of 21.80 ± 0.88 points. The difference between the scores before and after the training period were statistically signifficant p = 0.037. Bar graph of results from a paired sample t-test are seen in Figure 1 below.

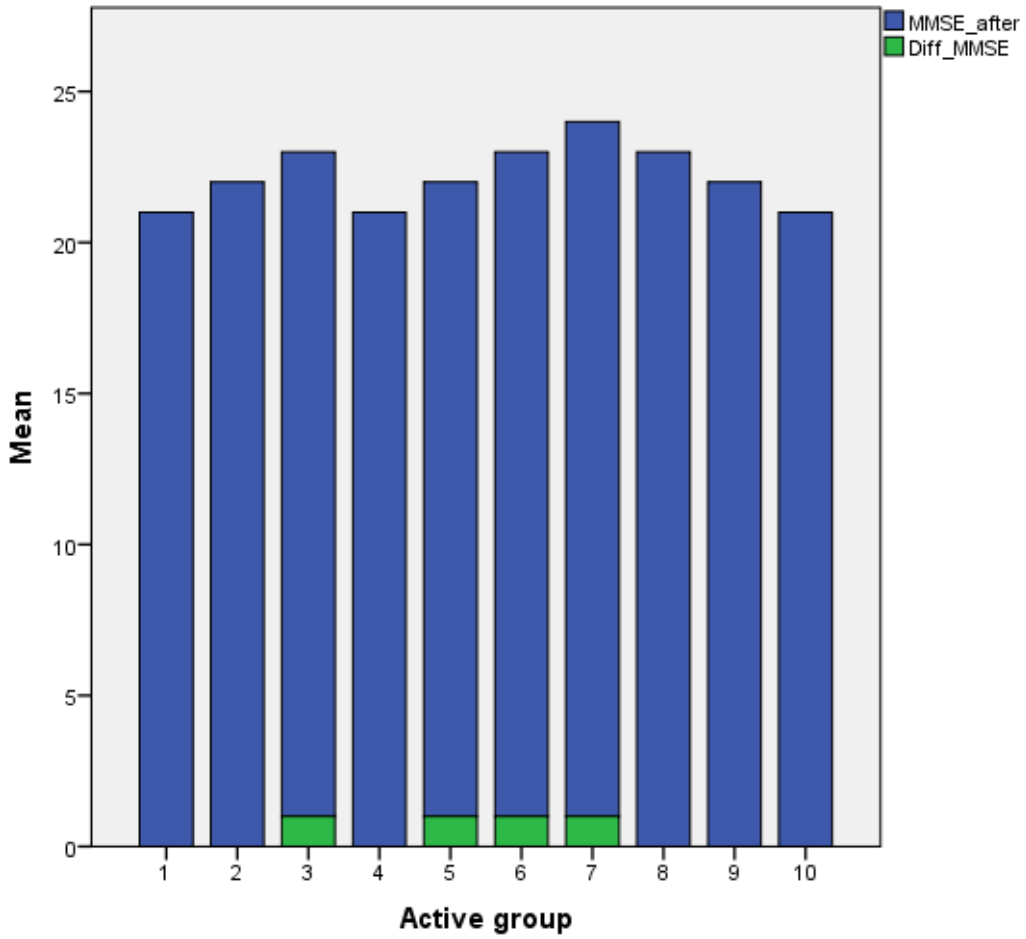

Figure 1. Mean scores of the dementia patients in the active group obtained at the Mini Mental State Exam.

At the Beck Depression Inventory test performed before the period of physical therapy training, the active group of patients obtained a mean score of 37.00 ± 2.62 points. At the Beck Depression Inventory test performed after the period of physical therapy training, the active group of patients obtained a mean score of 30.90 ± 2.47 points. The difference between the scores before and after the training period were statistically signifficant p < 0.001. Bar graph of results from a paired sample t-test are seen in Figure 2 below.

