

Dysfunctions associated with dementia and their treatment

Roksana Malak¹, Anna Kostiukow¹, Agnieszka Krawczyk-Wasielewska¹, Przemysław Keczer¹, Ewa Mojs², Katarzyna Głodowska³, Włodzimierz Samborski¹

¹ Department of Rheumatology and Rehabilitation, Poznan University of Medical Sciences, Orthopedic-Rehabilitation Clinical Hospital (ORSK), Poland

² Department of Clinical Psychology, Poznan University of Medical Science, Poland

³ Department of Social Sciences, Poznan University of Medical Sciences, Poland

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Abstract

International UnderstAID project shows the role of physiotherapist in patients with dementia as divided into two branches: helping to resolve the physical problems and solving the problems related to dementia. The role of physiotherapist in dementia treatment may be divided into two branches: helping to resolve the physical problems and solving the problems related to dementia. The physical problems consider such aspects as musculoskeletal disorders, mobility dysfunction and pain. Referring to musculoskeletal problems, the interventions of physical therapists should include whole-body progressive resistance exercise training, strengthening, "range-of-motion" and stretching exercises and transfer training. Mobility disorders are associated with physical symptoms such as: rigidity, balance problem, shuffling gait. Decreased mobility can be based on unrelieved pain. These are some crucial scales which are designed to detect the pain. For instance, The Pain Assessment in Advanced Dementia. Transcutaneous Electrical Nerve Stimulation, massage or exercises can be provided to reduce the pain in patients with dementia. Physiotherapy in dementia treatment influences not only physical functions but also the maintenance or progression of cognitive abilities of demented elderly subjects

Key words

dementia, in home physiotherapy, proprioceptive neuromuscular facilitation (PNF), Hip fracture

INTRODUCTION

Physiotherapy is a valuable part of treatment in dementia care. Even if cognitive functions decrease, the physiotherapy treatment may slow down the irreversible processes and may increase the quality of life. Physiotherapy treatment for people with dementia is still not common, especially in villages and small towns. For this reason, there are some important assumptions that should be disseminated in all populations in all areas, including towns and villages. Referring to international UnderstAID project, the role of physiotherapist in patients with dementia may be divided into two branches: helping to resolve the physical problems and solving the problems related to dementia. It is generally acknowledged that there are occasions when the two branches of problems may be connected to each other, for example, falling or pain. Nevertheless, each person with dementia should be treated not only like a patient with physical, mental or neurological deficits, but as a unique person. The results of interventions should be for reduction of the impact of dementia on the person's everyday life and maximize the person's functional potential [1].

DESCRIPTION OF THE STATE OF KNOWLEDGE

Dysfunctions associated with dementia. There are many dysfunctions which develop during dementia, concerning

such aspects as: musculoskeletal, mobility and pain. The most common musculoskeletal disorders are osteoarthritis, muscle weakness and fractures of bones, which is why it is important to apply flexibility exercises for the musculoskeletal system, taking into account osteoarthritis and other disorders of skeletal system in patient with dementia. Gentle stretching techniques, joint mobilization to reduce tightness of the joint's capsule or of ligaments, and autostretching should be provided by physiotherapists in patients with dementia. Thanks to therapy, the patients can improve the range of motion of the joints. However, not only relaxing or stretching treatment should be applied, but strengthening is also very important [2]. Proprioceptive Neuromuscular Facilitation (PNF) is also a common way of treating patients with dementia. There are some specific techniques such as: Muscle Inhibition Techniques, Hold Relax or Contract Relax. One of the aims of the PNF is to facilitate functional, everyday movement [1, 2].

