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The effectiveness of continuous passive motion and pilates exercise in people with chronic stroke

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The aim was to determine whether strengthening of the lower limbs can improve strength, balance and walking abilities in patients with chronic stroke. This study was to observe the influence of continuous passive motion and Pilates training on balance, walking and quality of life in chronic stroke (hemiparetic) patients. Forty-six chronic stroke patients participated in this study. They were divided into same number of work group (WG) and control group (CG). A 16-week (3 days/week) program consisting of a warm-up, 25 minutes continuous passive motion (CPM) and 15 minutes Pilates exercises, cool-down. Control group subjects received only routine exercises of physiotherapy. Before the training, the patients were evaluated using the balance Berg and MMSE tests, 5 repetition sit-to-stand test (STST), Stroke Impact Scale (SIS), spasticity (Ashworth-Petersen scale). This study demonstrated that individuals with chronic stroke whose lower extremity function is compromised in a normal gravity environment can perform reaching and drawing movements while using CPM and Pilates exercises. By comparison of the results before and after intervention, these chronic stroke patients presented significant reduction in balance Berg and MMSE tests, 5 repetition sit-to-stand test (STST), Stroke Impact Scale and 10-minute walking speed ($p < 0.01$). The findings provide initial evidence that CPM and Pilates exercise can enhance balance, walking abilities, quality of life in patients with chronic stroke.

Biography

Gülçin Gülşen completed her medical education in the Faculty of Medicine at Istanbul University. In 1983, she started her specialization in 1990 at Şişli Etfal Hospital Physical Therapy and Rehabilitation Clinic. She completed her specialty training in 1994. Between 1994 and 2005, she worked as a specialist doctor and clinical chef at Istanbul Physical Medicine and Rehabilitation Training and Research Hospital. She received the title of Associate Professor in 2000. Dr. Gülçin Gülşen has been the head of the Physical Therapy and Rehabilitation Department at Yeditepe University since 2005 and the head of Physical Therapy and Rehabilitation at the Faculty of Health Sciences at Yeditepe University. As of December 2017, Prof. Dr. Gülçin Gülşen, evaluate the patients with technological equipment and scientific approaches and benefit from the treatment facilities in Florence Nightingale Ataşehir hospital.

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