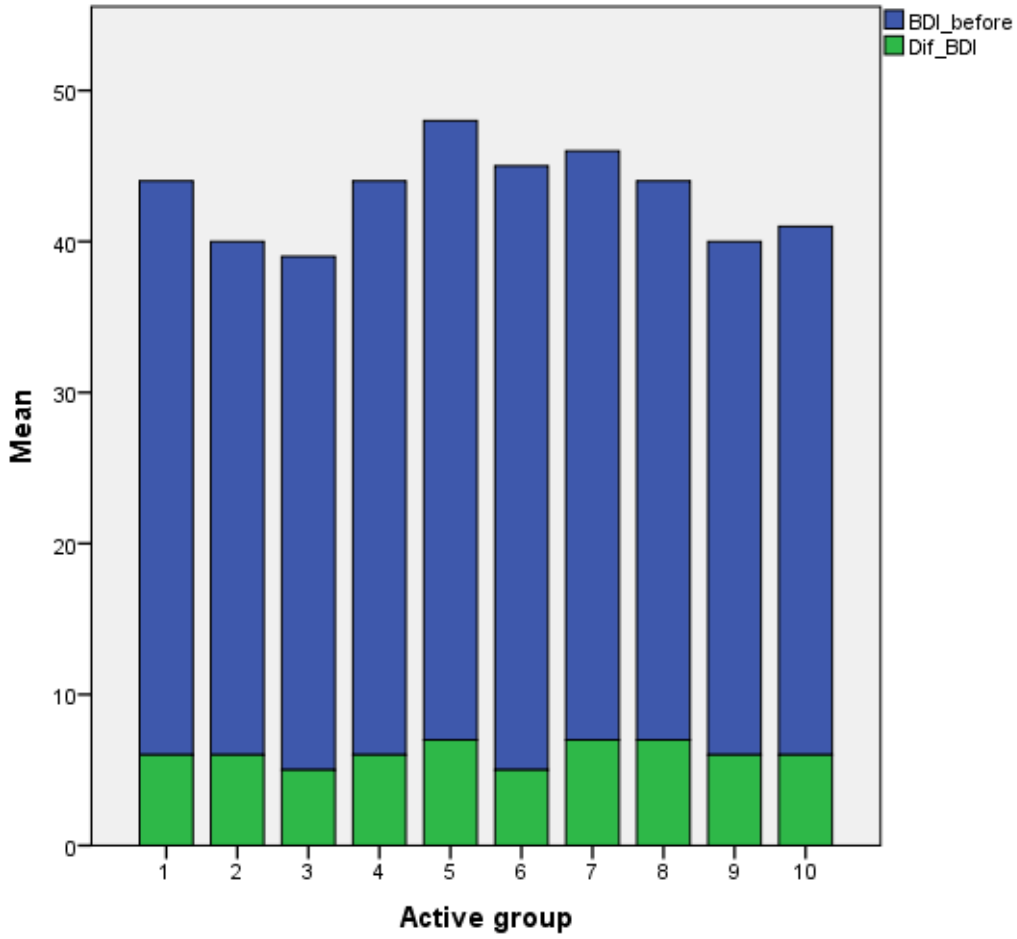

Figure 2. Mean scores of the dementia patients in the active group obtained at the Beck Depression Inventory.

At the Beck Anxiety Inventory test performed before the period of physical therapy training, the active group of patients obtained a mean score of 23.60 ± 1.83 points. At the Beck Anxiety Inventory test performed after the period of physical therapy training, the active group of patients obtained a mean score of 17.80 ± 1.81 points. The difference between the scores before and after the training period were statistically signifficant $p < 0.001$. Bar graph of results from a paired sample t-test with are seen in Figure 3 below.