The most common fractures in patients with dementia are fractures of the hip which relative to other types of osteoporotic fractures, result in the longest hospital stays and the highest costs. Patients over 85 years of age are more likely to be dependent on others for activities in daily living. Physical therapy for people with hip fractures is standard and crucial to their return to their previous dwelling places in the community. Physical therapy immediately after hip fracture surgery is also very important because it is associated with significantly better locomotion later on [4, 5, 6]. Similarly, after 6 months of extended outpatient rehabilitation, including progressive resistance training, can improve physical function and the quality of life and reduce disability. Physiotherapy training should include: strengthening the hip extensor muscle and hip abductor muscles in order to maintain pelvic stability during the stance

Address for correspondence: Roksana Malak, Department of Rheumatology and Rehabilitation, Poznan University of Medical Sciences, Orthopedic-Rehabilitation Clinical Hospital (ORSK), ul. 28 Czerwca 1956 r. nr 135/147, 61-545 Poznań, Poland
E-mail: roxanam@op.pl

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phase of walking. If the strength of these muscles decreases than the chances to reach independence in walking after hip fracture also declines [7]. To summarize the musculoskeletal problems, the interventions of physical therapists in order to reduce those disorders should include whole-body progressive resistance exercise training, strengthening, 'range-of-motion', stretching exercises and transfer training [3, 4]. 'Success depends more on careful follow-up during rehabilitation than on the nature of surgical repair' [8].

Mobility disorders are associated with physical symptoms such as: rigidity, balance problem, and shuffling gait. Those problems lead to difficulties with transfer of the body, for instance: from lying to sitting and sitting to standing. Physiotherapists may provide specific therapy, including special exercises, or provide the patients with a mobility aid: walking sticks, zimmer frame or a rollator [1]. Rigidity may be treated using musculoskeletal therapy. Body balance and coordination must be improved by physical therapists in order to provide the patient better sense of the surrounding space and environment in everyday life. Training should include weight bearing in both sitting and standing position in order to help the patient develop stability. Some of the activities applied to patients may include then Swiss ball, but the most important exercises are those which consider everyday life activities, for example, kitchen sink exercises: the patient is instructed to adopt the heel-toe standing or single limb stance while washing dishes, partial wall squats and chair rises [2]. Thanks to physiotherapy intervention, a patients may improve their mobility and independence which play an important role in advising and supporting the family to live easier life.

Decreased mobility can be based on unrelieved pain in patients with dementia, especially in persons who have problem with verbal communication. That is why, firstly the pain should be appropriately detected, and later treated. The scale that enable assessment the pain in patients with severe dementia called the Pain Assessment in Advanced Dementia (PAINAD) [8]. The scale includes 5 indicators: breathing (laboured breathing or hyperventilating), vocalization (moaning or crying), facial expression (frowning or grimacing), body language (clenching fists or pushing away caregivers), and consolability (the inability to be comforted). Physiotherapists observe these 5 indicators, each of which is scored on a scale of 0 – 2. The more points the patient scores, the more severe the pain is [8]. There are some non-drug interventions for pain, for example, Transcutaneous Electrical Nerve Stimulation (TENS) and gentle massage or gentle exercises [1].

Furthermore, short educational programmes, including postural hygiene: the correct way to lift an object, how to change position in bed, instruction about the patient's gait may decrease pain, especially in patients who have low back pain. Living without pain increases the level of physical activity in everyday life [9]. Pomeroy demonstrated that physiotherapy connected with music and movement therapy in groups, plus body awareness and functional mobility training, significantly improve mobility without pain in elderly people with a dementing illness [10].

Physiotherapy treatment. Patients with dementia very often suffer from falls. Nashner and Cordo demonstrated that the number of falls associated with ageing was due to decreased muscle strength and flexibility [11]. This is why physiotherapy should consist of exercises which develop muscular strength, proprioception, static and dynamic balance and flexibility. Regular training with a physiotherapist may improve walking, mobility and flexibility, which can reduce falls and help maintain autonomy.

Cognitive function may be mobilized just by attention and language stimulated, as demonstrated by Neely and Backman [12]. Patients with dementia who regularly take part in physical therapy became enthusiastic during the training sessions. This enthusiasm affects their behaviour – they laugh, and take part with pleasure [9].

CONCLUSIONS

To summarize, physical exercise with the addition of other branches of treatment and stimulation, such as mental and social interaction, all seem to influence not only physical functions but also the maintenance or progression of cognitive abilities of elderly patients with dementia.

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