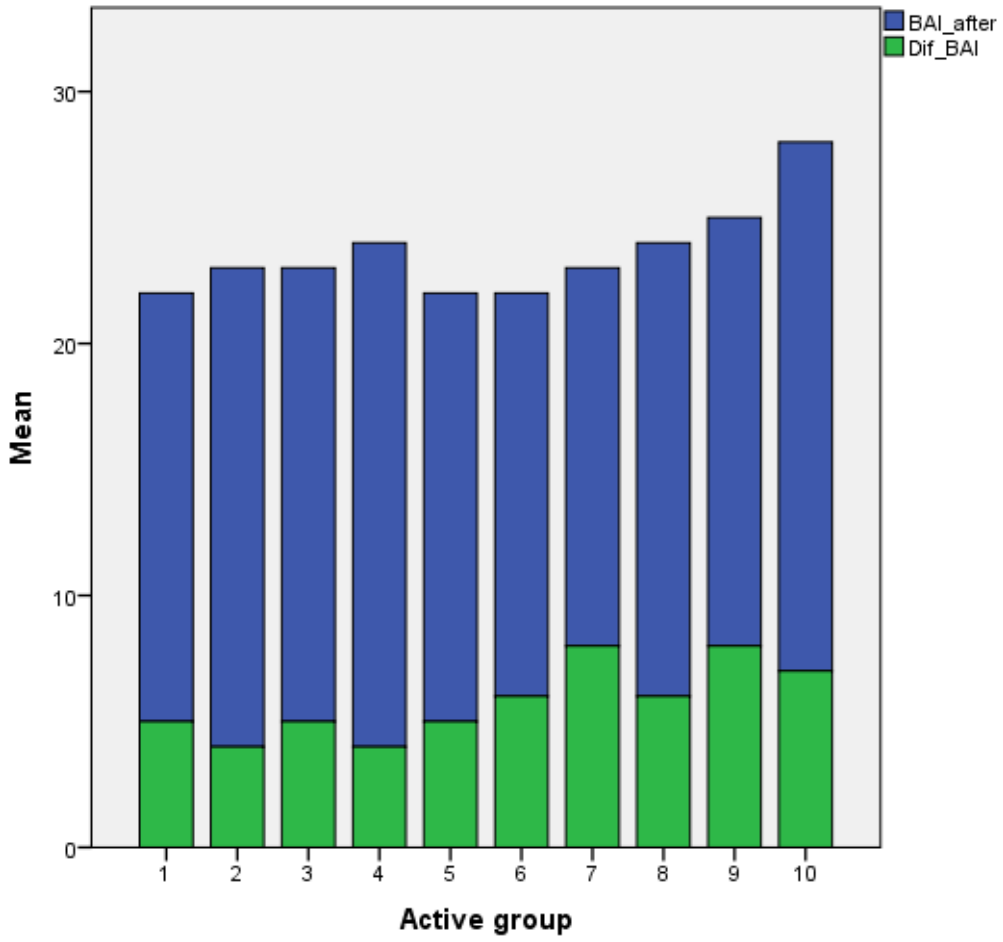

Figure 3. Mean scores of the dementia patients in the active group obtained at the Beck Anxiety Inventory.

The control group of patients did not obtain significantlly different results at the Beck Depression Inventory, Beck Anxiety Inventory and Mini Mental State Exam Test before and after the period of the study.

Discussion

Physical therapy is an efficient factor for preventing dementia (Barnes, 2003), and has been demonstrated that is an efficient factor for decreasing the progression of dementia and also, sport can enhance the quality of life of people with dementia (Chaouloff, 1989), (Docu Axelerad, 2015). Furthermore, it was stated that the types of exercises that involve the whole body have the most beneficial effect on emotion (Burback, 1999), (Docu Axelerad, 2020), (Castro, 2002). Exercise has a limited effect on psychological function in the elderly with dementia, but can be expected to reduce depression and anxiety (Heyn, 2004), (Docu Axelerad, 2020).

The decrease in physical function is often encountered in the elderly patients and is very similar to the physiological modifications that have the disuse cause (Larson, 2006). Although it is possible to repress these functional impairments and preserve health by including a practice of involving in physical activity in the routine.

Conclusion

The influence of physical training and active physical activity in the dementia patients has recived the approval by a number of previous studies.

For patients with dementia, a low- to medium-intensity combined exercise program can progressively and last longer to improve physical functionality (Docu Axelerad, 2020).

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